

Sarah A. Johnson, PhD, RPBio Application In-Progress  
Administrative Director, Machen Manufacturing Ltd.  
Curriculum Vitae – August 2026  
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## EDUCATION

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### **2018-2026: PhD, Biological Sciences, Ecology. Simon Fraser University.**

Thesis: Bumble bee community and landscape ecology after wildfire

Advisory Committee: Dr. Leithen M’Gonigle (PI), Dr. Elizabeth Elle, Dr. Claire Kremen

GPA: 4.33/4.00

\*Leaves of absence: 2.33 years total (Summer 2020, Summer 2022, Fall 2022, Summer 2023, Summer 2024, Fall 2024, Spring 2025)

### **2012-2015: MSc, Biological Sciences, Ecology. University of Calgary.**

Thesis: Scaling of density-dependent reproduction in bee-pollinated forbs of logged forests

Advisory Committee: Dr. Ralph V. Cartar (PI), Dr. Kathreen Ruckstuhl, Dr. Jana Vamosi, Dr. Paul Galpern

GPA: 4.00/4.00

### **2007-2012: BSc, Honours First Class, Natural Sciences. University of Calgary.**

Thesis: Wing area affects an ecologically critical trait – load lifting capability – in bumble bees (*B. impatiens*)

Advisor: Dr. Ralph V. Cartar

GPA: 3.71/4.00, 3 years Faculty of Science Dean’s List

Concentrations in Biological Sciences and General Mathematics

2010: transfer credit in Biology & Earth and Ocean Sciences, University of Victoria

## PUBLICATIONS

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**PEER-REVIEWED (\* authors contributed equally):** **280 citations, h-index 7**

Johnson, S. A., and L. K. M’Gonigle. *Accepted 2026*. Bumble bees on edge: Species- and caste-specific variation after wildfire supports complementary resource use hypothesis. *Ecosphere*.

Cohen, A. L., L. R. Best, D. Clake, D. Edwards, M. Gavin, S. A. Johnson, J. Retzlaff, S. V. J. Robinson, J. Vickruck, and P. Galpern. 2025. A beneficial arthropod dataset for agricultural landscapes in Western Canada, and adjacent mountain ecosystems. *Scientific Data* 12:787.

Varner, E., K. Mark, H. Jackson, K. Singleton, L. Luo, S. Johnson, R. Gries, and G. Gries. 2023. Rodent odour bait: A new bumble bee conservation tool to enhance nest box occupancy. *Insect Conservation and Diversity* 16(3):324-334.

Johnson, S. A.\*, H. Jackson\*, H. Noth, and L. K. M’Gonigle. 2023. Positive impact of postfire environment on bumble bees not explained by habitat variables in a remote forested ecosystem. *Ecology and Evolution* 13:e9743.

Jackson, H., S. A. Johnson, L. A. Morandin, L. L. Richardson, L. M. Guzman\*, and L. K. M’Gonigle\*. 2022. Climate change winners and losers among North American bumble bees. *Biology Letters* 18(6):20210551.

- Galpern, P., L. R. Best, J. H. Devries, and S. A. Johnson. 2021. Wild bee responses to cropland landscape complexity are temporally-variable and taxon-specific: Evidence from a highly replicated pseudo-experiment. *Agriculture, Ecosystems & Environment* 322:107652.
- Guzman, L. M., S. A. Johnson, A. O. Mooers, and L. K. M'Gonigle. 2021. Using historical data to estimate bumble bee occurrence: variable trends across species provide little support for community-level declines. *Biological Conservation* 257:109141.
- Johnson, S. A., M. M. Tompkins, H. Tompkins, and S. R. Colla. 2019. Artificial domicile use by bumble bees (*Bombus* (Latreille); Hymenoptera: Apidae) in Ontario, Canada. *Journal of Insect Science* 19(1):7; 1-5.
- Galpern, P., S. A. Johnson, J. L. Retzlaff, D. Chang, and J. Swann. 2017. Reduced abundance and earlier collection of bumble bee workers under intensive cultivation of a mass-flowering prairie crop. *Ecology and Evolution* 7(7):2414-2422.
- Cover Image (© S. A. Johnson) April 2017 Volume 7 Issue 7 *Ecology and Evolution*
- Johnson, S. A., and R. V. Cartar. 2014. Wing wear, but not asymmetry in wear, affects load-lifting capability in bumble bees *Bombus impatiens*. *Canadian Journal of Zoology* 92(3):179-184.

