

SARAH M. BISBING*
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PROFESSIONAL APPOINTMENTS

Assistant Professor, Forest Science University of Nevada - Reno Natural Resources & Environmental Sciences	2017 – present
Assistant Professor, Forest Ecology & Silviculture California Polytechnic State University Natural Resources Management & Environmental Sciences	2013 - 2017

EDUCATION

Ph.D. Ecology Colorado State University, Fort Collins, CO	2013
M.S. Forestry University of Montana, Missoula, MT	2008
B.S. Forest Resource Management University of Montana, Missoula, MT	2005

PROFESSIONAL EXPERIENCE

Graduate Research Assistant Forest & Rangeland Stewardship, Colorado State University	2009 - 2013
Associate Director, Nevada Conservation Corps Great Basin Institute, Las Vegas, NV	2008 - 2009
The Wilderness Society (TWS) Research Associate Condon and Bozeman, MT	2007 - 2008
National Science Foundation Teaching Fellow (GK-12) University of Montana, Missoula	2006 - 2007

PUBLICATIONS (*Cal Poly Student)

Bidlack, A. **S. Bisbing**, B. Buma, D. D'Amore, P. Hennon, J. Krapek, R. Mulvey, and L. Oakes. Alternative interpretation and scale-based context for *No evidence of recent (1995-2013) decrease in yellow-cedar in Alaska* (Barrett and Pattison 2016). Canadian Journal of Forest Research. 47(8): 1145-1151.

* Updated: May 23rd, 2017

- Buma, B, **S. Bisbing**, J. Krapek, and G. Wright. A foundation of ecology re-discovered: 100 years of succession on 100 William S. Cooper plots in Glacier Bay, Alaska. *Ecology*. 98(6): 1513-1523.
- Brousil, M.* and **S. Bisbing**. 2017. Influence of fire history on coast redwood regeneration and stand structure. In Kane J. et al. Proceedings of the Coast Redwood Science Symposium. Gen. Tech. Rep. PSW-GTR-XXX. *In Press*.
- Matecny, I., J. Medvecká, E. Uherčíková, P. Pisut, S. Kubalová, M. Valachovič, I. Hodalová, P. Mered'a Jr., **S.M. Bisbing**, and M. Petrasová. Effect of the Gabčíkovo waterworks (Slovakia) on riparian floodplain forest ecosystems the Danube inland delta: vegetation dynamics and trends. *Biologia*. 72 (7): 722-734.
- Mulvey, R. and **S. Bisbing**. 2016. Complex interactions among agents affect shore pine health in southeast Alaska. *Northwest Science* 90 (2): 176 – 194.
- Bisbing, S.M.**, D.J. Cooper, D.V. D'Amore, and K.M. Marshall. 2015. Determinants of conifer species distributions across peatland to forest gradients in the coastal temperate rainforest of southeast Alaska. *Ecohydrology*. doi: 10.1002/eco.1640
- Budzaková, M., I. Hodalová, P. Mered'a Jr., L. Somlyay, **S.M. Bisbing**, and J. Sibík. 2014. Karyological, morphological, and ecological differentiation of *Sesleria caerulea* and *Sesleria tatrae* (Poaceae) in the Western Carpathians and adjacent regions. *Preslia* 86: 245 - 277.
- Cooper, D.J., **S Bisbing**, D. Millar, and E. Gage. 2013. The biology of freshwater wetlands by Arnold G. van der Valk. *The Quarterly Review of Biology* 88 (2): 133.
- Bothwell, H., **S. Bisbing**, L. Crawford, N. Therkildsen, N. Alvarez, R. Holderegger, and S. Manel. 2013. Identifying genetic signatures of selection in a non-model species: a case study of the alpine gentian (*Gentiana nivalis* L.). *Conservation Genetics* 14 (2): 476-481.
- Bisbing, S.M.**, P.B. Alaback, and T.H. DeLuca. 2010. Carbon storage of old-growth and second growth fire-dependent western larch (*Larix occidentalis* Nutt.) forests of the Inland Northwest, USA. *Forest Ecology and Management* 259 (5): 1041-1049.

