

EMMA LADOUCEUR, M.Sc.; Ph.D.

ACADEMIC & PROFESSIONAL APPOINTMENTS

Alexander von Humboldt Foundation Postdoctoral Fellow	German Center for Integrative Biodiversity Research (iDiv), Leipzig, Germany	12/2020-12/2022
Postdoctoral Researcher	iDiv	04/2018-11/2020
Researcher	Museo delle Scienze di Trento (<i>MUSE</i>), Trento, Italy	08/2017-03/2018
Marie-Curie Initial Training Network Early-Stage Researcher & PhD student	<i>MUSE</i>	08/2014-08/2017
Lab Manager, Researcher & Practical Teacher	Queensland University of Technology, School of Earth, Environmental and Biological Sciences, Brisbane, Australia	2013-2014
Research Officer	Centre for Mined Land Rehabilitation (CMLR), University of Queensland (UQ)	2012-2013
Practical Teacher & Research Assistant	UQ, School of Geography, Planning and Environmental Management & School of Biological Sciences	2011-2012
Junior Planner	City & Environmental Planning, City of Toronto, Canada	2009-2011
Assistant Planner	Citizens' Environment Watch, Toronto	2007
Assistant Planner	EBA Engineering, Calgary	2006

EDUCATION

University of Pavia Ph.D.	Pavia, Italy Earth & Environmental Science	08/2014 - 08/2017
<i>Dissertation title: "A biogeographical approach to species selection for European grassland restoration projects" Defended: December 8, 2017.</i> <i>As a part of the cross-industry, interdisciplinary, Marie Curie Initial Training Network (ITN):</i> <i>NAtive Seed Science TEchnology and Conservation (NASSTEC)</i>		
University of Queensland M.Sc.	Brisbane, Australia Conservation Biology	2011-2012
<i>Dissertation title: "The rapid response of the endangered bluegrass grasslands community to restoration treatments"</i>		

Ryerson University Toronto, Canada 2003-2007
 Bachelor of Urban and Regional Planning
Dissertation title: "The voluntary success of sustainable building practices"
Semester Abroad: Royal Melbourne Institute of Technology (RMIT), Melbourne, Australia, 2005

EDUCATIONAL CERTIFICATES/COURSES

Teaching in Higher Education, iDiv	Leipzig, Germany	2020
Statistical Rethinking, Richard McElreath, Max Planck Institute for Evolutionary Anthropology	Leipzig, Germany	2018-2019
Temporal and Spatial Analysis of Ecological Data in an Open-Source Environment (GRASS GIS), Fondazione Edmund Mach	Trento, Italy	2015
Plant Anatomy Certificate, Queensland University of Technology	Brisbane, Australia	2014
Academic Education Development Certificate, Queensland University of Technology	Brisbane, Australia	2014
Certificate of Environmental Management, University of Toronto	Toronto, Canada	2008-2009

RESEARCH FUNDING ACTIVITY

* indicates part of funding application, but no funding directly received personally

Year	Project/Cost	Funding Organization	Amount/Status	Role
2022	The Global Restore Project: Synthesis in the Decade on Ecosystem Restoration	Deutsche Forschungsgemeinschaft (DFG), Eigene Stelle (Own position)	In Preparation	PI
2022	Restoration prioritization: Linking restoration potential with estimates of likely success	Environment and Climate Change Canada, Nature and Smart Solutions Fund	Submitted	Project co-applicant
2022	Measuring seedling traits: A handbook	iDiv	€10,000*	Workshop co-applicant
2021	sReStoReS: Restoration Synthesis to Reimagine Success	iDiv Synthesis Centre (sDiv) 9 th Call <u>SynFlex Member</u>	€36,000	Co-PI
2021	Can seedling traits predict the establishment success of species belonging to dark diversity?	iDiv <u>Flexpool Funding Scheme</u>	€10,000*	Co-applicant
2021-2022	Placing ecological succession in an applied	sDiv Sabbatical Project: Cynthia Chang	*	Local collaborator