#### NON-PEER-REVIEWED:

- Johnson, S. A. July 2026. Bumble bee community and landscape ecology after wildfire. PhD Thesis, Simon Fraser University.
- Johnson, S. A., and L. K. M'Gonigle. March 2022. Pollinator conservation management for climate change in British Columbia. Final report for project funded by Living Lab Program for Climate Change and Conservation prepared for BC Parks.
- Johnson, S. A. March 2022. [Bee profile: The yellow-banded bumble bee](#). Quarterly Newsletter for the Native Bee Society of BC.
- Best, L. R., S. A. Johnson, E. E. N. Purvis, and S. V. J. Robinson. January 2021. Mount Revelstoke National Park bumble bee (Apidae: *Bombus*) inventory and community composition. Final report for pollinator sampling contract carried out by the Native Bee Society of BC prepared for Parks Canada.
- Johnson, S. A. 22 April 2020. [“The birth of a native bee society” and “The pollinator link”](#). Quarterly Newsletter for the Native Bee Society of BC.
- Johnson, S. A. 26 July 2018. [Kicking off Canadian Bumble Bee Watch training events!](#) Xerces Society for Invertebrate Conservation blog.
- Rowe, G., and S. A. Johnson. May 2018. Bumble Bee Watch citizen science survey program. Final report prepared for Ontario Ministry of Natural Resources.
- Johnson, S. A. February 2018. Glenbow Ranch Provincial Park pollinator citizen science program. Final report prepared for TD Friends of the Environment Foundation and Alberta Environment and Parks.

- Johnson, S. A., G. Rowe, and A. Liczner. February 2018. Characterizing habitat requirements, evaluating use of nest boxes, and improving captive breeding techniques for declining bumble bees. Species at Risk Research Fund for Ontario final report prepared for the Ontario Ministry of Natural Resources.
- Rowe, G., and S. A. Johnson. February 2018. Understanding the decline of pollinators in Ontario through field research and monitoring. Species at Risk Stewardship Fund final report prepared for the Ontario Ministry of Natural Resources.
- Johnson, S. A. 19 January 2018. [Wildlife Preservation Canada continues training “Bumble Bee Watchers”](#). Xerces Society for Invertebrate Conservation blog.
- Johnson, S. A., and H. Tompkins. February 2017. BumbleBeeWatch.org citizen science survey program. Final report prepared for Ontario Ministry of Natural Resources.
- Johnson, S. A., and H. Tompkins. February 2017. Investigating the effects of pesticides on declining bumble bee species and improving captive breeding techniques. Species at Risk Research Fund for Ontario final report prepared for the Ontario Ministry of Natural Resources.
- Johnson, S. A., and H. Tompkins. February 2017. Conserving the buzz – saving Ontario pollinators and insect-pollinated plants from extinction. Species at Risk Stewardship Fund final report prepared for the Ontario Ministry of Natural Resources.
- Johnson, S. A., and H. Tompkins. October 2016. [Bumble bee breeding](#). Wildlife Preservation Canada On the Edge Fall 2016 Newsletter, 2 pp.
- Johnson, S. A. December 2015. Scaling of density-dependent reproduction in bee-pollinated forbs of logged forests. MSc Thesis, University of Calgary.
- Johnson, S. A., and R. V. Cartar. Density-dependent reproductive success of common wildflowers in logged landscapes. In Alberta Conservation Association. ACA Grants in Biodiversity Biennial Report 2014/2015. Edmonton, AB: ACA Grants in Biodiversity; 2015, p. 24.

## CONFERENCE PRESENTATIONS

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- Johnson, S. A., and L. K. M’Gonigle. November 2023. Determining a baseline for bumble bee community-level habitat use after wildfire. BOMBUSS 3.0 (Building Our Methods By Using Sound Science), San Cristóbal de las Casas, Chiapas, Mexico [poster presentation].
- Johnson, S. A., and L. K. M’Gonigle. December 2021. Pollinator conservation management for climate change in British Columbia. 5<sup>th</sup> Living Labs Research Colloquium, BC [online presentation].
- Johnson, S. A. October 2019. Piloting a blocked sampling design for minimizing lethal collections in a landscape-level community study. BOMBUSS 2.0 (Building Our Methods By Using Sound Science, Next steps in North American Bumble Bee Monitoring and Conservation), Toronto, ON [lightning presentation].
- Johnson, S. A. February 2019. Artificial domicile use by bumble bees. Pacific Northwest Pollinator Symposium, Corvallis, OR, USA [poster presentation].

