

Sarah E. Dalrymple

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EDUCATION

- 2008-2009** **P.G. Cert. in Higher Education Learning and Teaching, University of Aberdeen**
Research project: 'Student motivation for studying the environmental sciences'.
- 2002-2006** **Ph.D. in Plant Science, University of Aberdeen**
'Rarity and Conservation of *Melampyrum sylvaticum*'
- 1998-2002** **B.Sc. (Hons) Environmental Science (First Class) and Diploma in Professional studies in Environmental Science (Distinction), University of Bradford**
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EMPLOYMENT

- May 2013 – present** **Programme Leader BSc Wildlife Conservation**
 Lecturer/Senior Lecturer in Conservation Ecology
 Liverpool John Moores University (Grade 8)
- Module Leader: *Conservation Practice & Management; Environment, Society & Sustainability*; and formerly for *Contemporary Issues in Conservation* and *Work-Based Learning*.
 - Deliver teaching in several other BSc and MSc modules: *Ecology Field Skills; Evolution & Inheritance; Sustainable Natural Heritage; Zoo Conservation and Gene Banking*.
 - Year Tutor for Levels 4 and 5, BSc Wildlife Conservation.
 - Employability Champion, BSc Wildlife Conservation.
 - Natural Sciences Placement Co-ordinator (May 2015-August 2017).
 - BSc, MSc, MPhil and PhD research supervisor.
 - Academic tutor for BSc and MSc students.
 - PGR training via the LJMU Doctoral Academy: 'Impact and your research'.
 - LJMU Teaching Awards nominee, 2016 and 2017 in Best Programme, Amazing Teacher and Amazing Tutor categories.
 - BSc Wildlife Conservation achieved 93% overall satisfaction in NSS 2016 and 97% in NSS 2018.
 - Winner of the LJMU Emerging Impact Award 2016 (awarded £1500).

- Feb 2013 – Sep 2013** **Ecological Consultant**
 (contracted by the Royal Botanic Gardens Edinburgh)

Completion of Scottish Conservation Translocation Code and preliminary assessments of potential conservation translocations of 22 threatened plant and animal species.

- Nov 2012 – Mar 2013** **Ecological Consultant**
 (contracted by University of Aberdeen)

Producing management documents for threatened plants within the Cairngorms Rare Plants Project.

[Consultancy posts coincided with a break from full-time employment whilst on maternity leave]

- Sep 2011 – Aug 2012** **Research Officer, Centre for Evidence-Based Conservation,**

Bangor University (Grade 7)

Systematic review of i), carbon and greenhouse gas fluxes from lowland peatland systems under a variety of management regimes and ii), impacts of protected areas on human well-being (in collaboration with the EPPI-Centre, a social science research unit).

Oct 2006 – Aug 2011 Teaching Fellow in Ecology & BSc Conservation Biology Degree Programme Co-ordinator University of Aberdeen (Grade 7)

- Developed and delivered material on 11 B.Sc. and M.Sc. programmes including distance learning modules, coordinated six modules;
- Instigated School-wide tutorials addressing deficits identified by pedagogic research;
- Active in curriculum reform by developing interdisciplinary module *Natural World*;
- Oversaw curriculum development for BSc Conservation Biology;
- Undergraduate Advisor of Studies responsible for pastoral care and overseeing academic progression of *circa* 30 advisees including demanding administrative duties;
- Supervised BSc, MSc, MRes and PhD student research projects;
- University of Aberdeen 'Excellence in Teaching' Award nominee: twice nominated for innovative student-focused teaching methods (2009) and 'Advisor of the Year 2011'.

Jun 2005 – Aug 2006 Ecological Consultant (contracted by Forest Research)

Designed and implemented the *Melampyrum sylvaticum* Species Recovery Project.

PUBLICATIONS

Journal articles:

Dalrymple, S. E., Winder, R., & Campbell, E. M. (2021). Exploring the potential for plant translocations to adapt to a warming world. *Journal of Ecology*, 109, 2264– 2270.

