

# BRIAN SMITHERS

111 HENDERSON WAY, BOZEMAN, MT 59715

BRIAN.SMITHERS@MONTANA.EDU ♦ 406-548-5200 ♦ BRIANSMITHERS.NET

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## EDUCATION

- Ph.D. Ecology, (2017) University of California, Davis  
*Dissertation:* Mechanisms of range shift in Great Basin sub-alpine forests  
*Committee:* Malcolm North, Andrew Latimer, Constance Millar
- M.S. Tropical Biology (2003) James Cook University, Cairns  
*Thesis:* Young provisioning in wedge-tailed shearwaters  
*Committee:* Brad Congdon, Andrew Krockenberger
- B.S. Biology, *Magna cum laude* (1999) Loyola Marymount University  
*Minor:* Biochemistry
- B.A. Theology, *Magna cum laude* (1999) Loyola Marymount University  
*Minors:* Music, Theater

## POST-DOCTORAL TRAINING

- University of California, Davis 2018 – 2019  
Forest vegetation response to climate change and fire regimes

## RESEARCH EMPLOYMENT HISTORY

- Research Assistant Professor**, Montana State University, Bozeman, MT 2018 – present  
*Teach undergraduate and graduate courses in various topics in Ecology*  
*Conduct research on mechanisms of plant species and community range shifts*
- Executive Director/Field Coordinator**, GLORIA Great Basin, Davis, CA 2016 – present  
*Oversee all operations of the organization to support alpine research*  
*Coordinate fundraising operations*  
*Coordinate citizen science volunteer involvement*  
*Lead all aspects of data collection efforts with research teams in remote alpine locations*
- Post-Doctoral Scholar**, University of California, Davis 2018  
*Conducted research on prescribed fire effects in previously naturally burned forest and on mechanisms of range shift in sub-alpine forests*  
*Hired and supervised field crews*  
*Prepared research for publication*  
*Served as a mentor to undergraduate and graduate students*
- Graduate Student**, University of California, Davis 2012-2017  
*Conducted research on mechanisms of species range shifts towards my Ph.D. in Ecology*  
*Hired and supervised field crews in remote field operations*  
*Lectured in undergraduate courses and taught lab/discussion sections as a TA*
- Biological Technician**, Rocky Mountain Bird Observatory, Ft. Collins, CO 2012  
*Performed avian point counts throughout Wyoming and parts of Montana*  
*Worked with local landowners and stakeholders to gain access to remote locations*  
*Compiled and organized data*

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- Marine bird and mammal technician**, Farallon Institute, Petaluma, CA 2012  
*Collected data on marine mammal and bird locations in the Eastern Pacific*
- Wildlife Biologist**, Oregon Natural Diversity Database, Florence/Portland, OR 2003 – 2004  
*Collected population data on the Oregon population of the western snowy plover*  
*Coordinated government agencies in conservation efforts*  
*Updated the Oregon Sensitive Species list*
- Graduate Student**, James Cook University, Cairns, Australia 2002 – 2003  
*Conducted research on young provisioning in wedge-tailed shearwaters*  
*Taught General Ecology labs as a Teaching Assistant*
- Wildlife Biologist**, North Carolina State University 2001  
*Banded and tracked red knots to study migratory timing on the eastern seaboard*  
*Coordinated volunteers in banding red knots*
- Research Assistant**, Loyola Marymount University, Los Angeles, CA 1996 – 1999  
*Analyzed geographic variation in songs of the green-tailed towhee*  
*Studied nearshore marine benthic community turnover*  
*Received the department's top award for field ecology*

## TEACHING EXPERIENCE

- Instructor**, Montana State University 2018 – present  
*Graduate, upper and lower division courses in Ecology including Conservation Biology, Principles of Biological Diversity, ID of Seed Plants, Rocky Mountain Vegetation, and Kenya and the Worlds Biomes*  
*Earned Center for Faculty Excellence Teaching Enhancement Certificate*  
*Used instructional technology to enhance pedagogical technique*
- Instructor**, University of California, Davis 2016  
*Taught undergraduate General Ecology*  
*Integrated field data collection activities in a large (~150 students) class*
- Middle/High School Science Teacher**, Open School, Portland, OR 2004 – 2009  
*Taught subjects at middle and high school levels including General Science, Alternative Energy, History, Spanish, and Social Studies topics*  
*Served as an Advocate for a group of students to make sure social service needs were met*  
*Named the ING National Unsung Hero for work in Alternative Energy curriculum development*
- Teaching Assistant**, University of California, Davis 2012-2016  
*Led labs and discussion sections for the following courses: Principles of Ecology (graduate level), General Ecology, Introduction to Biology: Ecology and Evolution, and Introduction to Biology: Biodiversity*  
*Created original curricula concerning reading and discussing scientific literature*

