

## CURRICULUM VITAE

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### MATTHEW G.E. MITCHELL

Institute for Resources, Environment and Sustainability  
Liu Institute for Global Issues  
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### RESEARCH INTERESTS

Management and planning for multifunctional landscapes; environmental impacts of agriculture; human-nature interactions; quantification of ecosystem services; biodiversity-ecosystem service relationships; urban ecology; landscape ecology; remote sensing; functional ecology; science communication; environmental leadership.

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### EDUCATION

**Ph.D., Renewable Resources** 2014

McGill University, Department of Natural Resource Sciences  
*Thesis:* The effects of landscape structure and biodiversity on ecosystem services  
*Supervisors:* Elena Bennett & Andrew Gonzalez

**M.Sc., Environmental Biology and Ecology** 2006

University of Alberta, Department of Biological Sciences  
*Thesis:* Competition and facilitation in a subarctic-alpine plant community  
*Supervisors:* David Hik & James Cahill

**B.Sc. Honours with Distinction, Biology** 2002

University of Victoria, Department of Biology  
*Thesis:* Reproduction and fruit abortion in the dioecious shrub *Oemleria cerasiformis*  
*Supervisors:* Geraldine Allen & Joseph Antos

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### ACADEMIC POSITIONS

**Postdoctoral Research Fellow** 2016 - Present

University of British Columbia  
Institute for Resources, Environment and Sustainability & Liu Institute for Global Issues  
*Research Project:* The ecosystem service impacts of current food production systems  
*Supervisors:* Kai Chan & Navin Ramankutty

**Postdoctoral Research Fellow** 2014-2016

University of Queensland  
School of Geography, Planning and Environmental Management  
*Research Project:* The role of urban landscape structure on ecosystem service provision  
*Supervisor:* Jonathan Rhodes

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**SCIENTIFIC PUBLICATIONS** (supervised students) [Google Scholar citations 2016.07.05]

Summary to Date

H-index: 6 (ISI), 6 (Google Scholar)

Papers in refereed journals: 13

Papers in press: 1

Papers currently in review: 0

Non-peer reviewed publications: 5

2016

13. **Mitchell MGE**, Wu D, Johansen K, Maron M, McAlpine C, Rhodes JR. (*In Press*) Landscape structure influences urban vegetation vertical structure. *Journal of Applied Ecology*. DOI: 10.1111/1365-2664.12741.
12. Caynes R, **Mitchell MGE**, Wu D, Johansen K, Rhodes JR. (2016) Using high-resolution LiDAR data to quantify the three-dimensional structure of vegetation in urban green space. *Urban Ecosystems*. Online Early. DOI: 10.1007/s11252-016-0571-z.

2015

11. **Mitchell MGE**, Bennett EM, Gonzalez A, Lechowicz M, Rhemtulla J, Cardille J, Vanderheyden K, Poirier-Ghys G, Renard D, Delmotte S, Albert C, Rayfield B, Dumitru M, Huang H, Kipp R, Larouche M, Liss K, Maguire D, Martins K, Terrado M, Ziter C, Taliana L, Dancose K. (2015) The Montérégie Connection: Linking landscapes, biodiversity, and ecosystem services to improve decision-making. *Ecology & Society* 20(4): 15. (Special Feature on projects from the Programme on Ecosystem Change and Society).
10. **Mitchell MGE**, Suarez-Castro AF, Martinez-Harms M, Maron M, McAlpine C, Gaston K, Johansen K, Rhodes JR. (2015) Landscape fragmentation and ecosystem services: a reply to Andrieu et al. *Trends in Ecology & Evolution* 30(11): 634-635. (Invited response)
9. **Mitchell MGE**, Bennett EM, Gonzalez A. (2015) Strong and nonlinear effects of fragmentation on ecosystem service provision at multiple scales. *Environmental Research Letters* 10(9): 094014. (Highlighted article selected by journal editors for novelty, significance, and potential impact) [2 citations]
8. **Mitchell MGE**, Suarez-Castro AF, Martinez-Harms M, Maron M, McAlpine C, Gaston K, Johansen K, Rhodes JR. (2015) Reframing landscape fragmentation's effects on ecosystem services. *Trends in Ecology & Evolution* 30(4): 190-198. [26 citations]

2014

7. **Mitchell MGE**, Bennett EM, Gonzalez A. (2014) Agricultural landscape structure affects arthropod diversity & arthropod-derived ecosystem services and disservices. *Agriculture, Ecosystems & Environment* 192(1): 144-151. [6 citations]
6. **Mitchell MGE**, Bennett EM, Gonzalez A. (2014) Forest fragments modulate the provision of multiple ecosystem services. *Journal of Applied Ecology* 51(4): 909-918. [20 citations]