<https://doi.org/10.1111/1365-2745.13715>

Bellis, J., Longden, M., Styles, J., & **Dalrymple, S.E.** (2021). Using macroecological species distribution models to estimate changes in the suitability of sites for threatened species reintroduction. *Ecological Solutions and Evidence*, 2(1), 1–12. <https://doi.org/10.1002/2688-8319.12050>

Nason, S. E., Lloyd, N., Kelly, C. D., Brichieri-Colombi, T., **Dalrymple, S. E.**, & Moehrenschrager, A. (2021). Maximizing the effectiveness of qualitative systematic reviews: A case study on terrestrial arthropod conservation translocations. *Biological Conservation*, 254, 108948. doi.org/10.1016/j.biocon.2020.108948

Downey, H., Amano, T., Cadotte, M., Cook, C. N., Cooke, S. J., **Dalrymple, S.E.**, ... Sutherland, W. J. (2021). Training future generations to deliver evidence-based conservation and ecosystem management. *Ecological Solutions and Evidence*, 2(1), 1–11. doi.org/10.1002/2688-8319.12032. *Contribution: developed training materials now available online forming part of the training provision described in the paper.*

Jaganathan, G. K., **Dalrymple, S. E.**, & Pritchard, H. W. (2020). Seed Survival at Low Temperatures: A Potential Selecting Factor Influencing Community Level Changes in High Altitudes under Climate Change. *Critical Reviews in Plant Sciences*, 0(0), 1–25. doi.org/10.1080/07352689.2020.1848277

- Bellis, J.M., Bourke, D.O., Maschinski, J., Heineman, K. & **Dalrymple, S.E.** Climate suitability as a predictor of conservation translocation failure. *Conservation Biology*, doi:10.1111/cobi.13518.
- Dalrymple, S.E.**, Orsenigo, S., Godefroid S. & Abeli T. (2020). Frankenstein's work or everyday conservation? How reintroductions are informing the de-extinction debate. *Journal of Nature Conservation*, 56, 125870, doi.org/10.1016/j.jnc.2020.125870.
- Stringer, S.D., Hill, R.A., Swanepoel L., **Dalrymple, S.E.**, Linden, B. & Koyama, N.F. (2020). Interpreting the role of frugivores in seed germination potential depends on study design: A case study from Soutpansberg Mountain, South Africa. *Acta Oecologia*, 106, 103584, doi.org/10.1016/j.actao.2020.103584.
- Abeli T, **Dalrymple S.E.**, Godefroid S, Mondoni A, Müller J V., Rossi G, Orsenigo S. (2020). Ex situ collections and their potential for the restoration of extinct plants. *Conservation Biology*. doi:10.1111/cobi.13391.
- Dalrymple, S.E.**, Hopkins, J., Carter, S. & Slingsby, D.S. (2019). Nutrient additions three decades on: potential interactions of nutrients and climate in the recovery of a high latitude serpentine system. *Plant Biosystems - An International Journal Dealing with all Aspects of Plant Biology*, doi: 10.1080/11263504.2019.1701578
- Jaganathan G.K., **Dalrymple S.E.** (2019). Internal Seed Structure of Alpine Plants and Extreme Cold Exposure. *Data*. 4(3):107. doi:10.3390/data4030107.
- Jaganathan G.K., Bönisch G., Kattge J., **Dalrymple S.E.** (2019). Physically, physiologically and conceptually hidden: Improving the description and communication of seed persistence. *Flora*. doi:10.1016/j.flora.2019.05.012.
- Bellis, J.M., Williams, C., Bourke, D.O. & **Dalrymple, S.E.** (2019). Identifying factors associated with the success and failure of terrestrial insect translocations. *Biological Conservation* 236:29-36.
- Dalrymple, S.E.** & Abeli, T. (2019). Ex situ seed banks and the IUCN Red List. *Nature Plants*. 5:122–123. doi:10.1038/s41477-019-0366-3.
- Jaganathan, G. K., & **Dalrymple, S. E.** (2016). Inconclusive Predictions and Contradictions: A Lack of Consensus on Seed Germination Response to Climate Change at High Altitude and High Latitude. *Journal of Botany*. <http://doi.org/10.1155/2016/6973808>
- Crichton, R. J., **Dalrymple, S. E.**, Woodin, S. J., & Hollingsworth, P. M. (2016). Conservation genetics of the annual hemiparasitic plant *Melampyrum sylvaticum* (Orobanchaceae) in the UK and Scandinavia. *Conservation Genetics*. <http://doi.org/10.1007/s10592-015-0803-4>
- Jaganathan, G.K., **Dalrymple, S.E.** & Liu, B. (2015). Towards an Understanding of Factors Controlling Seed Bank Composition and Longevity in the Alpine Environment. *The Botanical Review*, 81 (1): 70-103.
- Abeli, T., **Dalrymple, S.E.**, Mondoni, A., Orsenigo, S. & Rossi, G. (2014). Integrating a biogeographical approach into assisted colonization activities is urgently needed. *Plant Biosystems*, 148 (6): 1355-1357.
- Haddaway, N. R., Burden, A., Evans, C. D., Healey, J. R., Jones, D. L., **Dalrymple, S. E.**, & Pullin, A. S. (2014). Evaluating effects of land management on greenhouse gas fluxes and carbon balances in boreo-temperate lowland peatland systems. *Environmental Evidence*, 3 (1): 5.
- Pullin, A.S., Bangpan, M., **Dalrymple, S.E.**, Dickson, K., Haddaway, N.R., Healey, J.R., Hauari, H., Hockley, N., Jones, J.P.G., Knight, T., Vigurs, C. & Oliver, S. (2013). Human well-being impacts of terrestrial protected areas. *Environmental Evidence*, 2 (1): 19.
- Dalrymple, S.E.** & Moerhenschlager, A. (2013). "Words matter." A response to Jørgensen's treatment of historic range and definitions of reintroduction. *Restoration Ecology* 21: 156-158.