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- Peace Corps Volunteer**, United States Peace Corps, Fiji Islands 2009-2011  
*Performed capacity building in local communities and lead workshops in fisheries management, farm diversification, vegetable gardening, financial literacy, and HIV/AIDS education*  
*Established the first Forest Reserve in the Lomaiviti province*  
*Wrote a book on organic gardening in Fiji that is used as a manual for Peace Corps volunteers throughout the region Pacific region*
- Teaching Assistant**, James Cook University 2002  
*Taught lab sections of General Ecology*  
*Overseeing student's progress in data collection and analysis*
- Teaching Assistant**, Loyola Marymount University 1996-1999  
*Biology of African Wildlife*  
*Vertebrate Biology*  
*Marine Ecology of Baja California*  
*Intertidal Ecology*  
*Principles of Ecology*  
*General Chemistry*

## PUBLICATIONS

- Rice, Chloe L., Debinski, Diane M., Bramblett, Robert G., Rubin, Sarah E., Ivie, Michael A., Clark, Jason A., Evans, Autumn C., **Smithers, Brian V.**, & McMahon, Thomas E. 2022. Montana State University Vertebrate Museum Fish Collection (Version 1) [Data set]. Zenodo.  
<https://doi.org/10.5281/zenodo.5847350>
- Smithers, BV**, Alongi, F, North, MP. 2021. Live fast, die young: Climate shifts may favor Great Basin bristlecone pine or limber pine in sub-alpine forest establishment. *Forest Ecology and Management*. DOI: 10.1016/j.foreco.2021.119339
- Odland, M, Goodwin, M, **Smithers, BV**, Hurteau, M, North, MP. 2021. Plant community response to thinning and repeated fire in a Sierra Nevada mixed-conifer forest understory. *Forest Ecology and Management*. DOI: 10.1016/j.foreco.2021.119361
- Smithers, BV**, North, MP. 2020. Mechanisms of species range shift: germination and early survival of Great Basin bristlecone pine and limber pine. *Plant and Soil*. DOI: 10.1007/s11104-020-04732-9.
- Smithers, BV**, MF Oldfather, MJ Koontz, J Nachlinger, J Bishop, C Bishop, S Sheth. 2020. Community turnover by composition and climate affinity across scales in an alpine system. *American Journal of Botany* 107:2. DOI: 10.1002/ajb2.1376.
- Smithers, BV**, Oldfather, MF. 2019. GLORIA Great Basin: Monitoring Long-Term Alpine Plant Community Response to Global Change *Mountain Views* 13:1.
- Smithers, BV**, Millar, CI, Latimer, AM, North, MP. 2018. Leap frog in slow motion: Divergent responses of tree species and life stages to climatic warming in Great Basin subalpine forests. *Global Change Biology* 2018:24. DOI:10.1111/gcb.13881.
- Smithers, BV**. 2017. Mechanisms of range shift in in Great Basin sub-alpine forests. Doctoral Dissertation, UC Davis.
- Smithers, BV**. 2017. Soil preferences in germination and survival of limber pine in the Great Basin White Mountains. *Forests* 11:8, DOI: 10.3390/f8110423.
- Congdon, BC, Krockenberger, AK, **Smithers BV**. 2005. Dual foraging and coordinated provisioning in a

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- tropical Procellariiform, the wedge-tailed shearwater. *Marine Ecology Progress Series* 310: 293-301.
- Peck, DR. **BV Smithers**, AK Krockenberger, and BC Congdon. 2004. Sea surface temperature constrains wedge-tailed shearwater foraging success within breeding seasons. *Marine Ecology Progress Series* 281: 259-266.
- Smithers, BV**, DR Peck, AK Krockenberger, and BC Congdon. 2003. Elevated sea-surface temperature, reduced provisioning and reproductive failure of wedge-tailed shearwaters (*Puffinus pacificus*) in the southern Great Barrier Reef, Australia. *Marine and Freshwater Research* 54: 973-977.

## PUBLICATIONS IN REVIEW/PREP

- Lance, MJ, Carroll, KA, **Smithers, BV**, Debinski, DM. (2020). Broadening the graduate student pool when hiring in the ecological sciences. *PLOS Biology* (in review).
- Moyce, SM, **Smithers, BV. (in review)**. Evaluation of California's heat prevention policy using the National Agricultural Worker Survey. *Workplace Health and Safety*.