PUBLICATIONS - SUBMITTED & IN PREP

- Bisbing, S. M.** and D. V. D'Amore. Forest community and hydrologic regime predict nitrogen dynamics in the perhumid coastal temperate rainforest of southeast Alaska. *Canadian Journal of Forest Research*. *In Review (following revision)*.
- Bisbing, S. M.**, A.L. Angert, and D.J. Cooper. Influence of geographic barriers and regional climate on continental scale patterns of genetic diversity in *Pinus contorta*. *Journal of Biogeography*. *In Revision*.

Buma, B., E. Batllori, **S. Bisbing**, A. Holz et al. Emergent freeze and fire disturbance dynamics in temperate rainforests. *BioScience*. *In Revision*.

Nelson, K., J. Yost, M. Ritter, and **S. Bisbing**. The myth of allelopathy in California blue gum (*Eucalyptus globulus*) plantations. *Ecological Applications*. *In Prep*.

Bisbing, S.M., T.S. Davis, D. Canestro, K. Hurt*, and M. Terzes*. Patterns of decline and recovery in *Pinus radiata*, a climate-impacted, endemic conifer. *Forest Ecology and Management*. *In Prep*.

FUNDING

S.M. Bisbing. Forest health and demography of Cambria's Monterey pine forest. Fire Safe Council - SLO, \$76,480 (2016 – 2017)

Bisbing, S.M. Effects of variable density thinning and prescribed fire on forest resilience and stand dynamics in Sierra Nevada forests. California Agricultural Research Initiative (ARI), \$218,904 (2015 – 2018)

Bisbing, S.M. Treatment effects on the regeneration environment: the influence of soil legacies and microclimate on germination and success of Sierra mixed-conifer species. USDA Forest Service, Pacific Southwest Research Station, \$15,000 (2015 – 2017)

Bisbing, S.M. Establishment and survival of yellow-cedar, a climate-change impacted species in southeast Alaska. California Polytechnic State University: Research, Scholarly, and Creative Activities Grant Program, \$13,947 (2015 – 2016)

Bisbing, S.M. Treatment effects on the regeneration environment: the influence of soil legacies and microclimate on germination and success of pines and understory vegetation. USDA McIntire-Stennis, \$45,000 (2015 – 2018)

Bisbing, S.M. Interacting effects of wildfire and salvage logging on forest regeneration following the Rim Fire. California Polytechnic State University: Research, Scholarly, and Creative Activities Grant Program, \$13,500 (2014 – 2015)

Bisbing, S.M. Coast redwood regeneration and forest resilience under multiple, interacting disturbances. USDA McIntire-Stennis, \$45,000 (2014 – 2017)

Bisbing, S.M. Coastal forests under a changing climate: identifying the regeneration niche of coast redwood. California ARI New Investigator, \$40,000 (2014 – 2016)

Bisbing, S.M. Pacific Coast tree species' distributions across a gradient of spatial scales. California ARI SEED, \$5,000 (2014 – 2015)

Bisbing, S.M., K. Corella, H. Mehl, and Z. Heath. Monitoring, extension, management, and mitigation of Sudden Oak Death on the Central Coast. USDA Forest Service, \$69,456 (2014 – 2016)

Bisbing, S.M. Quantifying local adaptation of *Pinus contorta* to support forest conservation under a changing climate. California Polytechnic State University: Extramural Funding Initiative, \$10,000 (2014 – 2015)

Bisbing, S.M. and K. Corella. Southern Area Sudden Oak Death Monitoring. USDA Forest Service, \$49,456 (2013 – 2015)

Mark, W., K. Corella, and **S.M. Bisbing**. Forest Health Research and Development. Cal Department of Forestry, \$402,029 (2013 – 2015)

Mulvey, R., T. Barrett, **S. Bisbing**, and E. Graham. Investigation of factors contributing to shore pine (*Pinus contorta* ssp. *contorta*) mortality and damage in southeast Alaska. USDA Forest Service, National Forest Health & Monitoring, \$57,000 (2011 – 2013)

Bisbing, S.M. Conserving the adaptive potential of western forests: Using range-wide patterns of genetic structure & niche modeling to predict the response of *Pinus contorta* to climate change. Gloria Barron Wilderness Society Fellowship, \$10,000 (2012 – 2013)

