

Zachary L. Steel

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EDUCATION

University of California, Davis, Ph.D. Ecology	2014–2018
University of California, Davis, M.S. Ecology	2008–2011
Whitman College, B.A. Biology	2002–2006

EMPLOYMENT

University of California, Berkeley:	
Post-doctoral Researcher	2019–Present
University of California, Davis:	
Graduate Student Researcher	2014–2018
Jr. Specialist Researcher	2012–2014
Fire Science Consortium Technical Coordinator	2012–2013
US Fulbright Program, Santiago, Chile:	
Research Fellow	2011
University of California, Davis:	
Graduate Student Researcher	2008–2011
University of California, Santa Cruz:	
Assistant Biologist	2007–2008
PRBO Conservation Sciences:	
Biology Technician	2007–2008

PUBLICATIONS

Journal Articles

Steel, Z. L., B. Campos, W. Frick, R. Burnett, and H. D. Safford. *In review*. “Wildfire severity and pyrodiversity promote bat occupancy and diversity in fire-suppressed forests.” *Scientific Reports*

Laetitia G. E. Wilkins, K. R. Matthew, **Z. L. Steel**, S. C. Nussle, and S. M. Carlson. *In review*. “One-two-three punch of non-native predators, chytrid fungus, and climate change drives the dynamics of decline and extinction: A case study of the Sierra Nevada yellow-legged frog (*Rana sierrae*) at Dusy Basin, Kings Canyon National Park”. *Ecosphere*.

Steel, Z. L., M. Koontz, and H. Safford. 2018. “The changing landscape of wildfire: Burn pattern trends and implications for California’s yellow pine and mixed conifer forests”. *Landscape Ecology* 33(7), 1159-1176.

Steel, Z. L., A. E. Steel, J. Williams, J. H. Viers, P. Marquet, and O. Barbosa. 2017. “Patterns of bird diversity and habitat use in mixed vineyard-matorral landscapes of Central Chile”. *Ecological Indicators* 73:345-357.

- Grof-Tisza, P., **Z. L. Steel**, E. Cole, M. Holyoak, and R. Karban. 2017. "Testing predictions of movement behavior in a hilltopping moth". *Animal Behavioral* 133:161-168.
- Grof-Tisza, P., **Z. L. Steel**, and R. Karban. 2017. "The spatial distribution and oviposition preference of the Ranchman's tiger moth, *Platyrepia virginalis* (Lepidoptera: Arctiidae)". *Journal of the Lepidopterists' Society* 71(1):16-19.
- Steel, Z. L.**, H. D. Safford, and J. H. Viers. 2015. "The fire frequency-severity relationship and the legacy of fire suppression in California forests". *Ecosphere* 6:art8.
- Schwartz, M.W., L. B. Smith, and **Z. L. Steel**. 2013. "Conservation investment for rare plants in urban environments". *PLOS ONE* 8(12):e83809.
- Siegel, R. B, R. L. Wilkerson, J. F. Saracco, and **Z. L. Steel**. 2011. "Elevational distribution of common bird species on the Sierra Nevada's west slope". *Western Birds* 42:2-26.

Technical Reports and Software

- Steel, Z. L.**, M. Meyer, A. Wuenschel, S. Ostojka, and M. North. "Climate-wise reforestation toolkit". Rshiny web application prepared for the US Forest Service, Region 5. [Available online](#)
- Steel, Z. L.**, B. R. Campos, and H. D. Safford. 2018. "Bat occupancy in Sierra Nevada wildfire areas and implications for post-fire management". Prepared for US Forest Service, Region 5.
- Campos, B. R., **Z. L. Steel**. FIRE-BAT spatial predictive tool. ArcGIS toolbox prepared for US Forest Service, Region 5. Download available [here](#).
- Campos, B. R., R. D. Burnett, and **Z. L. Steel**. 2017. "Bird and bat inventories in the Storrie and Chips fire areas 2015-2016: Final report to the Lassen National Forest". Point Blue Conservation Science, Petaluma, CA. Point Blue Contribution No. 2142.
- Steel, Z. L.** and H. D. Safford. 2017. "Acoustic inventory and monitoring of bat species in the Power Fire burn area – 2014, 2015, and 2016 field season". Prepared for Eldorado National Forest, California, USDA Region 5.
- Fogg, A. M, **Z. L. Steel** and R. D. Burnett. 2017. "Avian Monitoring in Freds and Power fires: Final Report". Point Blue Conservation Science, Petaluma, CA. Point Blue Contribution No. 2138.
- Schwartz, M. W., et al. 2013. "Sensitive Animals - Appendix 15 to SEKI Natural Resources Condition Assessment". Natural Resource Report NPS/SEKI/NRCA—2013/665. National Park Service. Fort Collins, Colorado. Assessments within:
- Steel, Z. L.**, E. Reddy and R. Green. The American Pika - *Ochotona princeps*
 - Steel, Z. L.**, J. Shields. Sierra Nevada Bighorn Sheep - *Ovis canadensis sierrae*
 - Copeland, S., K. Dybala, **Z. L. Steel**. California Condor - *Gymnogyps californianus*
 - Steel, Z. L.**, Sierra Nevada Chipmunks - *Tamias spp.*
- Steel, Z. L.**, M. L. Bond, R. B. Siegel, and P. Pyle. 2012. "Avifauna of Sierra Nevada Network parks: Assessing distribution, abundance, stressors, and conservation opportunities for 145 bird species". Natural Resource Report NPS/SIEN/NRR—2012/506. National Park Service, Fort Collins, Colorado.