## NON-REFEREED PUBLICATIONS

- Oldfather, MF, Nachlinger, J, **Smithers, BV**. 2019. GLORIA 2019 Update. *The Midden: The Resource Management Newsletter of Great Basin National Park* 19:1.
- Oldfather, MF, **Smithers, BV**. "GLORIA White Mountains Master Site Update, Fall 2018." *White Mountains Research Center Newsletter*. Fall 2018.
- Smithers, BV**, Millar, CI. "Playing Climate Change Leap-frog with Trees...in Very Slow Motion." *University of California Natural Reserve System Newsletter*. February 2018.
- Smithers, BV**. "Guest lecturing: CV gold and a pretty good time." *The Aggie Brickyard*. Summer 2017.
- Smithers, BV**. "Battle of the Pines." *The Aggie Brickyard*. Fall 2017.
- Smithers, BV**. "Playing Climate Change Leap-frog with Trees...in Very Slow Motion." *White Mountain Research Center Newsletter*. Fall 2017.
- Smithers, BV**. 2010. *Organic Gardening in Fiji*. Peace Corps, Fiji.

## INVITED PRESENTATIONS

- GLORIA Great Basin: long-term monitoring of sky island plant communities. 2022. SoCal Botanists Annual Symposium. Claremont, CA.
- Where will alpine plants go? 2019. Montana Institute on Ecosystems Rough Cut Science Series. Bozeman, MT.
- Mechanisms of range shifts in sub-alpine Great Basin forests. 2017. UC Davis Forest Biology Seminar Series. Davis, CA.
- Tree species range shifts above treeline in the Great Basin and our disappearing alpine habitat. 2016. Nevada Native Plant Society. Reno, NV.
- Tree species range shifts above treeline in the Great Basin and our disappearing alpine habitat. 2016. California Native Plant Society. Bishop, CA.
- Organic gardening in Fiji. 2009, 2010, 2011. US Peace Corps, Fiji Pre-Service Training. Nausori, Fiji.

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Alternative fuel production and use. 2009. US Peace Corps, Fiji Early-Service Training. Nausori, Fiji.

Waste not, want not: making vegetable biofuel in the classroom. 2007. ING Annual Conference. Phoenix, AZ.

Waste not, want not: making vegetable biofuel in the classroom. 2006, 2007. NSTA National Conference. Dallas, TX. Anaheim, CA.

## CONTRIBUTED PRESENTATIONS

Where will alpine plants go? Using climate niche space to explore alpine plant responses to climate change. 2020. Ecological Society of America.

Alpine plant community-climate relationships across elevation gradients in the White Mountains, California. 2018. CNPS Annual Meeting, Los Angeles, CA.

Fire disturbance-mediated effects on species range shifts in Great Basin sub-alpine forests. 2017. Davis Botanical Society Meeting. Davis, CA.

Upslope treeline shifts point to life stage climate envelope differences in Great Basin bristlecone pine forests. 2017. ESA Annual Meeting. Portland, OR.

Rapid demographic shifts at treeline in Great Basin sub-alpine forests. 2016. AGU Fall Meeting. San Francisco, CA.

Rapid demographic shifts at treeline in Great Basin bristlecone pine and limber pine forests. 2016. MtnClim. Leavenworth, WA.

Demographic shifts in Mt. Charleston pine establishment above treeline. 2016 Mount Charleston Science Symposium. Las Vegas, NV. *Invited Speaker.*

Climate change effects on treeline community dynamics in Basin and Range mountains. 2015. CNPS Conservation Conference. San Jose, CA.

Climate change effects on treeline dynamics in Basin and Range mountains. 2014. AGU Fall Meeting. San Francisco, CA.

Mechanisms of species range shift at treeline in bristlecone pine forests. 2014. Mountain Observatories. Reno, NV.

Mechanisms of treeline species range shift in bristlecone pine forests. 2014. ESA. Sacramento, CA.

El Niño-Southern Oscillation effects on young provisioning and chick growth in a tropical western Pacific seabird species, the Wedge-tailed shearwater. 2002. In 'BZoNQ'. Cairns, QLD.

Geographic variation in songs of the Green-tailed towhee. 1999. West Coast Conference of Undergraduate Research, UC Irvine, Irvine, CA.

Geographic variation in songs of the Green-tailed towhee. 1999. Loyola Marymount University Sigma Xi Research Conference, Los Angeles, CA. Biodiversity of the Marine Redondo Canyon. 1999. Loyola Marymount University Sigma Xi Research Conference, Los Angeles, CA.