## 2013

5. Liss KN\*, **Mitchell MGE\***, MacDonald GK, Mahajan S, Méthot J, Jacob AL, Maguire D, Metson G, Ziter C, Dancose K, Martins K, Terrado M, Bennett EM. (2013) Variability in ecosystem service measurement: a pollination service case study. *Frontiers in Ecology and the Environment* 11(8): 414-422. \*Authors contributed equally to this work [15 citations]
4. **Mitchell MGE**, Bennett EM, Gonzalez A. (2013) Linking landscape connectivity and ecosystem service provision: current knowledge and research gaps. *Ecosystems* 16(5): 894-908. (Recommended by F1000Prime<sup>1</sup>) [63 citations]

## Pre-2013

3. **Mitchell MGE**, Cahill JF, Hik DS. (2009) Plant interactions are unimportant in a subarctic-alpine plant community. *Ecology* 90(9): 2360-2367. [30 citations]
2. **Mitchell MGE**, Antos JA, Allen GA. (2004) Modules of reproduction in females of the dioecious shrub *Oemleria cerasiformis*. *Canadian Journal of Botany* 82: 393-400. [6 citations]
1. Nigh GD, **Mitchell MGE**. (2003) Development of height-age models for estimating juvenile height of coastal Douglas-fir in British Columbia. *Western Journal of Applied Forestry* 18(3): 207-212. [6 citations]

## In Review

No papers currently in review

## In Preparation

6. Maron M, **Mitchell MGE**, Runding RK, Rhodes JR, Mace GM, Keith DA, Watson JEM. (In Prep.) Towards a threat categorization framework for ecosystem services. *Trends in Ecology and Evolution* (Invited article)
5. **Mitchell M**, Johansen K, Maron M, McAlpine C, Wu S, Rhodes, JR. (In Prep.) High resolution carbon modeling and mapping across an urbanizing gradient in Brisbane, Australia. *Global Change Biology*.
4. Mandle L, Bierbower W, Bremer L, Chaplin-Kramer B, Johnson JA, **Mitchell MGE**, Gourevitch J, Hawthorne P, Robinson BE, Shields-Estrada A, Smith J, Sonter L, Verutes G, Bennett E, Ricketts T, Daily GC. (In Prep.) Linking ecosystems with benefits to people: is ecosystem service science fulfilling its promise? *Proceedings of the National Academy of Sciences of the U.S.A.*
3. Wilkerson M, Shanahan D, **Mitchell MGE**, Wilson K, Ives C, Lovelock C, Rhodes JR. (In Prep.) Socio-economics mediate ecosystem services in urban green spaces. *Ecosystem Services*.
2. Johansen K, **Mitchell MGE**, Wu S, Suarez-Castro F, Dade M, Runding R, McAlpine C, Maron M, Rhodes JR. (In Prep.) Using high-resolution remote sensing data to quantify ecosystem services. *Frontiers in Ecology and the Environment*.

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<sup>1</sup> F1000Prime is a select group of scientists who publish short evaluations of top papers.

1. Turner MG, Graves RA, Bennett EM, Chaplin-Kramer B, Jentsch A, **Mitchell MGE**, Qiu J, Ricketts T, Ziter C. (*In Prep.*) Sustaining multiple ecosystem services and biodiversity: lessons from landscape ecology. *Landscape Ecology* (Invited article)

### **Reports & Other Publications**

5. **Mitchell, MGE**. (2016) Understanding the effects of landscape structure on human well-being. *Conservation Corridor Magazine*. [www.conservationcorridor.org](http://www.conservationcorridor.org).
4. **Mitchell MGE**. (2016) Connecting landscape fragmentation with human wellbeing. *Decision Point Magazine* 94: 10-11. Environmental Decisions Group, University of Queensland.
3. **Mitchell MGE**, et al. (2015) Postdocs reimaged. (Edited by J Sills). *Science* 349(6243): 24-27. (Contributed one of 23 short letters on the future of the postdoctoral position)
2. Auzel P, Gaonac'h H, Poisson F, Siron R, Calmé S, Belanger M, Bourassa MM, Kestrup A, Cuerrier A, Downing A, Lavallée C, Pelletier F, Chambers J, Gagnon AE, Bedard MC, Gendreau Y, Gonzalez A, **Mitchell MGE**, Whiteley J, Larocque A. (2012) *Impacts of Climate Change on the Biodiversity of Quebec: Literature review summary*. CSBQ, MDDEP, Ouranos. Quebec, QC.
1. Whiteley J, **Mitchell MGE**, Larocque A, Gonzalez A. (2011) *Impacts des changements climatiques sur les corridors et les services écosystémiques*. Report for OURANOS and MDDEP. Quebec Centre for Biodiversity Science. Montreal, QC.