- Johnson, S. A., and H. Tompkins. November 2018. Artificial domicile use by bumble bees in Alberta and Ontario. Crossing Borders: Entomology in a Changing World (ESA, ESC, and ESBC Joint Annual Meeting), Vancouver, BC [oral presentation].
- Rowe, G., Johnson, S. A., MacPhail, V., and R. Hatfield. November 2018. Utilizing citizen science for conservation: the success of Bumble Bee Watch. Crossing Borders: Entomology in a Changing World (ESA, ESC, and ESBC Joint Annual Meeting), Vancouver, BC [poster presentation].
- Do, V., Johnson, S. A., and J. S. MacIvor. September 2017. Queen bumblebees – pollination networks across a latitudinal gradient. Annual meeting of the Entomological Society of Ontario, Guelph, ON [poster presentation].
- Galpern, P., Johnson, S. A., Retzlaff, J. L., Chang, D., and J. Swann. October 2016. High-intensity canola cultivation: an ecological trap for bumble bees? Annual Meeting of the Entomological Society of Alberta, Calgary, AB [oral presentation].
- Johnson, S. A., and R. V. Cartar. May 2014. Density-dependent reproduction of forest herbs in logged landscapes – local vs. landscape effects on seed size. Genomes to Biomes Conference (CSEE, CSZ, SCL Joint Meeting), Montreal, QC [oral presentation].
- Johnson, S. A., and R. V. Cartar. May 2013. Wing area affects an ecologically critical trait – load-lifting capability – in bumble bees. Annual Meeting of the Canadian Society for Ecology and Evolution, Kelowna, BC [oral presentation].

## FUNDING

**Total Awarded Value: \$585,593**

| Year                             | Award                                                                 | Value            |
|----------------------------------|-----------------------------------------------------------------------|------------------|
| <b>Grants</b>                    |                                                                       | <b>\$197,518</b> |
| 2021                             | BC Parks Living Lab for Climate Change and Conservation               | \$19,425         |
| 2020                             | BC Parks Living Lab for Climate Change and Conservation (declined)    | \$19,425         |
| 2019                             | Canada Summer Jobs Student Wage Subsidy (declined)                    | \$3,880          |
| 2018                             | Species at Risk Stewardship Fund                                      | \$37,788         |
|                                  | Alberta Ecotrust Foundation Community Grant                           | \$7,500          |
|                                  | Canada Summer Jobs Student Wage Subsidy                               | \$7,594          |
| 2017                             | Species at Risk Research Fund for Ontario, 2 years                    | \$59,126         |
|                                  | Species at Risk Stewardship Fund                                      | \$18,480         |
|                                  | TD Friends of the Environment Foundation                              | \$9,400          |
|                                  | Canada Summer Jobs Student Wage Subsidy                               | \$5,100          |
| 2013                             | Alberta Conservation Association Grant in Biodiversity                | \$9,800          |
| <b>Scholarships &amp; Awards</b> |                                                                       | <b>\$388,075</b> |
| 2026                             | Simon Fraser University Biological Sciences Outreach Award            | \$100            |
| 2019                             | Vanier Canada Graduate Scholarship (CGS), 3 years                     | \$150,000        |
|                                  | NSERC Alexander Graham Bell CGS – Doctoral, 3 years (declined)        | \$105,000        |
| 2018                             | Simon Fraser University Graduate Dean's Entrance Scholarship, 4 years | \$84,000         |
| 2015                             | University of Calgary Departmental Graduate Program Excellence Award  | \$5,000          |
| 2014                             | Alberta Graduate Student Scholarship                                  | \$3,000          |
| 2013                             | NSERC Alexander Graham Bell CGS – Master's                            | \$17,500         |