Geographic variation in songs of the Green-tailed towhee. 1998. Southern California Conference of Undergraduate Research, Pasadena, CA.

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## AWARDS AND HONORS

UC Davis Post-Doctoral Scholar, 2017  
UC Dissertation Year Fellowship, 2016  
CNPS Conference Best Student Talk, 2015  
UC Davis Ecology Fellowship, 2013-2015  
ING Unsung Heroes National Teaching Award, 2016  
Toyota Tapestry Teaching Grant, 2005  
Rotary Ambassadorial Scholarship, 2002  
Loyola Marymount University Presidential Citation, 1999  
Loyola Marymount University Seydoux Field Biology Award, 1998  
Loyola Marymount University Raymunde McKay Service Award, 1998  
Alpha Sigma Nu Induction, 1998  
Sigma Xi Induction, 1998  
Ebell of Los Angeles Scholarship, 1997  
LA Philanthropic Scholarship, 1997  
Pike Christopher Scholarship, 1997  
Loyola Marymount University Fritz B. Burns Science Scholarship, 1994  
Bret Harte High School Salutatorian, 1994

## RESEARCH GRANTS

NPS Focus Condition Assessment	\$59,940
GLORIA Great Basin	\$16,000
Montana Water Center, 2021	\$30,000
CalFire Forest Health, 2021	\$499,934
UC Davis Post-Doctoral Scholar, 2017	\$100,000
Davis Botanical Society Grant, 2016	\$1,800
UC Davis Plant Sciences GSR, 2016	\$96,686
NV Native Plant Society Grant, 2015	\$1,000
Mary Dedecker Botanical Grant, 2015-2016	\$1,940
Henry A Jastro Research Fellowship, 2014-2016	\$6,600
CA Native Plants Society Grant, 2013-2016	\$2,000
White Mountains Research Minigrant, 2012-2016	\$4,000
Toyota Tapestry Teaching Grant, 2005	\$20,000
Rotary Ambassadorial Scholarship, 2002	\$25,000
Ebell of Los Angeles Scholarship, 1997	\$1,000
LA Philanthropic Scholarship, 1997	\$1,000
Pike Christopher Scholarship, 1997	\$500

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## UNDERGRADUATE/GRADUATE MENTORING

Stephen Huysman, MSU graduate student	2022-
Teo Rautu, MSU graduate student	2021-
Sean Hoy-Skubik, MSU graduate student	2020-
Chloe Wastenys, MSU graduate student	2019-2022
Franklin Alongi, MSU undergraduate student	2019-2021
Iris Allen, UC Davis undergraduate student	2014-2015
Jamey Wilcher, UC Davis undergraduate student	2015-2016
Asa Holland, UC Davis undergraduate student	2016-2017
Kaili Brande, UC Davis undergraduate student	2016
Lilia Mourier, UC Davis undergraduate student	2016
Dawson Bell, UC Davis undergraduate student	2016-2018
Sierra Kortge, UC Davis undergraduate student	2016
Maxwell Odland, UC Davis graduate student	2017-2019
Marshall Pierce, UC Davis graduate student	2019-
Franklin Alongi, MSU undergraduate student	2018-
Jacob Crooks, MSU undergraduate student	2019-

## ACADEMIC SERVICE

### Current:

Department of Ecology US Peace Liaison  
MSU Retention Committee  
MSU Arboretum Committee, Chair

### Reviewer:

*USFS Synthesis of Science to Inform Land Management within the NW Forest Plan Area*  
*USFS Northeastern California Plateaus Bioregion Science Synthesis*  
*Canadian Journal of Forestry*  
*Trends in Ecology and Evolution*  
*AoB PLANTS*  
*Forests*  
*Ecology and Evolution*  
*Forest Ecology and Management*

### Recent Service:

MtnClim Conference Volunteer, 2016	GLORIA California volunteer botanist, 2013-2016
Natural Areas Conference Planning Committee, 2016	White Mountains GLORIA public workshop leader, 2013-2016
CA Native Plant Society Conference Volunteer, 2015	Davis Society for Conservation Biology, 2014-2016
UC Davis Graduate Group in Ecology Admissions Committee, 2014-2016	UC Davis Graduate Group in Ecology Odyssey TA, 2013
UC Davis Graduate Group in Ecology Odyssey Lecturer, 2014-2017	US Peace Corps Volunteer, Natural Resource Specialist, 2009-2011

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International Medical Assistance (Mexico),  
Spanish translator, 2004

**LANGUAGES:** English, French, Spanish, Fijian