Bisbing, S.M. Discrete Populations? Examining the role of genetic variation and landscape heterogeneity in the phenotypic divergence of *Pinus contorta*. National Park Service George Melendez-Wright Climate Change Fellowship, \$19,196 (2011 – 2013)

Cooper, D.J. and **S. Bisbing**. Hydrophyte status assessment of southeast Alaska wetland plants. USDA Forest Service Pacific Northwest Research Station, \$20,000 (2009 – 2012)

Cooper, D.J. and **S.M. Bisbing**. What is a hydrophyte? How plant species grow in upland and wetland environments. U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory, \$180,000 (2008 – 2012)

CONTRACTS & COLLABORATIONS

Bidlack, A[†], B. Buma[†], D. Butman[†], **S. Bisbing***, D. D'Amore*, B. Hunt*, and S. Tank*. RCN: Coastal Rainforest Margins Research Network - understanding materials flux in linked terrestrial and marine ecosystems in the face of climate change. National Science Foundation, \$498,970 (2016 – 2020)

[†] Project Investigators

*Steering Committee Members

Turner, D., **S.M. Bisbing***, C. Dicus*, and R. Thompson*. Forest health and demography of Cambria's Monterey pine forest. Cal Fire Greenhouse Gas Reductions Fund, \$498,736 (2015 – 2020). *Project Contractors

Bisbing, S.M. and D. Canestro. Evaluating the effects of local climate, climate fluctuations, and compounding disturbance on distributional and demographic patterns of Monterey pine (*Pinus radiata*). Private Donation to UC Ranch Marino, \$25,000 (2016 – 2018)

Bisbing, S.M. Cambria Monterey Pine (*Pinus radiata*) Forest Health & Carbon Stocks Assessment. California Fire Safe Council, \$40,000 (2015 – 2016)

FELLOWSHIPS AND AWARDS

GDPE Travel Award (\$600)	2013
George Melendez-Wright Student Travel Award (\$2,500)	2012
Gloria Barron Wilderness Society Fellow	2012 - 2013
Global Sustainability Leadership Fellow, Colorado State University	2012 - 2013
National Park Service George Melendez-Wright Climate Change Fellow	2011 - 2012
The Wilderness Society, Graduate Research Funding (\$25,000)	2007 - 2008
National Science Foundation Gk-12 Fellowship (\$35,000)	2006 - 2007
Robert Morgan Forestry Scholarship (\$2,000)	2005 - 2006
Bonhomme General Scholarship (\$1,000)	2005 - 2006
Irene Evers Undergraduate Research Grant (\$2,500)	2005
Dean's List, University of Montana	2003 - 2005
Illinois House of Representatives Scholarship (Full Tuition Waiver)	2000 – 2002

PRESENTATIONS

Bisbing, S.M., B. Buma, and J. Krapek. Microclimate drivers of decline and forest compositional shifts in yellow-cedar forests of southeast Alaska. Annual Meeting of the US International Association for Landscape Ecology, Asheville, NC, April 2016.

Bisbing, S.M., D.J. Cooper, D.V. D'Amore, and K.M. Marshall. Determinants of conifer distributions in the coastal temperate rainforest of southeast Alaska. Annual Meeting of the International Association of Landscape Ecology, Portland, OR, July 2015.

Bisbing, S.M., D.J. Cooper, and D.V. D'Amore. Physiological stress and interspecies competition determine tree species distributions along an environmental gradient in southeast Alaska. Annual Meeting of the Ecological Society of America, Sacramento, CA, August 2014.

Bothwell, HM, **S Bisbing**, N Therkildsen, L Crawford, N Alvarez, R Holderegger, & S Manel. Identifying genetic signatures of selection in a non-model species, alpine gentian (*Gentiana nivalis* L.) using a landscape genetic approach. US-International Association for Landscape Ecology Annual Symposium, April 2013.

Bisbing, S.M., D.J. Cooper, and A.L. Angert. Genetic and geographic distributions of the west's most widespread conifer, *Pinus contorta*. George Wright Society Conference on Parks, Protected Areas, and Cultural Sites, Denver, CO, March 2013.