| <b>Year</b> | <b>Award</b>                                                        | <b>Value</b> |
|-------------|---------------------------------------------------------------------|--------------|
| 2011        | University of Calgary Department of Biological Sciences Scholarship | \$3,000      |
|             | Grace LeBel Bursary                                                 | \$700        |
|             | Student Peer Assistance Undergraduate Bursary                       | \$400        |
| 2009        | P.U.R.E. (Program for Undergraduate Research Experience) Award      | \$4,000      |
| 2008        | Wilfred Archibald Walter Bursary                                    | \$2,500      |
|             | Jason Lang Scholarship (Alberta Scholarship Programs)               | \$1,000      |
| 2007        | BC Innovation Council Science Achievement Award                     | N/A          |
|             | Governor General's Academic Medal                                   | N/A          |
|             | University of Calgary Admission Scholarship                         | \$1,750      |
|             | Dean's Merit Admission Award - Faculty of Science                   | \$1,000      |
|             | President's Entrance Scholarship at UBC (declined)                  | \$4,000      |
|             | Passport to Education                                               | \$1,125      |
|             | Grade 12 Graduation Program Examinations Scholarship                | \$1,000      |
|             | North Okanagan-Shuswap Teachers Association Scholarship             | \$1,500      |
|             | CUPE-SCFP Okanagan Valley School Employees Union Scholarship        | \$1,000      |
|             | Shane Birzins Memorial Scholarship                                  | \$500        |

## WORK AND RESEARCH EXPERIENCE

### **Machen Manufacturing Ltd., Salmon Arm, BC**

*Administrative Director*

March 2025-present

*Managing Director*

March 2022-February 2025

### **Wildlife Preservation Canada, Guelph, ON**

*Lead Biologist – Native Pollinator Initiative*

August 2016-August 2018

### **City of Calgary, Calgary, AB**

*Native Bee Collection Technician – Calgary Bee Project*

May-August 2018

### **University of Calgary, Faculty of Environmental Design, Calgary, AB**

*Pollinator Field Research Coordinator*

June 2015-August 2016

### **University of Calgary, Department of Biological Sciences, Calgary, AB**

*Field Research Assistant for PhD candidate*

May-July 2009

## TEACHING EXPERIENCE

### **South Canoe School, Outdoor Learning Program, Salmon Arm, BC**

*Native Bees at the Community Garden for Grades 2-4 Guest Instructor*

May 2026

September 2025

October 2023

May 2023

### **King's Christian School, Outdoor Learning Program, Salmon Arm, BC**

*Native Bee Biology & Habitats Grade 3 Guest Instructor*

October 2025

### **University of British Columbia, Faculty of Land & Food Systems, Vancouver, BC**

*APBI 490 (Conservation Agriculture & Biodiversity) Guest Lab Instructor*

May 2019

**Oregon State University, Department of Horticulture, Corvallis, OR, USA**

*“Bee School” Native Bee Taxonomy Course Assistant Instructor* July 2018

**Mount Royal University, Department of Earth & Environmental Science, Calgary, AB**

*Ecol 1111 (Terrestrial Ecology) Lecture Instructor* Jan-Apr 2018

*Ecol 1111 Lecture and Lab Instructor* Jan-Apr 2016

*Ecol 2211 (Terrestrial Ecology) Lab Instructor* 2013-2014

**University of Calgary, Department of Biological Sciences, Calgary, AB**

*Graduate Teaching Assistant for multiple courses*

*Ecol 413 (Field Course in Ecology)* August 2015

*Scie 311 (Write and Review Scientific Reports)* Jan-Apr 2015

*Scie 501 (Project Course in Natural Sciences)* Jan-Apr 2015

*Ecol 417 (Aquatic Communities and Ecosystems)* Sept-Dec 2014

*Biol 313 (Introduction to Ecology and Evolutionary Biology)* Jan-Apr 2013

*Ecol 429 (Ecology of Individuals)* Sept-Dec 2012

## OUTREACH CONTRIBUTIONS

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### PRESENTATIONS, WORKSHOPS, EVENTS:

Johnson, S. A. 5 May 2026. Wild bees in BC: Who they are and what they need. Shuswap Naturalists Club [presentation].

Johnson, S. A. and D. Mann. April 2024-2026. Shuswap Pollinators and the Native Bee Society of BC. Salmon Arm Earth Day Celebration [event participant].

Johnson, S. A. and D. Mann. 21 March 2026. Shuswap Pollinators and the Native Bee Society of BC present local native plants. First Annual Salmon Arm Seed & Plant Sale [event participant].

Hansen, A., and S. A. Johnson. 18 July 2025. Bees! Art (encaustics) & science (relationships between native bees & plants). Kúme Exhibition, Salmon Arm Art Gallery [presentation].