- Cousins, N., **Dalrymple, S.E.**, Dennis, C., Barker, M. & McPherson, L. (2012). Efficacy of a First-Year Biological Sciences Tutorial Course for the Attainment of Transferable Skills and Intellectual Curiosity. *Bioscience Education* 20.
- Crichton, R.J., **Dalrymple, S.E.** & Hollingsworth P.M. (2012). Horticultural protocols to aid the conservation of small cow-wheat (*Melampyrum sylvaticum*, Orobanchaceae), an endangered hemiparasitic plant. *Sibbaldia* 10: 57-70.
- Crichton, R.J., Squirrell, J., Woodin, S.J., **Dalrymple, S.E.** & Hollingsworth P.M. (2012). Isolation of microsatellite primers for *Melampyrum sylvaticum* (Orobanchaceae), an endangered plant in the United Kingdom. *American Journal of Botany* 99 (11): 457-459.
- Seddon, P.J., Stanley Price, M., Launay F., Maunder M., Soorae P., Molur S., Armstrong D., Jordan, M., **Dalrymple S.E.** & Genovesi P. (2011). Frankenstein Ecosystems and 21st Century Conservation Agendas: a reply to Oliveira-Santos and Fernandez. *Conservation Biology* 25: 212-3.
- Dalrymple, S.E.**, Stewart, G.B. & Pullin, A.S. (2011). Are re-introductions an effective way of mitigating against plant extinctions? CEE review 07-008 (SR32). Collaboration for Environmental Evidence: <http://www.environmentalevidence.org/wp-content/uploads/2014/07/SR32.pdf>
- Dalrymple, S.E.** & Broome, A. (2010). Investigations into the importance of donor population identity and habitat type when creating populations of a nationally scarce annual, *Melampyrum sylvaticum*. *Conservation Evidence* 7: 1-8.
- Dalrymple, S.E.** (2007). The Biological Flora of the British Isles: *Melampyrum sylvaticum* L. no 246. *Journal of Ecology* 95: 583-597.

Book chapters/sections:

- Dalrymple, S.E.** (2012). Fine-scale mapping of Serpentine Specialists on the Keen of Hamar. In: Braithwaite, M.E. & Walker, K.J. (ed.) 50 Years of Mapping the British and Irish Flora 1962-2012. Botanical Society of the British Isles, London.
- Dalrymple, S.E.**, Banks, E., Stewart, G.B. & Pullin, A.S. (2012). A meta-analysis of threatened plant re-introductions from across the globe. In: Maschinski, J. & Haskins, K.E. (ed.) *Plant Reintroduction in a Changing Climate: Promises and Perils*. Island Press, Washington.
- Kennedy, K., Albrecht, M.A., Guerrant, E.O., **Dalrymple, S.E.**, Maschinski, J. & Haskins, K.E. (2012). Synthesis and future directions. In: Maschinski, J. & Haskins, K.E. (ed.) *Plant Reintroduction in a Changing Climate: Promises and Perils*. Island Press, Washington.
- Dalrymple, S.E.**, Broome, A. & Gallagher, P. (2008). Re-introduction of small cow-wheat into the Scottish Highlands, UK. In: Soorae, P.S. (ed.) *GLOBAL RE-INTRODUCTION PERSPECTIVES: re-introduction case studies from around the globe*. IUCN/SSC Re-introduction Specialist Group, Abu Dhabi, UAE.