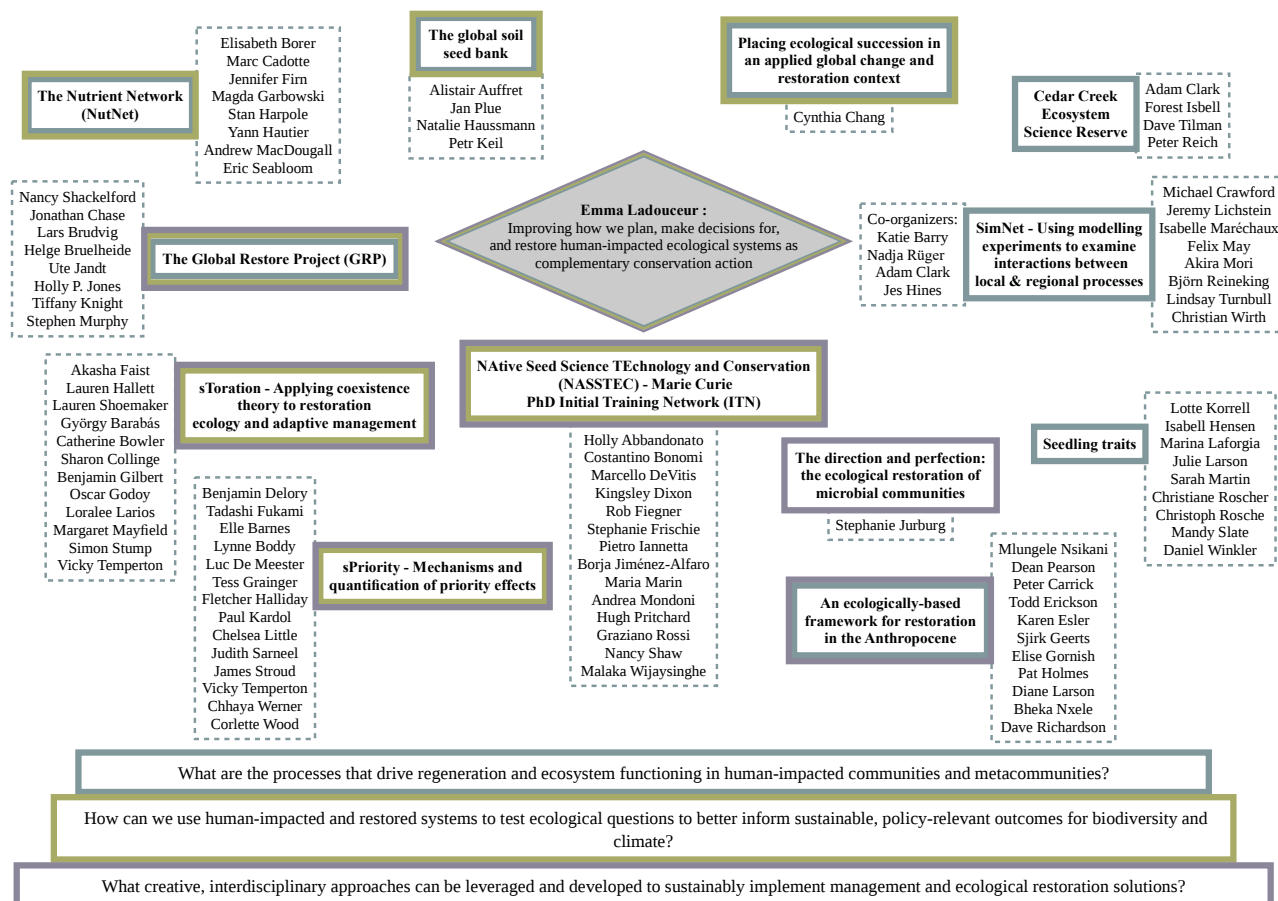
	global change and restoration context	(University of Washington Bothell)		
2020-2021	<u>sPriority: Mechanisms and quantification of priority effects</u>	sDiv Working group, iDiv	*	Local working group participant
2019-2021	<u>sToration: Applying coexistence theory to restoration ecology and adaptive management</u>	sDiv Working group, iDiv	*	Local working group participant
2020	Society for Ecological Restoration (SER) Conference, Cape Town	iDiv <u>Female Career Fund</u>	€1,000	Applicant
2019	<u>Global Restore Project (GRP)</u>	Alexander von Humboldt Foundation, Postdoc Fellow	€82,800	PI
2019	SimNet: Establishing a collaborative network of modelers to better understand how community assembly influences ecosystem functioning	iDiv <u>Flexpool Funding Scheme</u>	€10,000*	Co-applicant
2014-2018	NATive Seed Science TEchnology & Conservation (NASSTEC): Initial Training Network (ITN)	Marie Skłodowska-Curie Actions (MSCA) FP7	~€100,000	Competitively selected Early Career Researcher (ECR) & PhD Candidate
2011-2013	Bluegrass community restoration	Rio Tinto Coal Clermont	AU\$35,000	Co-applicant
2012	<i>Solanum orgadophilum</i> field surveys	Fitzroy Basin Association	AU\$10,000	PI