TEACHING

Graduate Teaching:

Co-Instructor – UCD, Fire Ecology
 Guest Lecturer – UCD, Ecogeomorphology

Winter 2018
 Springs 2014–2018

Certificate of Completion – UCD Foundations of Teaching workshop series	Fall 2017
Guest Lecturer – American River College, Experimental Design	Spring 2017
Teaching Assistant – UCD, Trees and Forests; PLS 144	Fall 2015
Teaching Assistant – UCD, Trees and Forests; PLS 144	Fall 2014

Mentoring:

Undergraduate Mentor – Student research experience	Spring 2019-Present
Undergraduate Mentor – Association for Women in Science Mentoring program	2019
High School Mentor – Student & Landowner Education Stewardship program	2015–2016
Undergraduate Mentor – Student research experience	Summer 2009

Outdoor Education:

Naturalist/Raft Guide – UCD, Outdoor & Watershed Sciences programs	2013-Present
Teacher/Scientist – Earthwatch citizen science programs	2013
Naturalist/Kayak Guide – San Juan Islands, WA	Summers 2006-2007

Undergraduate Teaching:

Teaching Assistant – Whitman College, Genetics; BIO 205	Fall 2005
Teaching Assistant – Whitman College, Ecology; BIO 277	Spring 2005

GRANTS & AWARDS

US Forest Service & UC Davis funding agreement (\$122,000)	2017–2018
UC Davis, Graduate Group of Ecology Fellowship (\$79,000 total)	Seven quarters 2014–2018
UC Davis, Ecology Student Endowment (\$1500)	2017
US Forest Service & UC Davis funding agreement (\$127,000)	2014–2017
Fulbright Fellowship – Chile (\$17,000)	2011
UC Davis, Graduate Group of Ecology Fellowship (\$11,000)	One quarter 2010
Whitman achievement based scholarship (\$32,000)	2002–2006
California Governor’s scholarship (\$2,000 total)	Two awards 2001 & 2002

PRESENTATIONS

The Wildlife Society Annual Conference	2019
<i>The Influence of Burn Severity and Pyrodiversity on Bat Communities in Sierra Nevada Forests</i>	
Mediterranean Forest Ecosystems International Conference (MedPine6)	2018
<i>Changing patterns of severe wildfire lead to bird diversity declines & community transitions in conifer forests of California, USA</i>	
Ecological Society of America Annual Meeting	2018
<i>Bat species occupancy varies across a disturbance gradient; implications for a future of extreme wildfire events</i>	

Instituto Politécnico Nacional, CIIDIR-Unidad Oaxaca, Mexico (Invited)	2017.
<i>Murcielagos en un paisaje caracterizado por incendios: Impactos en diversidad y uso de habitat</i>	
Ecological Society of America Annual Meeting	2017
<i>The influence of spatial context and successional pathways on bird communities following high-severity wildfire</i>	
Northwest Science Conference (Invited)	2017
<i>The influence of burn severity on bat species occurrence in post-fire landscapes</i>	
Mediterranean Ecosystems Conference (MEDECOS)	2017
<i>Shifting patterns of California fire and forest landscapes in an era of global change</i>	
Natural Areas Conference	2016
<i>The Changing Landscape of California Fire: Trends in Burn Patterns and Post-Fire Forest Heterogeneity</i>	
Universidad Mayor, Santiago, Chile (Invited)	2011
<i>Mercados de carbono: una oportunidad potencial para biodiversidad en agroecosistemas</i>	
Buenos Aires Fulbright Regional Enhancement Seminar	2011
<i>Carbon Sequestration: Risk or tool for biodiversity?</i>	
Bay Area Conservation Biology Symposium	2011
<i>Assessing species vulnerability to climate change in the Willamette Valley Ecoregion</i>	