Bisbing, S.M., D.J. Cooper, and A.L. Angert. Assessing the evolutionary history and potential geographic distributions of *Pinus contorta*: conservation and management implications for western North America's most widespread conifer. Front Range Student Ecology Symposium, Fort Collins, CO, February 2013.

Bisbing, S.M., D.J. Cooper, and A.L. Angert. Range-wide patterns of genetic population structure and potential geographical range shifts of *Pinus contorta* (ssp. *latifolia*, *murrayana*, *contorta*, and *bolanderi*). Annual Meeting of the Ecological Society of America, Portland, OR, August 2012.

Bisbing, S.M. and D.J. Cooper. Discrete Populations? Examining the role of genetic variation & landscape heterogeneity in the phenotypic divergence of *Pinus contorta*. Front Range Student Ecology Symposium, Fort Collins, CO, February 2011.

Bothwell, HM, **S Bisbing**, L Crawford, N Therkildsen, J Bregy, R Holderegger, & S Manel. *Gentiana nivalis* L.: Identifying genetic variation of adaptive relevance in an alpine plant species. NCEAS International Landscape Genetics Symposium, Santa Barbara, CA, May 2010.

Bisbing, S., T. DeLuca, and P. Alaback. Carbon Storage in Old-Growth Western Larch (*Larix occidentalis*) Forests of Western Montana. Annual Meeting of the Ecological Society of America, Milwaukee, WI, August 2008.

INVITED SEMINARS

- University of California – Davis, Forest Biology Research Center, December 2017.
- University of Montana – Missoula, September 2017.
- High Sierra - California Society of America Foresters Chapter Meeting, May 2017.
- University of Nevada – Reno, March 2017.
- University of Wisconsin - Madison, February 2017.
- University of California Naturalist Program, August 2016 & February 2017.
- California Silviculture Working Group Meeting, Blodgett Forest, November 2016.
- Cambria Forest Committee Meeting, August 2016.
- California Polytechnic State University, Biology Department Seminar, June 2016.
- Friends of Fiscalini Ranch Preserve, February 2016.
- University of California – Davis, Forest Biology Research Center, December 2015.
- University of California – Merced, School of Natural Sciences, September 2015.
- California State University – Dominguez Hills, Department of Biology, Feb 2015.
- University of Washington, School of Environmental and Forest Sciences, Nov 2014.
- Alaska Coastal Rainforest Center, Juneau, AK, July 2014.

ADDITIONAL RESEARCH EXPERIENCE

Research Assistant, Aspen Decline on Colorado's Western Slope Colorado State University	2012
Research Assistant, Carbon Budgets of Rocky Mountain Fens Colorado State University	2012
Research Assistant, Willow Decline in Yellowstone National Park Colorado State University	2010
Research Assistant, Stable Oxygen Isotope Analysis Colorado State University	2009 - 2010
Research Assistant, San Juan Fen Restoration Colorado State University	2009
Research Assistant, Forest Restoration in the Bitterroot Valley, MT University of Montana, Missoula	2006 - 2007
Biological Technician, Amphibian Decline Research USGS, Glacier National Park, Montana	2005 - 2006
Biological Technician, Bark Beetle Research University of Montana, Missoula	2005

TEACHING & MENTORING

Assistant Professor, California Polytechnic State University

Intro to Forest Ecosystems, Fall & Winter 2013 - 2015
Silviculture, Fall & Spring 2013 - 2017
Natural Resource Ecology, Winter & Spring 2014 - 2017
Sierra Nevada Forest Ecology, Spring 2016
Forest Practices, Winter 2014 - 2016
Logging Team Practices, Spring 2014 - 2017
Ecosystem Management (capstone), Spring 2014 - 2017
Sustainable Forest Management, Winter 2015 - 2016
Current Topics in Environmental Science & Management, Fall & Winter 2015 - 2016
Ecosystem Modeling (graduate course), Winter 2016
Graduate Research Seminar (graduate course), Spring 2016

Instructor, Colorado State University

Silviculture, Spring 2013
Forest Stand Management (capstone), Fall 2012
Silviculture (graduate level), Spring 2011 & 2012

Instructor, Field Courses

Fire Ecology, University of Montana, Summer 2015
Colorado Ecosystem Field Studies, Summer 2013
Landscape & Livelihood Program, Northwest Connections, Fall 2006 & 2007