SELECTED AWARDS AND HONORS

2017	Ph.D. with excellence, University of Pavia
2012	Deans Commendation for Excellence, University of Queensland
2011	Summer Research Scholarship, University of Queensland

MY COLLABORATION NETWORK

During my time as a researcher, I have developed an extensive and well-connected global research network in over 15 countries (pictured below). This network supports and enriches my current interdisciplinary research program. Each color outlined node is the title of a project, workshop or collaboration I have been involved in, and names listed are the main collaborators involved in these projects. Colors are associated with the main overarching research questions that have driven my research so far, listed at the bottom.



PUBLICATIONS

- Ladouceur, E.;** Blowes, S.A.; Chase, J.M.; Clark, A.T.; Garbowski, M.; ... Harpole, W.S.; + *The Nutrient Network*. **Accepted**. Linking changes in species composition and biomass in a globally distributed grassland experiment. *Ecology Letters*. Authorea Pre-Print Server: doi.org/10.22541/au.164197604.41103734/v1
- Spake, R.; Barajas-Barbosa, P.; Blowes, S.; Bowler, D.E.; Garbowski, M.; Jurburg, S.; Korrell, L.; **Ladouceur, E.;** Rozzi, R.; van Klink, R.; Viana, D.S.; Chase, J. **Accepted**. Detecting thresholds of ecological changes in the Anthropocene: challenges and opportunities. *Annual Review of Environment and Resources*. doi.org/10.1146/annurev-environ-112420-015910
- Aoyama, L.; Shoemaker, L.G.; Gilbert, B.; Collinge, S.; Faist, A.; Shackelford, N.; Temperton, V.; Barabás, G.; Larios, L.; **Ladouceur, E.;** Godoy, O.; Bowler, C.H.; Hallett, L. **2021**. Diagnosing restoration trajectories using demographic modeling and modern coexistence theory. *Ecological Applications*. doi.org/10.1002/eap.2649
- Staude, I.; Segar, J.; Callaghan, C.T.; **Ladouceur, E.;** Meya, J.N.; Pereira, H.M.; Perino, A. **2021**. Urban conservation gardening in the decade on restoration. *Nature Sustainability*. doi.org/10.1038/s41893-022-00882-z