Systematic review protocols:

- Dalrymple, S.E.**, Burden, A., Evans, C., Healey, J., Jones, D., & Pullin, A.S. (2012). Evaluating effects of management on greenhouse gas fluxes and carbon balances in boreo-temperate lowland

peatland systems. CEE protocol 11-010. Collaboration for Environmental Evidence: www.environmentalevidence.org/SR11010.html.

Pullin, A.S., Bangpan, M., **Dalrymple, S.**, Dickson, K., Healey, J., Hockley, N., Jones, J., Knight, T., Oliver, S. 2012. Human well-being impacts of terrestrial protected areas? CEE protocol 11-009. Collaboration for Environmental Evidence: www.environmentalevidence.org/SR11009.html.

Dalrymple, S.E., Stewart, G.B. & Pullin, A.S. (2011). Are re-introductions an effective way of mitigating against plant extinctions? CEE review 07-008 (SR32). Collaboration for Environmental Evidence: <http://www.environmentalevidence.org/wp-content/uploads/2014/07/Protocol32.pdf>.

Commissioned articles/book chapters:

Dalrymple, S.E. (accepted) Book Review: Wake up a smell the paperbacks - The Great Rethink: A 21st Century Renaissance (Colin Tudge 2021) and How to Save Our Planet: The Facts (Mark A. Maslin 2021), *The Niche*, Winter 2022.

Dalrymple, S.E. (2021) (accepted, proofs returned). *Torreya taxifolia: current status and management of one of the world's most threatened conifers*. In: The Encyclopedia of Conservation, Elsevier.

Dalrymple, S.E. (2021)(accepted, proofs returned). *Genus Melampyrum: threatened hemiparasites with an important ecological role to play*. In: The Encyclopedia of Conservation, Elsevier.

Dalrymple S.E. (2021). <https://theconversation.com/why-climate-change-is-forcing-conservationists-to-be-more-ambitious-by-moving-threatened-species-to-pastures-new-163749>

Dalrymple, S.E. & Whittaker, A. (2021). *The Unique Flora of A "Mountain Summit At Sea Level"—Serpentine Debris on the Shetland Isles*. In: The Encyclopedia of Conservation, Elsevier. <https://www.sciencedirect.com/science/article/pii/B9780128211397000726>

Dalrymple S.E. (2021). Sidnie Manton, Letters and Diaries: Expedition to the Great Barrier Reef 1928-1929. *The Niche*, Summer 2021, pp

Dalrymple S.E. (2021). Of Journeys and Inheritance: who gets to choose what our legacy will be? *The Niche*, Spring 2021, pp 60-61.

Other articles:

Dalrymple S.E., Crichton R.J., Scobie A.R. (2015). Small cow-wheat. Version 1.0. In The Species Action Framework Handbook, Gaywood MJ, Boon PJ, Thompson DBA, Strachan IM (eds). Scottish Natural Heritage, Battleby, Perth.

National Species Reintroduction Forum (2014). *The Scottish Code for Conservation Translocations*. Scottish Natural Heritage.

National Species Reintroduction Forum (2014). *Best Practice Guidelines for Conservation Translocations in Scotland Version 1.1*. Scottish Natural Heritage.

IUCN (2013). Guidelines for Reintroductions and other Conservation Translocations. Prepared by IUCN/SSC Reintroduction and Invasive Species Specialist Groups. IUCN, Gland, Switzerland.

- Burlando, C., Chandra, A., **Dalrymple, S.**, Jokivirta, L.M., Monteferri, B., Mwaura, G. & Stucker, D. (2011). Input into 2013-2016 IUCN Draft Program Review Process: Report on Cross-Commission Survey – Highlighting Youth Engagement and Intergenerational Partnership. Task Force on Intergenerational Partnership for Sustainability, IUCN, Gland, Switzerland.
- Dalrymple, S.E.** & Chambers, C. (2010). Morphological variation and spatial separation of two races of *Cerastium nigrescens*. BSBI News 113: 45.
- Slingsby, D.S., Hopkins, J., Carter, S., **Dalrymple, S.E.**, & Slingsby, A. (2010). Change and stability: monitoring the Keen of Hamar 1978 to 2006. Report for Scottish Natural Heritage: <http://www.snh.org.uk/nnr-scotland/reserve.asp?NNRId=2>.
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EDITORIAL RESPONSIBILITIES

Associate Editor, *Ecological Solutions and Evidence*, November 2019 – present

Editor, *British & Irish Botany*, December 2018 – present

Guest Editors: Thomas Abeli, Sandrine Godefroid, Simone Orsinego and **Sarah Dalrymple**, *Journal of Nature Conservation*, special virtual issue July 2020: Frankenstein's work or everyday conservation? Examining plant de-extinction in practice.