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### **SCHOLARSHIPS & AWARDS (24 AWARDS & ~\$250K TOTAL)**

NSERC Postdoctoral Fellowship (\$90,000)	2016 – 2018
McGill University Graduate Excellence Fellowship (\$4,325)	2011
Quebec Centre for Biodiversity Science Awards (\$500, \$1,425 & \$1,696)	2010 – 2012
Quebec Centre for Biodiversity Science Seed Grant (\$5,000)	2010
NSERC PhD Postgraduate Scholarship (PGS-D) (\$42,000)	2009 – 2011
McGill University Provost's Grad Student Fellowship (\$5,000)	2009
McGill University Principal's Grad Student Fellowships (\$2,500 & \$1,000)	2009 & 2010
Alberta Advanced Education Graduate Student Scholarship (\$2,000)	2005
University of Alberta J. Gordon Kaplan Travel Award (\$600)	2005
University of Alberta Graduate Student Association Grant (\$200)	2005
Northern Scientific Training Program Research Grants (\$3,150 & \$1,850)	2004 & 2005
Alberta Ingenuity Graduate Scholarship (\$40,000)	2004 – 2006
University of Alberta Walter H. Johns Scholarships (\$4,600 each)	2003 & 2004
University of Alberta Entrance Scholarship (\$2,000)	2003
NSERC MSc Postgraduate Scholarship (PGS-A) (\$34,600)	2003 – 2005
University of Victoria Dean's List (no monetary value)	2002
Association of Professional Biologists of B.C. Scholarships (\$1,000 each)	1998 & 1999
University of Victoria Entrance Scholarship (\$2,500)	1997

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## INVITED PRESENTATIONS

**Mitchell MGE**, Rhodes JR, Bennett EM, Gonzalez A (2015) Managing landscape fragmentation and connectivity to build multi-functional biodiverse landscapes. *International Association of Landscape Ecology World Congress*. Portland, OR.

**Mitchell MGE**, Liss K, Bennett EM, Gonzalez A (2012) l'Effet de la structure du paysage sur les services écologiques. *Congrès de l'Association des Biologistes du Québec*. Boucherville, QC. (In French)

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## SCIENTIFIC PRESENTATIONS (supervised students underlined)

Dade M, Rhodes JR, McAlpine C, **Mitchell MGE** (2016) Moving towards a causative approach to identify and quantify ecosystem service trade-offs and synergies. *Society for Conservation Biology Oceania*. Brisbane, Australia.

Suarez-Castro F, **Mitchell MGE**, Rhodes JR (2016) Assessing the effects of landscape structure on species diversity and functional diversity relationships. *Student Conference on Conservation Science*. Brisbane, Australia.

Suarez-Castro F, **Mitchell MGE**, Rhodes JR (2015) Predicting the effects of landscape structure on bird functional diversity patterns: the importance of spatial configuration. *Australasian Ornithological Conference*. Adelaide, Australia.

**Mitchell MGE**, Bennett EM, Gonzalez A (2014) Landscape structure drives tradeoffs in ecosystem service provision between scales. *Ecological Society of Australia Annual Meeting*. Alice Springs, Australia.

**Mitchell MGE**, Bennett EM, Gonzalez A (2013) Effets contrastés de la structure du paysage agricole sur les services et les 'disservices' écologiques produit par les insectes. *Quebec Centre for Biodiversity Science Annual Symposium*. Montreal, QC.

**Mitchell MGE**, Bennett EM, Gonzalez A (2013) Linking agricultural landscape structure, diversity, and ecosystem service provision. *Ecological Society of America Annual Meeting*. Minneapolis, MN.

**Mitchell MGE**, Bennett EM, Gonzalez A (2012) The effects of landscape structure on biodiversity and the provision of multiple ecosystem services. *4<sup>th</sup> International EcoSummit*. Columbus, OH.

**Mitchell MGE**, Bennett EM, Gonzalez A (2012) The effects of landscape structure on biodiversity and the provision of multiple ecosystem services. *Ecological Society of America Annual Meeting*. Portland, OR.

**Mitchell MGE**, Bennett EM, Gonzalez, A (2011) Les effets de la taille et l'isolement des parcelles de forêt sur les services écologiques et la biodiversité dans un paysage agricole. *Quebec Centre for Biodiversity Science Annual Symposium*. Montreal, QC.