- Weiss-Lehman, C.P.; Werner, C.M.; Bowler, C.H.; Hallett, L.M.; Mayfield, M.M.; Godoy, O.; Aoyama, L.; Barabás, G.; Chu, C.; **Ladouceur, E.**; Larios, L.; Shoemaker, L.G. **2022**. Disentangling key species interactions in diverse and heterogeneous communities: A Bayesian sparse modeling approach. *Ecology Letters*. doi.org/10.1111/ele.13977
- Ladouceur, E.**; Shackelford, N.; Paterno, G.; Garvy, K.; Brudvig, L.; Jones, H.P.; Bouazza, K.; Bucharova, A.; Conradi, T.; Erickson, T.; Harpole, S.; Knight, T.; Suding, K.; Temperton, V.; Török, P.; Winkler, D.; Chase, J.M. **2022**. Knowledge Sharing for Shared Success in the Decade on Ecosystem Restoration. Perspective. *BES-SER Joint Special Feature on the Decade on Ecosystem Restoration. Ecological Solutions and Evidence*. doi.org/10.1002/2688-8319.12117
- Beugnon, R.; **Ladouceur, E.**; Sünemann, M.; Cesarz, S.; Eisenhauer, N. **2021** Diverse forests are cool: Promoting diverse forests to mitigate carbon emissions and climate change. *Journal of Agriculture and Environment*. doi.org/10.1002/sae2.12005
- Ladouceur, E.**; McGowan, J.; Possingham, H.; Huber, P.; van Klink, R.; Bonomi, C.; Scridel, D.; Poschlod, P.; Cornellisen, J.H.C.; Jiménez-Alfaro, B. **2021** An objective-based prioritization approach to support trophic complexity through ecological restoration. *BES-SER Joint Special Feature on the Decade on Ecosystem Restoration. Journal of Applied Ecology*. doi.org/10.1111/1365-2664.13943
- Crawford, M.; Barry, K.E.; Clark, A.T.; Hines, J.; **Ladouceur, E.**; Lichstein, J.; Maréchaux, I.; May, F.; Mori, A.; Reineking, B.; Turnbull, L.; Wirth, C.; & Rüger, N. **2021** The function-dominance correlation drives the direction and strength of biodiversity- ecosystem functioning relationships. *Ecology Letters*. doi.org/10.1111/1365-2664.13943
- Ladouceur, E.**; Shackelford, N. **2020** The power of data synthesis to shape the future of the restoration community and capacity. *Restoration Ecology*. doi.org/10.1111/rec.13251
- Ladouceur, E.**; Harpole, W.S.; Blowes, S.A.; Roscher, C.; Auge, H.; Seabloom, E.; Chase, J.M. **2020** Reducing dispersal limitation via seed addition increases species richness but not above-ground biomass. *Ecology Letters*. doi.org/10.1111/ele.13566
- Chase, J.M.; Jeliaskov, A.; **Ladouceur, E.**; Viana, D.S. **2020** Biodiversity conservation through the lens of metacommunity ecology. *Annals of the New York Academy of Sciences*. doi.org/10.1111/nyas.14378
- Ladouceur, E.**; Bonomi, C.; Bruelheide, H.; Klimešová, J.; Iannetta, P.; Tudela-Isanta, M.; Mondoni, A.; Poschlod, P.; Amiaud, B.; Burrascano, S.; Cerabolini, B.; Cornellisen, J.H.C.; Craine, J.; Louail, F.; Minden, V.; Öllerer, K.; Onipchenko, V.; Soudzilovskaia, N.; Jiménez-Alfaro, B. **2019** The functional trait spectrum of European temperate grasslands. *Journal of Vegetation Science*. doi.org/10.1111/jvs.12784 .
- Firn, J.; McGree, J.M.; Harvey, E.; Flores-Moreno, H.; Schütz, M.; Buckley, Y.M.; Borer, E.T.; Seabloom, E.W.; ... **Ladouceur, E.**; ... Risch, A.C. **2019** Leaf nutrients, not specific leaf area, are consistent indicators of elevated nutrient inputs. *Nature Ecology & Evolution*. doi.org/10.1038/s41559-018-0790-1
- Tudela-Isanta, M.; **Ladouceur, E.**; Wijayasinghe, M.; Pritchard, H.; Mondoni, A. **2018**. The seed germination niche limits the distribution of some plant species in calcareous or siliceous alpine bedrocks. **2018** *Alpine Botany*. doi.org/10.1007/s00035-018-0199-0
- Ladouceur, E.**; Jiménez-Alfaro, B.; Marin, M.; DeVitis, M.; Abbandonato, H.; Iannetta, P.; Bonomi, C.; Pritchard, H. **2017** Native seed supply and the restoration species pool. *Conservation Letters*. doi.org/10.1111/conl.12381.