Johnson, S. A. and D. Mann. June 2024-2025. Don't Worry Bee Happy: Pollinator week by the Native Bee Society of BC and Shuswap Pollinators. Downtown Salmon Arm Farmers Market & Shuswap Food Action Society [event participant].

Johnson, S. A. 10 June 2025. The Wonderful World of Wild Bees in BC. Salmon Arm Bay Nature Enhancement Society Annual General Meeting [presentation].

Johnson, S. A. 17 May 2025. Native plant & pollinators question & answer session. Drought Tolerant Plants for the Shuswap by the City of Salmon Arm Environmental Advisory Committee & Meadow Brae Farm [presentation].

Johnson, S. A. 13 April 2025. Your pollinator friendly garden & using native plants. Shuswap Food Action Society Sunday Sessions for Self Sufficiency [presentation].

Johnson, S. A. 20 March 2024. [Plan Bee for your lawn: tips for supporting plants and pollinators](#). Shuswap Climate Action Society Lose the Lawn educational webinar series [presentation].

Johnson, S. A. 12 March 2024. Bumbling in the Pacific Northwest. Northwest Washington District Beekeepers' Association [presentation].

- Johnson, S. A. 2 March 2024. Native bees and climate change. Shuswap Seed Savers 30<sup>th</sup> Annual Seed Swap [presentation].
- Johnson, S. A. 26 November 2023. [Pollinators through the seasons](#). Shuswap Food Action Society Sunday Sessions for Self Sufficiency [presentation].
- Johnson, S. A. 25 May 2023. Summer planting: Growing a pollinator garden. Shuswap Food Action Society Community Garden Work Bee [presentation].
- Johnson, S. A. 23 April 2023. Spring has sprung: The importance of pollinators for your garden and the environment. Shuswap Food Action Society Community Garden Work Bee [presentation].
- Johnson, S. A. 11 March 2021. The beginner bumbler's toolkit: An introduction to identifying bumble bees in B.C. SFU Biological Sciences Les Ecologistes Seminar Series [presentation].
- Johnson, S. A. 30 November 2020. An introduction to British Columbian bumble bee identification. Native Bee Society of BC Annual General Meeting webinar [presentation].
- Johnson, S. A. 10 September 2020. [Due North: Getting to know the bumble bees of western Canada](#). Oregon State University Extension Service Wild World of Bees lecture series [presentation].
- McCann, S., L. Weidenhammer, and S. A. Johnson. 22 July 2020. [Communing with the Bees: Beginner macrophotography tips and tricks](#). Native Bee Society of BC webinar event [training workshop].
- Johnson, S. A. 3 June 2020. Basic bumble bee identification and survey training. University of British Columbia Farm summer work learn students [training workshop].
- Johnson, S. A. 8 April 2019. Graduate student peer-support CV workshop. Biology Graduate Caucus event [training workshop].
- Simon, A., and S. A. Johnson. 29-30 March 2019. Plants for pollinators – inter-island citizen science initiative. Mayne Island Conservancy & Biodiversity Galiano Island event [presentation].
- Johnson, S. A. 22 July 2018. Bumble bee bioblitz. Weaselhead Glenmore Park Preservation Society event [presentation].
- Johnson, S. A. 21 July 2018. Native pollinator initiative at Glenbow Ranch Provincial Park. Friends of Fish Creek Provincial Park Society Parks Day & Creekfest event [presentation].
- Johnson, S. A. 20 June 2018. Pollinator showcase and “in pursuit of pollinators”. Hillhurst Sunnyside Farmers Market Pollinator Party event [presentation].
- Johnson, S. A. 18-23 June 2018. What's the buzz? Bumble bee citizen science classroom & hands-on training sessions (6 events). Wildlife Preservation Canada citizen science program [training workshops].
- Johnson, S. A. 13 June 2018. Native bee conservation in Alberta. BP Alumni Club quarterly meeting [presentation].
- Johnson, S. A. 26 May 2018. Native pollinators in Alberta. Cochrane Environmental Action Committee Branches and Banks event [presentation].

Johnson, S. A. 28, 30 April 2018. 2<sup>nd</sup> Annual Glenbow Ranch Provincial Park pollinator citizen science program: Save the Bumble Bees! Learn to build and install nest boxes. Wildlife Preservation Canada citizen science program [training workshops].

