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 Press*. "The effects of wildfire severity and pyrodiversity on bat occupancy and diversity in fire-suppressed forests." *Scientific Reports*.

Wilkins, L. G. E., K. R. Matthew, **Z. L. Steel**, S. C. Nussle, and S. M. Carlson. *In Press*. "Population dynamics of *Rana sierrae* at Dusy Basin: Influence of non-native predators, drought, and restoration potential". *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, Platyprepia 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. Ostoja, and M. North. "Climate-wise reforestation toolkit". Rshiny web application prepared for the US Forest Service, and the California Climate Hub. 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.

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 - *Tamais 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	Winter 2018
Guest Lecturer – UCD, Ecogeomorphology	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

The Influence of Burn Severity and Pyrodiversity on Bat Communities in Sierra Nevada Forests

Mediterranean Forest Ecosystems International Conference (MedPine6) 2018

Changing patterns of severe wildfire lead to bird diversity declines & community transitions in conifer forests of California, USA

Ecological Society of America Annual Meeting 2018

Bat species occupancy varies across a disturbance gradient; implications for a future of extreme wildfire events

Instituto Politécnico Nacional, CIIDIR-Unidad Oaxaca, Mexico **(Invited)** 2017.

Murcielagos en un paisaje caracterizado por incendios: Impactos en diversidad y uso de habitat

Ecological Society of America Annual Meeting 2017

The influence of spatial context and successional pathways on bird communities following high-severity wildfire

Northwest Science Conference **(Invited)** 2017

The influence of burn severity on bat species occurrence in post-fire landscapes

Mediterranean Ecosystems Conference (MEDECOS) 2017

Shifting patterns of California fire and forest landscapes in an era of global change

Natural Areas Conference 2016

The Changing Landscape of California Fire: Trends in Burn Patterns and Post-Fire Forest Heterogeneity

Universidad Mayor, Santiago, Chile **(Invited)** 2011

Mercados de carbono: una oportunidad potencial para biodiversidad en agroecosistemas

Buenos Aires Fulbright Regional Enhancement Seminar 2011

Carbon Sequestration: Risk or tool for biodiversity?

Bay Area Conservation Biology Symposium 2011

Assessing species vulnerability to climate change in the Willamette Valley Ecoregion