Firn, J.; **Ladouceur, E.**; Dorrough, J. **2017** Integrating local knowledge and research to refine the management of an invasive non-native grass on critically endangered grassy woodlands. *Journal of Applied Ecology*. doi.org/10.1111/1365-2664.12928 .

Ladouceur, E.; Mayfield, M. **2016** The early response of subtropical grasslands to restoration treatments. *Restoration Ecology*. doi.org/10.1111/rec.12491 .

Darchen, S.; **Ladouceur, E.** **2012** Social sustainability in urban regeneration practice: case study of the Fortitude Valley Renewal Plan. *Australian Planner*. 50 (4): 340-350.

Darchen, S.; Huston, S.; **Ladouceur, E.** **2012** De-risking transport-oriented development regeneration. *Journal of Urban Regeneration and Renewal*. 5 (3): 224-234.

Agrawal, S.K.; **Ladouceur, E.** **2007** Design Review: Lessons for Toronto. *Plan Canada*. 47(1): 32-35.

IN REVIEW & REVISION:

Ladouceur, E.; Isbell, F.; Clark, A.T.; Harpole, W.S.; Tilman, D.; Reich, P.; Chase, J.M. **In Review**. The recovery of plant community composition following passive restoration across spatial scales. *Journal of Ecology*. BioRxiv Preprint server. doi.org/10.1101/2022.04.14.488351

Muehleisen, A.; ... **Ladouceur, E.**; ... Hallett, L. + *The Nutrient Network*. **In Review**. Nutrient addition drives declines in grassland species richness primarily via enhanced species loss. *Journal of Ecology*.

Slodowicz, D.; Durbecq, A.; **Ladouceur, E.**; Eschen, R.; Humbert, J-Y.; Arlettaz, R. **In Review**. The relative effectiveness of different grassland restoration methods: a systematic review and meta-analysis. *Ecological Solutions and Evidence*.

Garbowski, M.; ... **Ladouceur, E.**; ... Harpole, S. + *The Nutrient Network*. **In Review**. Temperature seasonality and nutrient addition drive intra-annual community turnover in global grasslands. *Ecology*.

SELECTED PRESENTATIONS

INVITED:

Ladouceur, E. 2022. Disturbance, regeneration & the restoration of ecological communities. University of Oulu, Finland (April); University of Graz, Austria (Oct.); Swedish University of Life Sciences, Uppsala, Sweden (Nov.).

Ladouceur, E. 2022. Data collection and analysis in ecology - a restoration perspective (virtual). Symposium: Data Re-use in Ecology. Facultad de Ciencias, Universidad de la República, Montevideo, Uruguay.

Ladouceur, E. + *The Nutrient Network* 2022. Linking changes in species composition and biomass in a globally distributed grassland experiment. International Association of Vegetation Science (IAVS). Special session on 'Ecological stability, from vegetation science to ecosystem process' in Madrid, Spain, & given at 'Frontiers in Experimental Research' Conference at UFZ, Leipzig, Germany.

Ladouceur, E. 2022. The Global Restore Project: Knowledge sharing for shared success in the Decade on Ecosystem Restoration. Australasian Plant Conservation Conference.

Ladouceur, E. 2021. Organized Session: Leveraging FAIR data to discover new connections in ecology. The Global Restore Project: A collaborative scientist-practitioner synthesis initiative with an open-science vision. Ecological Society of America (ESA) (virtual).