**Mitchell MGE**, Bennett EM, Gonzalez A (2011) Effects of forest patch size and isolation on ecosystem service provision and biodiversity in an agricultural landscape. *Canadian Society for Ecology and Evolution Annual Meeting*. Banff, AB.

**Mitchell MGE**, Hik DS, Cahill JF (2005) Plant growth responses to competition, herbivory and grazing history in an arctic-alpine meadow. *Ecological Society of America Annual Meeting*. Montreal, QC.

**Mitchell MGE**, Hik DS, Cahill JF (2005) Plant growth responses to competition, herbivory and grazing history in an arctic-alpine meadow. *Plant Canada Meeting*. Edmonton, AB.

**Mitchell MGE** (2004) Impacts of herbivory, community productivity, and water availability on plant competition intensity in a subarctic-alpine plant community. *Prairie Universities Biological Symposium*. Edmonton, AB.

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## SCIENTIFIC POSTERS

**Mitchell MGE**, Bennett E, Gonzalez A (2011) Les services écologiques et la biodiversité: l'influence de la structure du paysage et de la connectivité. *Congrès de l'Association des Biologistes du Québec*. Boucherville, QC.

Gonzalez A, **Mitchell MGE**, Whiteley J, Larocque A (2010) Les corridors comme stratégie de mitigation pour la biodiversité et les services écologiques. *Quebec Center for Biodiversity Science Annual Symposium*. Montreal, QC.

**Mitchell MGE**, Bennett E (2009) How do plant diversity and plant traits affect the supply of ecosystem services in an agroecological landscape? Proposed Ph.D. research in southeastern Quebec. *McGill School of Environment Symposium on Biodiversity Environmental Research*. Montreal, QC.

**Mitchell MGE**, Hik DS, Cahill JF (2005) Interactions between plant competition, herbivory, and abiotic stress in an arctic-alpine community. *35<sup>th</sup> Annual International Arctic Workshop*. Edmonton, AB.

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## TEACHING EXPERIENCE & TRAINING

**Guest Lecturer**, University of Queensland 2014-2015  
Landscape Ecology (CONS 3017/6017), Architectural Technology (BLDG 210)

**Ecology Tutor**, Emmanuel College, University of Queensland 2015

**Teaching Assistant**, McGill University 2013  
Ecosystem Ecology (ENVB 410)

**Guest Lecturer**, McGill University 2011-2013  
Population & Community Ecology (ENVB 305), Environmental Research Design (ENV 301), Introduction to Ecology & Evolution (BIO 215)

**Attendee**, McGill University Skillsets Training Program 2012  
"Learning to Teach" professional development workshop

**Teaching Assistant**, University of Alberta 2005  
Plant-Animal Interactions (BIOL 433)

**Teaching Assistant**, University of Victoria 2002  
Higher Plants (BIOL324), Plant Ecology (BIOL418)

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## STUDENT SUPERVISION

### Ph.D. Student Supervision

<b>Marie Dade.</b> University of Queensland	2015-Present
Co-supervised with Jonathan Rhodes and Clive McAlpine	
<b>Andrés Felipe Suarez-Castro.</b> University of Queensland	2014-Present
Co-supervised with Jonathan Rhodes and Martine Maron	

### Honours Student Supervision

<b>Rhiannon Caynes.</b> University of Queensland	2014
Co-supervised with Jonathan Rhodes	
<b>Emery Hartley.</b> McGill University	2013
Co-supervised with Elena Bennett & Chris Buddle	

### Graduate/Honours Student Examination Committees

<b>Sameer Punde.</b> Ph.D. Mid-Term Review Examiner. University of Queensland.	2015
<b>Stephen Kearney.</b> Honours Thesis Reviewer. University of Queensland.	2015

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## RESEARCH EXPERIENCE

<b>Ecologist,</b> University of Alberta, Dept. Biological Sciences, Edmonton, AB	2006
<b>Research Assistant,</b> University of Victoria, Dept. Biology, Victoria, BC	2002
<b>Research Assistant,</b> University of Victoria, Dept. Biology, Victoria, BC	2001
<b>Research Assistant,</b> BC Ministry of Forests, Victoria BC	2000
<b>Forest Health Technician,</b> BC Ministry of Forests, Nanaimo BC	2000
<b>Forest Health Technician,</b> BC Ministry of Forests, Kamloops BC	1999