Teaching Assistantships

Forest Ecology, Colorado State University, Fall 2010 & 2011
Forest Ecology, University of Montana, Spring 2007

Guest Lecturer, Colorado State University
 Watershed Hydrology, Fall 2009 & 2010
 Physical Geography, Spring 2010 & 2011
 The Institute of Learning & Teaching, Undergraduate Learning Program, 2010 – 2011

ADVISING & MENTORING

Advisor, Master’s of Science in Forestry 2015 - 2017
 Forest Ecology Research
 Matthew Brousil, Tori Norville, Emily O’Dean,
 Matthew Terzes, Marissa Vossmer

Research Mentor, Undergraduate Senior Thesis 2013 – 2017
 Forestry Research (16 students)
 California Polytechnic State University

Research Mentor, Undergraduate Senior Thesis 2011 - 2013
 Forest Restoration Research (1 student)
 Colorado State University

Undergraduate Research Mentorship Program (TiLT) 2010
 Colorado State University

UNIVERSITY AND PROFESSIONAL SERVICE

NRES Faculty Search Committee Member 2017
 Forest Health Position
 California Polytechnic State University

NRES Faculty Search Committee Member 2016
 Department Head Position
 California Polytechnic State University

NRES Faculty Search Committee Member 2015
 Soil Ecologist Position
 California Polytechnic State University

NRES Faculty Search Committee Chair 2014
 Forest Disturbance Ecologist Position
 California Polytechnic State University

Campus Landscape Committee Member 2015 - 2017
 California Polytechnic State University

Academic Senate Sustainability Advisory Committee Member 2014 - 2017
 California Polytechnic State University

College Sustainability Advisory Committee Member 2014 - 2017
 California Polytechnic State University

Faculty Advisor 2013 - 2017
 Society of American Foresters
 Student Association for Fire Ecology
 Cal Poly Logging Team

Recruitment & Diversity Committee Member 2013 - 2017
 College of Agriculture, Food, & Environmental Sciences

California Polytechnic State University California Cooperative Ecosystem Studies Unit Representative	2013 - 2015
California Polytechnic State University Employment Equity Facilitator	2013 - 2017
California Polytechnic State University Curriculum Committee Member	2013 - 2017
Forestry and Natural Resources Major, NRES California Polytechnic State University Ad hoc Reviewer	2010 - present
USDA Forest Service General Technical Reports (2), Forest Ecology & Management (6), Forest Science (1), Northwest Science (1), Biological Invasions (1), Ecological Applications (1), Journal of Undergraduate Research (2), Biologia (1), Biological Conservation (1)	
Student Committee Organizer, GDPE Faculty Search	2011
Colorado State University Graduate Student Representative, GDPE Executive Committee	2010 - 2011
Colorado State University Front Range Student Ecology Symposium	2009 - 2011
President, Executive Committee (2010-2011) Day-of Committee Chair (2009-2010) Fundraising Committee Member (2009-2010) Graduate Degree Program in Ecology, Colorado State University	
National Center for Ecological Analysis and Synthesis Participant	2010
Landscape Genetics Working Group NCEAS, Santa Barbara, California	
College of Forestry Faculty Search Committee Member	2006 - 2007
University of Montana, Missoula	

PROFESSIONAL SOCIETIES

Ecological Society of America, Society of American Foresters

ADDITIONAL EDUCATION AND TRAINING

- California Polytechnic State University, Office of Research & Economic Development, Grants Academy, 2014 - 2015
- California Polytechnic State University, Center for Learning & Teaching, Getting a Good Launch New(-ish) Faculty Learning Community, Academic Year 2014-2015
- California Polytechnic State University, College of Agriculture, Food, & Environmental Sciences Grant Writing Seminar, Winter Quarter 2014
- Bureau of Land Management Grant Writing for Conservation Course, January 2009
- **Computer Software:** R, S+, SPSS, PC-Ord, GenAlEx, Geneland, GenePop, Fragstats, Structure, Arlequin, MaxEnt, DIVA GIS (EcoCrop), ArcGIS, Sigma Plot, Delta Graph, Filemaker