Guest Editors: **Sarah Dalrymple**, Richard Winder and Elizabeth Campbell, *Journal of Ecology* and *Ecological Solutions and Evidence*, Special Focus, June 2021: 'Plant translocations and climate change: bioassay, surveillance and solution to a global threat?', available at: <https://besjournals.onlinelibrary.wiley.com/hub/plant-translocations-and-climate-change>

Guest Editors: Thomas Abeli and **Sarah Dalrymple**, Special Issue in *Plant Ecology*: Advances in Plant Translocation, due for publication in 2023.

INVITED ORAL PRESENTATIONS

International Plant Translocations Conference, Rome, Italy, postponed to June 2022, Keynote Speaker

'Assisted colonisation of threatened plants: looking further afield when reintroductions fail'

Gesellschaft für Ökologie/Ecological Society of Germany, Austria and Switzerland, Braunschweig, postponed to Sep 2021, workshop contributor, tbc.

IUCN World Conservation Congress, Marseille, France, 12-16 postponed to Sep 2021,

'Do we dare to translocate marine or terrestrial species beyond indigenous ranges for conservation?'

2nd International Wildlife Reintroduction Conference, Chicago, USA, Keynote Speaker, 13-16 November 2018. 'Everything is connected: ecosystem functioning as a rationale for, and to improve the effectiveness of, conservation translocations'

13th International Joint Workshop on Environmental Sciences and Field Research, Liverpool, Korean Environmental Sciences Society, 2 July 2018. 'Three decades on, a high latitude serpentine system finally shows potential for autonomous recovery from nutrient addition.'

University of Shanghai for Science and Technology, Shanghai, China, Seminar, 14 June 2018. 'The role of seeds in the restoration of threatened plant species.'

- University of Chester**, Departmental Seminar, March 2018. 'From threatened species to ecological theory and back again: making mistakes in conservation.'
- Edge Hill University**, Departmental Seminar, January 2018. 'From threatened species to ecological theory and back again: making mistakes in conservation.'
- Manchester Metropolitan University**, Departmental Seminar, November 2017. 'Three decades on, a high latitude serpentine system finally shows potential for autonomous recovery from nutrient addition.'
- WILD10 (World Wilderness Congress)**, Salamanca, Spain, October 2013. 'Rewilding and the new IUCN Guidelines on Reintroductions and other Conservation Translocations'
- Ecological Society of America Annual Meeting**, Minneapolis, USA, August 2013. 'Translocations as bioassays of recent environmental change'
- National Species Reintroduction Forum**, Perth, Scotland, UK, February 2012. 'Revision and expansion of the IUCN Guidelines for Reintroductions and other Conservation Translocations.' Presented by Dr Peter Hollingsworth in my absence due to maternity leave. Co-authored with Dr Hollingsworth and Dr Mark Stanley Price.
- Natural England and British Ecological Society Conference: Adapting conservation to a changing climate**, Charles Darwin House, London, January 2011. 'Assisted colonisation of plants and animals: a feasible prospect for future conservation?'
- Conservation genetics workshop: Integrating genetic information into translocation programmes**, University of Sheffield, October 2010. 'Revision and expansion of the IUCN guidelines for translocations.' 'Reintroductions past, present and future: where have we gone wrong?'
- Missouri Botanical Garden and Center for Plant Conservation Meeting: Evaluating Reintroductions: Two Decades of Evidence**, St Louis, USA, October 2009. 'The effectiveness of re-introductions as a tool for mitigating plant declines: a meta-analysis of threatened plant re-introductions from across the globe.'
- British Ecological Society Conservation Ecology Group Meeting: The Ecological Consequences of Rewilding**, Gregynnog Hall, Powys, July 2007. 'Re-instating ecosystem processes: using small organisms to good effect.'
- Botanical Society of the British Isles, Scottish Annual Meeting**, Royal Botanic Gardens, Edinburgh, November 2006. 'The *Melampyrum sylvaticum* Recovery Project: how ecological research can inform botanical conservation.'
- Perthshire Society of Natural Science Winter Meeting**, Perth, October 2006. 'Why Perthshire? Explaining the puzzling distribution of small cow-wheat.'
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RECENT CONTRIBUTED PRESENTATIONS

ICCB 2021,

Talk (not presenting): On farm plant reintroduction: a decision framework for plant conservation translocation in EU agro-ecosystems

BES Annual Meeting, Belfast, Dec 2019

Talk: Evidence for climate as a cause of failure in threatened species conservation translocations

N4FG, Joint UK Agency/BES Meeting, Manchester, 23-24 May 2018

Poster: Basic ecological knowledge gaps for England's threatened plants and fungi: identifying research needs ahead of 2020

Talk: 25 years from now: what use reintroductions?