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## NON-ACADEMIC EMPLOYMENT

<b>Ecologist,</b> Matrix Solutions Inc., Calgary, Alberta.	2008-2010
<b>Ecologist,</b> WorleyParsons Ltd., Calgary, Alberta.	2006-2008

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## EXTERNAL SERVICE

**Peer reviewer** of 22 manuscripts from 17 journals, including: *Agricultural Systems*; *Agriculture, Ecosystems & Environment*; *Current Landscape Ecology Reports*; *Ecography*; *Ecological Applications*; *Ecological Economics*; *Ecology Letters*; *Environmental Monitoring and Assessment*; *Environmental Research Letters*; *Frontiers in Ecology and the Environment*; *Invasive Plant Science & Management*; *Land*; *Landscape Ecology*; *PeerJ*; *PLoS One*; *Proceedings of the Royal Society B: Biological Sciences*; and *Sustainability*.

Reviewer profile at: <https://publons.com/author/460016/matthew-g-e-mitchell#stats>.

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## UNIVERSITY & DEPARTMENTAL SERVICE

<b>Seminar Coordinator,</b> Landscape Ecology and Conservation Group	2014-2016
<b>Member,</b> QCBS Symposium Organizing Committee	2012

**Member**, McGill University Subcommittee on the Environment 2009-2010  
**Ad hoc member**, McGill PGSS Environment Committee 2009-2010

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## LEADERSHIP, SCIENCE COMMUNICATION & OUTREACH

**CEED Environmental Leadership Training Program** 2014-2015

Year-long Centre of Excellence for Environmental Decision Making (CEED) program focused on creating change for global conservation/environmental issues via leadership, media, and facilitation training. Created and led website/blog for cohort: [www.ceedleaders.weebly.com](http://www.ceedleaders.weebly.com).

**Lecture, Brisbane City Council** 2015

Presented Brisbane ecosystem service research results to environmental managers.

**Public lecture, Brisbane City Council Biodiversity Seminar** 2014

Public lecture about ecosystem services in Brisbane.

**Co-lead, 'Montreal's Ecosystems at Your Service' Science Outreach Project** 2013

Project funded by McGill University's Sustainability Projects Fund (\$30,000) that connects Montrealers to the ecosystems around them by telling the stories of Montreal's ecosystem services. Website: [www.esmontreal.ca](http://www.esmontreal.ca), Twitter: @ESMontreal.

**Liber Ero Science Communication and Policy Engagement Workshop** 2013

McGill University science communication program aimed at engaging with decision-makers and media on environmental issues. Led by COMPASS team that runs the internationally recognized Leopold Leadership Program.

**Invited public lectures, Curieux de Nature lecture series** 2012 & 2013

Public lectures about scientific research taking place around McGill University's Mont Saint Hilaire Nature Reserve. (*Both in French*)

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## OTHER ACADEMIC SKILLS & RESEARCH TRAINING

**CEED Conservation Messaging Workshop** 2015

Strategies and impacts of different approaches to conservation messaging

**National Socio-Environmental Synthesis Center (SESYNC) Workshop** 2014

How can social media be used to explore coupled socio-environmental systems?

**Quebec Centre for Biodiversity Science Workshops** 2012-2013

*Introduction to Geostatistics with R*: Variograms, interpolation, kriging

*Null Models in Ecology*: Use of EcoSim and R package 'Picante'

*Open Source GIS*: Introduction to QGIS and Grass

*Database Management with MySQL*: Introduction to use of MySQL program

**Centre for Forest Research Intensive GIS Course** 2009

Introduction to Geographic Information System (GIS) analysis with ArcGIS software

**Advanced Statistical Analysis Training** 2004-2010

*Centre for Forest Research*: R Introductory Course, Ordination Techniques in R



*University of Alberta: Advanced Statistical Techniques: Generalized Additive Models*

**B.C. Ministry of Forests Vegetation Resources Inventory (VRI) Certification** 2007  
Ecology ground sampling training for provincial forest inventory program

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## LANGUAGES

**English** – fluent: speaking, reading, and writing

**French** – intermediate: speaking, reading, and writing

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## ACADEMIC SOCIETIES

Ecological Society of America	2010 – present
Canadian Society for Ecology and Evolution	2010 – present
International Association for Landscape Ecology	2015 – present
Ecological Society of Australia	2014 – 2016
Faculty of 1000Prime, Associate Member	2010 – present
International Network of Next-Generation Ecologists	2015 – present

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## REFERENCES

### Jonathan Rhodes

Associate Professor

School of Geography, Planning and Environmental Management

University of Queensland

St. Lucia, Queensland, Australia 4072

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### Elena Bennett

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### Andrew Gonzalez

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