Johnson, S. A. 24 April 2018. What's all the buzz? Using artificial nest boxes to study bumble bee nesting ecology at Glenbow Ranch Provincial Park. Park Talks Series [presentation].

Candell, S., S. A. Johnson, and A. Ciupa. 30 March 2018. Bee City Canada: partnering together to commit, educate, and celebrate pollinators. Calgary Zoo Easter Eggstravaganza event [event participant].

Johnson, S. A., and H. Tompkins. 6 August 2017. Pollinator education with Wildlife Preservation Canada: an introduction to bumble bee conservation. Grundy Lake Provincial Park Natural Heritage Education program [presentation and training workshop].

Johnson, S. A., and H. Tompkins. 5 August 2017. Celebrating pollinators with Wildlife Preservation Canada: an introduction to bumble bee conservation. Celebrating Pollinating Event at Wye Marsh Wildlife Centre [presentation].

Johnson, S. A., Retzlaff, J., and M. Kohler. 8 July 2017. Pollinator citizen science identification and survey training: bees at Glenbow Ranch Provincial Park. Wildlife Preservation Canada citizen science program [training workshop].

Johnson, S. A., and H. Tompkins. 24, 25 June & 15 July 2017. BumbleBeeWatch.org citizen science survey training: searching for rare bumble bees. Pinery and Awenda Provincial Parks, Alderville First Nation Black Oak Savanna, Wildlife Preservation Canada citizen science program [training workshops].

Johnson, S. A., Tompkins, H., Harrison, T., and R. Jeffery. 31 May 2017. The plight of the pollinators: how bumble bee monitoring contributes to conservation. Ontario Parks – Annual Natural Heritage Education Spring Workshop [presentation and training workshop].

Johnson, S. A. 12 April 2017. Making an impact for pollinator species at risk: an introduction to bumble bee conservation. Escarpment Biosphere Conservancy Preserving Biodiversity Series [presentation].

Johnson, S. A. 8 March 2017. Engaging in pollinator conservation – your chance to participate in multiple Wildlife Preservation Canada Native Pollinator Initiatives. Alternative Land Use Services Participants Annual Meeting [presentation].

Johnson, S. A. 24 January 2017. Yellow-banded Bumble Bee (*Bombus terricola*) captive breeding. Toronto Zoo Wildlife Health Centre [presentation].

## **MENTORSHIP:**

**Simon Fraser University, Department of Biological Sciences, Burnaby, BC**

*Co-supervisor NSERC USRA – Hutton Noth & Hanna Jackson* April-August 2020

- Project topic: “Forest fire impacts on bumble bee occupancy”

**Wildlife Preservation Canada & University of Guelph, Guelph, ON**

*Field coordinator training & M.Sc. – Hayley Tompkins* Sept 2016-Jan 2019

- Project topic: “Using bumble bee colony nest boxes as a method for species-at-risk conservation research in Ontario”

**Wildlife Preservation Canada & University of Toronto Scarborough, Guelph, ON**

*Co-supervisor M.Env.Sc. capstone project – Vickie Do*

April-June 2017

- Project topic: “Queen bumble bee pollination networks across an urban-rural land use gradient”

**York University, Faculty of Environmental Studies, Toronto, ON**

*M.ES. student field experience – Kate Seemungal*

September-December 2017

- Project title: “Rearing and researching the declining yellow-banded bumble bee in captivity”

**MEDIA INVOLVEMENT:**

Interviews for article in Smithsonian magazine, 17 September 2025: [\*A deep look into the wild and not-so-wild world of bumblebees.\*](#)

Interviews and hosting reporting crew for special feature story for Hakai Magazine, now bioGraphic, 27-30 June 2024, published 12 August 2025: [\*The plight of the bumble bees.\*](#)

Interview for Food Conversations radio segment on 93.7 The Voice of the Shuswap, 8 March 2024: [\*Bumble bees.\*](#)

Interview for article in The Tyee, 10 March 2023: [\*Our once most common bee needs saving. Here's what we can do.\*](#)

Photography used to support article in CBC British Columbia, 23 June 2021: [\*Certain Canadian bee populations may not be declining at all, says SFU study.\*](#)

Photography used to support article in Terrace Standard, 20 April 2021: [\*B.C.'s wild bees need messy gardens to survive.\*](#)