BES Annual Meeting, Liverpool, Dec 2016

Talk: Three decades on: high latitude serpentine system shows potential for autonomous recovery from nutrient addition

GRANTS AWARDED

Doomed to fail? Describing the extent of species reintroductions that have succumbed to negative climate change, £4962.30

Nov 2020 – Dec 2021, British Ecological Society Small Research Grant (SR20/1544)

Global biodiversity targets, implementing solutions to biodiversity loss for 2020 and beyond, £10,000

Jan – Mar 2018. Awarded from LJMU Knowledge Exchange funding scheme. Activities include the progression of the Synopsis of Plant Conservation with a focus on delivering evidence gaps pertaining to the management of Section 41 species in the UK Government's Biodiversity 2020 strategy. Partners include Natural England and Plantlife.

Identifying vulnerable components of the Irish and British flora: differential climate change responses of high-altitude plant species from European oceanic systems, £500

March 2016. Awarded to Dr D.O. Bourke & Dr S.E. Dalrymple by the Botanical Research Fund.

Assessing the Development of Graduate Attributes within a new tutorial-based course for Level 1 students in Biological Sciences, £565

May 2010. Awarded to Dr S.E. Dalrymple, Dr M. Barker and Dr N. King through the University of Aberdeen Learning & Teaching Enhancement Programme.

Cairngorms Rare Plant Partnership, £155,000

May 2009 - May 2013. Funded by Esmée Fairbairn Foundation and project partners. Contributed to the successful grant application and whilst at Aberdeen University served as principal investigator and line manager to the project officer, Dr Andrew Scobie. Project partners include Scottish Natural Heritage, Cairngorms National Park Authority, Scottish Wildlife Trust and Plantlife.

Determining the taxonomic status of *Cerastium nigrescens*, £552

June 2008. Funding sought for MSc student project from Botanical Society of the British Isles.

Restoration of serpentine debris on Unst, Shetland Isles, £8,000

May 2008 – Sep 2010. Scottish Natural Heritage funded; awarded to Dr David Slingsby. Coordinated habitat restoration project including logistics for team of three researchers and four assistants.

Conservation of *Melampyrum sylvaticum*, £25,000

Jun 2007 – Sep 2009. Scottish Natural Heritage Species Action Framework funding for the *ex situ* cultivation and management of wild populations of *M. sylvaticum*.

The effectiveness of plant re-introductions as a method of mitigating extinctions, £4,093

Dec 2006 – Sep 2008. British Ecological Society, Ecology Into Policy Grant. Funded systematic review in collaboration with the Centre for Evidence-Based Conservation at the University of Bangor.

SUPERVISION

Completions

PhD:

Rhiannon Crichton - Restoration genetics of rare plants: Lessons from a model species

(NERC CASE studentship, with Dr Peter Hollingsworth, Royal Botanic Gardens, Edinburgh and Dr Sarah Woodin, University of Aberdeen). Awarded June 2012.

Simon Stringer - Seed dispersal effectiveness of samango monkeys (*Cercopithecus albogularis schwarzi*). Awarded March 2020.

Joe Bellis - Climate change and species conservation: the dual role of translocation as a bioassay of, and solution to, climate-induced extinctions. Awarded May 2021

MPhil:

Joe Bellis – European montane birds and climate change: conservation options. Awarded Dec 2017.

MSc/MRes:

Six completions as lead supervisor, plus several others as second supervisor. Encompassing field, controlled environment and modelling work on topics around threatened plant conservation, climate change, trophic networks and plant-soil interactions.

BSc Honours:

> 37 projects encompassing threatened species management and impacts of climate change, land-use change, invasive species and pollution on lower plants, vascular plants and animal communities.

In progress

PhD:

Elise Fox - Climate change impacts on vulnerable montane ecosystems: patterns and mechanisms of plant community responses to experimental drought and warming.

Mike Longden - Ecological and biogeochemical processes involved in UK peatland restoration.

MPhil:

Nathan Thomas - Climate change impacts on oceanic-montane plant communities – can we better inform conservation measures to better protect these vulnerable ecosystems?