- Ladouceur, E.** 2020. Introduction to Bayesian Meta-analysis & Synthesis. Virtual Book Club (Based on Koricheva, 2013). *Ecological Synthesis & Biodiversity Conservation Lab (EcoFun)*, Universidade Federal Rural de Pernambuco, Department of Biology. Virtual Talk.
- Ladouceur, E.** McGowan, J.; Possingham, H ... Jiménez-Alfaro, B. 2019. Prioritizing for regeneration in ecological restoration: implications for species selection, decision-making, conservation, & policy. *Society for Ecological Restoration (SER) Conference, Cape Town, South Africa.* (Also given at *International Association of Vegetation Science (IAVS)*, Bremen, 2019)
- Ladouceur, E.;** Shackelford, N.; Harpole, S.; Chase, J. 2021. The Global Restore Project: knowledge sharing for shared success. Society for Ecological Restoration (SER), International conference & Europe Chapter (both virtual).
- Ladouceur, E.;** Shackelford, S.; Harpole, S.; Chase, J. The ecological restoration of communities and metacommunities. *iDiv Seminar Series.*
- Bowler, D.; Blowes, S.; **Ladouceur, E.** 2020. How to do Data Synthesis. *iDiv Annual Conference. Virtual Workshop.*
- Baxter, E.; Hallett, L.; **Ladouceur, E.;** Muehleisen, A. 2020. Tools for Effective Collaboration. *The Nutrient Network (NutNet) Annual Meeting (Virtual).*
- Ladouceur, E.;** Chase, J.M.; Harpole, ... Shackelford, N. 2019. The Global Restore Project (GRP): Plans for Data Synthesis in Restoration. *Society for Ecological Restoration (SER) Conference, Cape Town, South Africa.*
- Ladouceur, E.;** Chase, J.M.; Harpole, W.S. 2019. Plans for Data Synthesis in Restoration. *iDiv Annual Conference.*
- Ladouceur, E.** 2018, 2019. *Skype a Scientist (Grade 4 and Grade 2 classes in North America).*
- Ladouceur, E.;** Harpole, ... Chase, J.M. 2018. Reducing dispersal limitation via seed addition increases species richness but not above-ground biomass. *iDiv Annual Conference.*
- Ladouceur, E.;** ... Jiménez-Alfaro, B. 2017. Prioritizing for regeneration in ecological restoration: implications for species selection, decision-making, conservation, & policy. *Seed Quality of Native Species: Ecology, Production & Policy Conference, Royal Botanic Gardens, Kew, London, United Kingdom.*
- Ladouceur, E.;** ... Jiménez-Alfaro, B. 2017. The regeneration niche and trait spectrum of temperate European grasslands. *International Association of Vegetation Science (IAVS) Conference, Palermo, Italy.*
- Ladouceur, E.;** ... Jiménez-Alfaro, B. 2017. The regeneration niche and trait spectrum of temperate European grasslands. *Italian Plant Traits Conference, Bologna Botanic Gardens, Italy.*
- Ladouceur, E.;** ... C.; Pritchard, H. 2016. Native Seed Supply & The Restoration Species Pool. *Italian Seed Bank Conference, Cagliari Botanic Gardens, Sardinia, Italy.*

TEACHING EXPERIENCE

Invited Seminar: Restoration Ecology	University of Bologna, Italy	2022
Invited Seminar: Restoration Ecology	Saint Mary's University, Halifax, Canada	2022
Invited Seminar: Ecological theory & application:	University of Utrecht, Netherlands	2022

Metacommunities & ecological restoration

Reproducible data and code: compilation and management	<u>yDiv</u> Ph.D. Graduate program, iDiv	2022
Invited Seminar: Quantitative Methods in Biodiversity Science (FAIR, Open Data and Science)	MSc Biodiversity, Ecology & Evolution, University of Leipzig	2021
Bioinformatics for Biodiversity	MSc, Bioinformatics, Computer Science & Biology, Martin Luther University, iDiv	2018-2022
SEB102: Understanding Science: Food Security Stream	Queensland University of Technology (QUT), School of Earth, Environmental and Biological Sciences (SEEBS), Australia	2013-2014
SEB114: Explaining Science: Biology Stream	QUT, SEEBS	2013-2014
BIOL1030: Global Challenges in Biology	University of Queensland (UQ), School of Biological Sciences (SBS)	2012
ENVM3203/7206: Tools for Environmental Assessment and Analysis	UQ, School of Geography, Planning and Environmental Management (GPEM)	2012
PLAN3000: Plan Making: Studio	University of Queensland, GPEM	2011-2012