Interview for article in Montecristo Magazine, 6 October 2020: [\*The Vancouver naturalists trying to save our native bees.\*](#)

Interview for Lil Dudes Insect Academy Podcast, a podcast for introducing young people to science through entomology by Bradon Coy, 30 August 2020: [\*Bumblebees of Canada!\*](#)

Interview for Oregon State University Extension Service's PolliNation Podcast, a pollinator health podcast by Andony Melathopoulos, 20 July 2020: [\*Native Bee Society of British Columbia connecting bee enthusiasts together.\*](#)

Interview for segment on Global News Morning BC, 16 November 2019: [\*Helping BC's native bees.\*](#)

Featured in Victory Gardens for Bees blog post by Lori Weidenhammer, 17 May 2019: [\*Operation bumble bee nest relocation.\*](#)

Contribution mentioned in CBC Calgary, 22 April 2019: [\*City staff buzz about endangered bee discovery as boulevard preps for another season.\*](#)

Interview for article in Entomology Today, 8 February 2019: [\*Putting bumble bees in a box might help scientists study their nesting ecology.\*](#)

Interview for article in Rocky View Weekly, 11 September 2018: *Citizen scientists track bee population at Glenbow Ranch.*

Interview for CBC Radio Calgary story by Lucie Edwardson, 17 August 2018: *A group of Albertans are helping track and monitor our bumble bee population, the citizen scientists are participating in a North American-wide study called Bumble Bee Watch.*

Interview for article in CBC Calgary, 17 August 2018: [Albertans snap photos of bumblebees for North America-wide study.](#)

Featured question in Sam Droege interview for Oregon State University Extension Service's PolliNation Podcast, a pollinator health podcast by Andony Melathopoulos, 30 July 2018: [Sam Droege and the Bee School.](#)

Interview for article in Cochrane Now, 28 June 2018: *Helping collect data on bumble bees at Glenbow Ranch project.*

Interview for article in Rocky View Weekly, 17 April 2018: *Glenbow Ranch buzzing about bumblebees.*

Interview for article in The Sudbury Star, 10 April 2018: [If you see a bumblebee, take a photo.](#)

Interview for Oregon State University Extension Service's PolliNation Podcast, a pollinator health podcast by Andony Melathopoulos, 6 November 2017: [Bumble bee husbandry & citizen science.](#)

Featured blog post in the Bluecoat Blog, Science North, 30 October 2017: *Bumble bee nest collecting with Wildlife Preservation Canada.*

Featured article in The Aquila, Issue 10, October 2017: Matt Holder Environmental Education Fund: [Bumble bee project at Thickson's Woods.](#)

Interview for article in TVO's "Endangered Ontario" series, 24 July 2017: [The mystery of the rusty-patched bumblebee.](#)

#### **EXTRACURRICULAR SERVICE:**

- Treasurer on the Shuswap District Arts Council Board of Directors (February 2026-present)
- Citizen at Large on the City of Salmon Arm Environmental Advisory Committee (June 2023-December 2027)
  - Member of the City of Salmon Arm Climate Resiliency Plan Steering Committee (May 2025-present) – Environmental Advisory Committee elected representative
- Peer reviewer for: Ecology, Landscape Ecology, Scientific Reports, Biodiversity and Conservation, Journal of Insect Conservation, Urban Ecosystems, Environmental Evidence
- Founding President of the Native Bee Society of BC (July 2019-February 2022)
  - Current volunteer and honorary board associate
- Current volunteer and member of the Shuswap Food Action Society, Shuswap Permaculture Guild, Coldest Night of the Year, Salmon Arm Art Gallery, Salmon Arm Pride Project
- Invited bumble bee expert for Species at Risk legislation consultation groups
  - Western Bumble Bee Species Status Assessment Expert Elicitation Group, USFWS
  - Western Bumble Bee Technical Advisory Committee for the Canadian National Recovery Strategy