Hannah Branwood - Past, present and future of disjunct distributions: applying a spatially explicit modelling approach to understand the causes of disjunct distributions and the implications for climate change vulnerability.

MEETING COORDINATION

2nd International Wildlife Reintroduction Conference, Chicago, USA, 13-16 November 2018.

Member of the Scientific Advisory Group involved in developing programme, inviting speakers and reviewing abstracts.

Meres & Mosses Forum, Cheshire, UK, March 2017.

Facilitation of group discussions on the impact of climate change.

Scottish Natural Heritage Sharing Good Practice, Perthshire, Scotland, May 2016.

Facilitation of break-out group discussion on the Scottish Code for Conservation Translocations.

International & European Congress for Conservation Biology (ICCB-ECCB 2015), Montpellier, France, 2nd-6th August 2015.

Member of Organising Committee, Member of Scientific Committee reviewing symposia, talk and poster abstracts, co-ordinated Student Awards, ran CV-reviewing service. Over 2300 delegates.

World Conservation Congress, Jeju, South Korea, 6-15th September 2012.

Member of Technical Review Panel; co-authored two successful event proposals: 'Future pressures and opportunities for conservation introductions: what might be moved and where, responsibly?' with colleagues from IUCN Conservation Translocations Task Force, and workshop entitled 'Youth Engagement and Intergenerational Partnership for Sustainability: Toward a Cross-Commission Action Plan' with the IUCN Task Force on Intergenerational Partnerships for Sustainability.

The end of the world as we know it? Moving forward with postgraduate research in sustainable development, Future Connections 2012, St Andrews, 7th and 8th June.

Awarded £1500 from the Scottish Alliance for Geoscience, Environment and Society (SAGES). Collaborated with University of St Andrews postgraduate group who coordinated meeting.

Early Career Researchers in Socio-Ecological Systems Workshop: Crossing disciplines for conservation, Aberdeen Arts Centre. 11-12th November 2010

Developed and ran workshop activities: 'Getting things done: communicating interdisciplinary projects for education and policy'.

Environmental Education Provider's Conference, University of Aberdeen, 20th January 2010.

Facilitated workshops within this conference run jointly by the University of Aberdeen's Natural History Centre and Scottish Natural Heritage.

British Ecological Society Student Conference, Imperial College London, September 2008.

Coordinated team of students from UK institutions to deliver programme of contributed talks, plenary speakers and workshops on practical research skills, finding funding and publications.

British Ecological Society Student Conference, University of Glasgow, September 2007.

Organised and chaired one-day student conference consisting of contributed student talks, CV clinic and Q & A session on careers with an expert panel.

EQUALITY, DIVERSITY AND INCLUSION ACTIVITIES

Co-Chair, LJMU Women Academics Network, influencing University policy and practice with regards to addressing gender inequality and awareness raising of issues relevant to our membership such as women's career progression, support for working parents, the menopause and domestic abuse.

Athena Swan Working Self-Assessment Team, School of Biological and Environmental Sciences, LJMU, Jun 2021 – Mar 2022.

Lead, Botany For All Subgroup, BSBI, an initiative to diversify the botanical community of Britain and Ireland by adjusting internal operations and developing engagement and training opportunities for a range of groups and needs.

Talk: Hidden voices, LJMU's programme of events for International Women's Day March 2021

Plenary: Unlocking your potential, British Ecological Society Annual Meeting Early Career Event, Dec 2020

The Applied Ecologist's Blog, #EachforEqual – taking responsibility for gender inequality..., Mar 2020

Athena Swan Working Group, School of Natural Sciences & Psychology, LJMU, Jan 2018 - Aug 2019.

Gender Bias Training, Elsevier Publishing Campus [online training], May 2017.

Student Conference for Conservation Science, Tinhany, Hungary, September 2016. Contributed recorded interview used at a workshop entitled 'Women in Science' run by Stephanie Januchowski-Hartley and Barbara Mihók.

MEDIA ENGAGEMENT

Featured expert, Mongabay Natasha Gilbert (13 October 2021). Wildlife Releases have a Mixed Record and Climate Change Complicates Things: <https://news.mongabay.com/2021/10/wildlife-releases-have-a-mixed-record-and-climate-change-complicates-things/>

Featured expert, Yale e360 Zach St George (19 May 2021) Amid Climate Pressures a Call for a Plan to Move Endangered Species: <https://e360.yale.edu/features/amid-climate-pressures-a-call-for-a-plan-to-move-endangered-species>

BBC Natural History Unit Contributor to BBC Radio 4's *Saving Species* programme (series 3, episode 21 first aired 22 January 2013) and scoping television programmes on reintroductions.