STUDENTS & MENTORING

Pia Bradler	Intern	2022	University of Bayreuth	The Global Restore Project (GRP) & Global Arid Zone Project (GAZP)
Jack Boyce	Research Assistant	2022	German Center for Integrative Biodiversity Research (iDiv)	The Global Restore Project (GRP) & Global Arid Zone Project (GAZP)
Saneesh Cherapurath Soman	<u>yDiv</u> , PhD program	2022-onwards	Martin Luther University, Halle	iDiv, PhD Advisory Committee (PAC)
Nils Waterstradt	M.Sc. - Biology	2021-2022	Martin Luther University, Halle	The effect of restoration treatments on exotic species: a synthesis
Lauren E. Young	Research Assistant	2020-2021	iDiv	The Global Restore Project (GRP) & Global Arid Zone Project (GAZP)

Daniel Slowdowicz	Ph.D. - Biology	2020-2021	The University of Bern	The relative effectiveness of seed addition methods for restoring and re-creating species rich (European) grasslands: A Meta-analysis
Clara Rosse	Research Assistant	2020	iDiv	The Global Restore Project (GRP) & Global Arid Zone Project (GAZP)
Enrico Magazzino	B.S. - Biology	2016	University of Padova	The germination niche of selected alpine plant species of northern Italy
Rosa Ranalli	M.Sc. - Biology	2016	University of Padova	Terrestrial alpine orchid germination: dormancy and cardinal temperature characterization
Mangalam Parlanival	Volunteer	2013-2014	Queensland University of Technology (QUT)	Leaf nutrients, not specific leaf area, are consistent indicators of elevated nutrient inputs
Max Rosenthal	Research Assistant	2013	QUT	Integrating local knowledge and research to refine the management of an invasive non-native grass on critically endangered grassy woodlands.

SYNERGISTIC EXPERIENCE

REVIEWING

Editorial Board & Editor: Conservation Letters

Reviewer: Applied Vegetation Science, Conservation Letters, Conservation Science & Practice, Ecological Applications, Ecological Solutions & Evidence, Ecology, Ecology Letters, Global Change Biology, Global Ecology & Biogeography, Journal of Applied Ecology, Journal of Plant Ecology, Journal of Vegetation Science, Oecologia, Oikos, Philosophical Transactions of the Royal Society B

Grant Reviews: Czech Science Foundation, National Science Centre Poland

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Associate Member - German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig
Director at Large - International Network for Seed-Based Restoration (INSR) (SER Section)

Member - Society for Ecological Restoration (SER)

Member - Society for Conservation Biology (SCB)

Member - International Association of Vegetation Science (IAVS)

Member - British Ecological Society (BES)

Member - Ecological Society of America (ESA)

RELEVANT INTERDISCIPLINARY & PRACTICAL ROLES

Volunteer marine surveyor (coral & invertebrate communities)	Reef Check Australia	2011-2014
Crew supervisor (large-scale, biodiverse, tree planting)	Dirty Planters (Formerly AWW planting), Australia	2013-2014
Volunteer marine surveyor (fish, invertebrate, & coral communities)	Global Vision International (GVI), Seychelles (Cap Ternay & Curieuse)	2008
Dive master, ~5 Scientific & Technical Specialties	Professional Association of Diving Instructors (PADI)	2001 - onwards

OUTREACH

Global Vegetation Project	Contributor	2020
Skype a Scientist	Connected with school-age classrooms across America	2018-2020
EU Commission European Research & Innovation Days	Speaker, Information booth	2016-2017
Notte dei Ricercatori (Night of the Researchers)	Interactive educational activity booth	2015-2017
Giardino Botanico Alpino Viote (alpine botanical garden Viote)	English speaking tours, international school education days	2015-2017
Pint of Science Trento/Rovereto	Interactive speed talk	2015-2017
Escite Conference	Interactive educational activity booth	2015
Milano Food Expo, Regional Event & Displays	Development of outdoor educational garden beds, and native meadow restoration displays	2015