- Founding member and/or contributor to multiple EDI and graduate student advocacy initiatives at Simon Fraser University
  - Equity, Diversity and Inclusion Committee for the Biology Graduate Caucus, Department of Biological Sciences (2019-2023)
    - Special working group to design, fundraise for, and establish the [Indigenous and Black Graduate Scholarship in Biology](#)
- Equity, Diversity and Inclusion Committee for the Department of Biological Sciences (January-December 2023)
- Cross Department Racism, Bullying & Harassment Subcommittee (2020-2022)
- Graduate Student Committee Graduate Student Representative for the Department of Biological Sciences (April 2019-April 2021)
- Bumble bee identification contributions at the Beaty Biodiversity Museum
- Founding member of the Alberta Native Bee Council
- Species photo verification for Bumble Bee Watch, iNaturalist (>6000 verifications)
- Amateur wildlife photographer, published
- Amateur birder, recorded over 100 species sightings
- Past animal care volunteer for Calgary Wildlife Rehabilitation Society, 2.5 years
- Past habitat restoration volunteer for the Nature Conservancy of Canada

## **SKILLS AND TRAINING**

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### **COMPUTER:**

- GIS (Google Earth, basic ArcGIS & QGIS, R)
- Word processing (MS Word, LaTeX, Overleaf)
- Presentation (PowerPoint, Zoom, MS Teams)
- Data analysis & graphing (R, MS Excel)
  - Proficient in Bayesian methods in R (Stan, Hmisc)
- Image processing (Adobe Photoshop & Illustrator, GIMP, ImageJ)
- Bookkeeping (QuickBooks Online, Hubdoc Data Capture)
- Website development & design (Wix, basic WordPress)

### **HR & ADMINISTRATION:**

- Payroll and scheduling (QuickBooks Payroll, complex Gantt charts)
- People management (hiring, firing, leadership & mentorship, team building)
- Design and preparation of compliant HR documentation (job contracts, employee handbook, health & safety policy)
- Financial management (budget forecasting, quarterly reporting, accounts payable/receivable)

### **CERTIFICATIONS:**

- Class 5 Driver's License (held Class 4 license 2015-2016)
- Standard First Aid & CPR/AED Level C Intermediate (valid through November 2027)
- Wilderness First Aid Training (50 hours) & CPR Level A Certification (expired 2022)

- Applied for and obtained British Columbia Park Use Permit for Research, Alberta Parks Research and Collection Permit, Ontario Research Authorization for Provincial Parks and Conservation Reserves, and Parks Canada Research and Collection Permit

## **RELEVANT COURSEWORK:**

- April 2024: Elements of Truth: Before Reconciliation training, 4 workshops, facilitated by kinSHIFT, a social enterprise of IndigenEYEZ
- November 2023: BOMBUSS short courses: Bumblebee rearing, Bumblebee tagging & tracking, Instructors: Alejandra Martínez de Castro-Dubernard, Omar Argüello, August Easton-Calabria, Dr. James Crall, ECOSUR San Cristóbal de las Casas
- Fall 2023-Winter 2024: Leadership Essentials Series: Conflict Management, Leading Workplace Teams, Goal Setting and Time Management, Instructor: Faith Wood, Okanagan College Continuing Studies and Corporate Training
- January 2020: Landscape genetics distributed graduate seminar, Organizers: Dr. H. Wagner, Dr. M. Murphy, Dr. L. Waits, co-instructed by many other experts
- September 2019: Community ecology and macroecology, Instructors: Dr. David Green & Dr. Nick Dulvy, Simon Fraser University
- February 2019: Effective Teaching Series: Potlatch as Methodology, Simon Fraser University Teaching and Learning Centre
- September 2018: Advanced quantitative methods in biology, Instructor: Dr. L. M’Gonigle, Simon Fraser University
- March 2018: Bumble bee rearing and pathogen detection methodology workshop (2 days), Instructors: Dr. James Strange & Dr. Amber Tripodi, United States Department of Agriculture – Agricultural Research Service
- March 2018: Canadian Bumble Bee Course identification workshop (3 days), Instructor: Dr. C. Sheffield, Royal Saskatchewan Museum
- December 2017: Native pollinator workshop (2 days), Instructor: L. R. Best, Red Deer Beekeepers Association
- April 2016: Native bee identification course for *Bombus* and solitary bees (2 days), Instructor: L. R. Best, University of Calgary
- June 2015: Birding identification courses (Birding by Sound and Intermediate Identification Techniques), City of Calgary
- December 2013: Advanced pollination ecology (NSERC-CANPOLIN International Field Course in Brazil), Instructor: Dr. P. G. Kevan, University of Guelph
- January 2013: Advanced behavioural ecology, Instructor: Dr. K. E. Ruckstuhl, University of Calgary