Featured expert in *Engineering and Technology Magazine* special issue on climate change, print circulation of 180,000 and available online: Pool, R. (2012). Assisted migration and the ethics of playing 'eco god'. *Engineering & Technology Magazine*, 7(11).

OUTREACH

Zoological Society of London Scientific Event, Return to the wild: How can we recover Extinct in the Wild species? 9 March 2021, 18:00 - 19:30 available at <https://youtu.be/VWTbrzJe1ZI> from 29:00 minutes (400 live attendees, 2400+ views on YouTube)

Picton Poets, various Liverpool Schools, June 2019, coordinated by Shrinking Space

Presented scientific concepts relevant to climate change and the threat posed to endangered species to classes of Year 5 school children. Facilitated 'arts-meet-science' poetry and speech-writing sessions, children's work was used in a public awareness campaign by Shrinking Space.

Plant Science Day: 'Tropical rainforests and us', Dobcroft Junior School, Sheffield, 23 Nov 2018

Gave assembly presentation to 93 year 6 school children and prepared and delivered class activities on leaf morphology and adaptation. Met National Curriculum science requirements for understanding evolutionary adaptations, also delivered numeracy skills (light measurements), creative activities (leaf design and construction) and literacy (using botanical terms).

Research Café, Nov 2017

Public lecture series, gave illustrated talk entitled 'From threatened species to ecological theory and back again: making mistakes in conservation'.

LJMU Ecological Survey Team, 2015-2016

Co-ordinated student group undertaking Phase 1 surveys for urban greenspaces on behalf of community-management groups, LJMU campus management, and contributing to the Speke & Garston Coastal Reserve Bioblitz in May 2016.

Wildscreen Aberdeen, 20 March 2010

Organised film festival to celebrate 2010: International Year of Biodiversity in conjunction with Wildscreen (financial support from the Scottish Government and British Science Association).

Big Questions in Biodiversity, National Science & Engineering Week, 17 March 2010

Panel member answering questions from secondary school children, University of Aberdeen.

What's at stake at Copenhagen? 30th November 2009

Panel member, Q & A discussion on climate change open to general public.

Natural History Centre Ecoschools Conference, 31st March 2009

Ran workshops for school children on plant propagation in the Cruickshank Botanic Gardens.

Techfest Setpoint, September 2009

Delivered talks to secondary school children in Huntly and Aberdeen on Charles Darwin.

Whitby Folk Week Botanical Excursions, August 2009

Led guided walks and illustrated talks linking local wild plants with folklore, medicines and foods.

PROFESSIONAL SERVICE

Jan 2020 – present	Chair of the Back On Our Map Steering Group
Jan 2020 – present	External Examiner, MSc Biological Recording and Ecological Monitoring, Manchester Metropolitan University
Nov 2018 – present	Greater Manchester Wetlands Species Reintroduction Group
Nov 2017 – present	<i>Applied Ecology Resources</i> , member of 'Knowledge Framework' development group and since March 2019, Advisory Group member
May 2017	External Assessor, Manchester Metropolitan University
Oct 2016 – present	BSBI Skills & Training Committee, Secretary in 2021, Chair from Jan 2022
Nov 2015 – present	Plant Link UK
Jan 2015 – present	British Ecological Society Conservation Ecology Special Interest Group
Nov 2013 – Dec 2016	Society for Conservation Europe Section Board of Directors. Chair of the SCB Europe Education Committee.
Oct 2012 – present	BES Review College member.
Nov 2011 – Sep 2013	IUCN Species Survival Commission Young Professionals Group.
Apr 2010 – present	IUCN Reintroductions Specialist Group – Invasive Species Specialist Group Task Force on Moving Plants and Animals for Conservation Purposes.
Mar 2010 – present	IUCN Task Force on Intergenerational Partnerships for Sustainability.
Jul 2009 – Aug 2011	Macaulay Institute-SNH project: 'Translocation of species in response to climate change', Advisory Group.
Jul 2007 – Aug 2011	North East Scotland Biological Record Centre Management Group.
Jul 2007 – Aug 2010	North East Scotland Local Biodiversity Action Plan Steering Group.
Sep 2004 – Sep 2008	British Ecological Society Council Member & Early Career Representative.
Oct 2002 – present	UK Species Action Plan <i>Melampyrum sylvaticum</i> National Steering Group.
