# Travis Woolley

*Forest and Wildland Fire Ecologist*

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## EDUCATION

M.S., Forest Science, 2006
Oregon State University — Corvallis, OR

Bachelor of Science, Natural Resources-Forest Ecosystems, 2001
Oregon State University — Corvallis, OR

## EXPERIENCE

Sept. 2013 – present

Forest Ecologist
*The Nature Conservancy*, Flagstaff, AZ

Primary role is to provide scientific leadership in forest ecology and management, focusing on developing and applying science and science-based practices integrated in a ecological forest restoration context. Works as part of cross-functional teams within The Nature Conservancy as well as with external stakeholders and collaborators to: 1) design and implement science-informed adaptive management and monitoring programs; 2) help resolve conflicting perspectives among stakeholders through the emphasis on best science practices; and 3) help accelerate and guide forest restoration through scientific publications, collaboration, building relationships, and creative problem-solving. In the course of addressing forest management issues, works on a range of related land, habitat, and water management issues and develops and applies a variety of techniques and practices that promote innovation in monitoring, modeling, and the use of information in decision-making.

June 2007 – September 2013

Faculty Research Assistant
*Oregon State University*, Corvallis, OR

Lead and perform forest health and fire ecology focused field and laboratory research by: designing research projects; collecting, managing, analyzing, and synthesizing data; writing and reviewing manuscripts, agency reports, and annual cooperative reports; organizing, reviewing, and maintaining research budgets in Forest Health program; writing, organizing, and submitting collaborative grant proposals to multiple funding agencies.

January 2006 – December 2007

Research Assistant
*Oregon State University*, Corvallis, OR

Managed data, prepared manuscripts for submission to scientific journals, communicate synthesis and analysis results to federal managers, developed website content for Swiss Needle Cast Cooperative, trained and supervised a permanent study plot field crew of two.

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| September 2002 – December 2005 | Graduate Research Assistant<br>*Oregon State University*, Corvallis, OR |

Developed and implemented a research plan examining the variability of annual tree productivity in permanent forest inventory plots. Applied standard dendrochronogical techniques to sample, process, and analyze tree cores.

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| June 2000 – September 2002 | Forest Ecology Lab/Field Assistant<br>*Oregon State University*, Corvallis, OR |

Performed a variety of field forest ecology measurements on permanent forest inventory plots including; tree demography and mortality assessment, plant cover estimation, coarse and fine woody debris, and collection of soil and litter samples. Processed woody debris, soil, and litter samples in the laboratory.

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| June 1999 – September 1999 | Timber Inventory Crew Lead<br>*Oregon State University*, Corvallis, OR |

Lead field crew performing variable radius tree plot inventory, GPS inventory, plant community identification, and rare plant surveying.

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| June 1998 – September 1998 | Timber Inventory Crew<br>*Oregon State University*, Corvallis, OR |

Participated on field crew performing variable radius tree plot inventory, GPS inventory, plant community identification, and rare plant surveying.

## PUBLICATIONS

Davis, K.T., Peeler, J., Fargione, J., Haugo, R., Metlen, K.L., Robles, M.D., Woolley, T. 2024 Tamm review: A meta-analysis of thinning, prescribed fire, and wildfire effects on subsequent wildfire severity in conifer dominated forests of the Western US. *Forest Ecology and Management 561.*

Peeler, J.L., McCauley, L., Metlen, K.., Woolley, T……and Chapman, T.B. 2023. Identifying opportunity hot spots for reducing the risk of wildfire-caused carbon loss in western US conifer forests. *Environmental Research Letters.*

Davis, K.T., Robles, M.D., Kemp, K.B.Higuera, P.E., Chapman, T., Metlen, K.L., Peeler, J.L., Rodman, K.C., Woolley, T…….and Campbell, J.L. (2023). Reduced fire severity offers near-term buffer to climate-driven declines in conifer resilience across the western United States. *Proceedings of the National Academy of Sciences 120 (11).*

Bradford, J.B., Andrews, C.A., Robles, M.D., McCauley, L.A., Woolley, T.J., Marshall, R.M. (2020). Landscape-scale restoration minimizes tree growth vulnerability to 21st century drought in a dry forest. *Ecological Applications 31(2).*

Cansler, C. Alina, Sharon M. Hood, J. Morgan Varner, Phillip J. van Mantgem…..Woolley, Travis J. 2020. The Fire and Tree Mortality Database, for empirical modeling of individual tree mortality after fire. *Scientific Data, Accepted.*

Woolley, T., Shaw, D.C., Hollingsworth, L.T., Agne, M.C., Fitzgerald, S., Eglitis, A., Kurth, L. 2019. Beyond red crowns: complex changes in surface and crown fuels and their interactions 32 years following mountain pine beetle epidemics in south-central Oregon, USA. *Fire Ecology.* 15.

McCauley, L.A., Robles, M.D., Woolley, T., Marshall, R.M., Kretchun, A., Gori, D.F. 2019. Large-scale forest restoration stabilizes carbon under climate change in Southwest United States. *Ecological Applications.* 29 (8), 1-14.

Shaw, D.C., Woolley, T., Kelsey, R.G., McPherson, B.A., Westlind, D., Wood, D.L., Peterson, E.K. 2017. Surface fuels in recent *Phytophthora ramorum* created gaps and adjacent intact *Quercus agrifolia* forests, East Bay Regional Parks, California, USA. *Forest Ecology and Management.* 384, 331-338.

Agne, M.C., Woolley, T., Fitzgerald, S. 2016. Fire severity and cumulative disturbance effects in the post-mountain pine beetle lodgepole pine forests of the Pole Creek Fire. *Forest Ecology and Management.* 366, 73-86.

Woolley, T.J., Harmon, M.E., O'Connell, K.B. 2015. Inter-annual variability and spatial coherence of net primary productivity across a western Oregon Cascades landscape. *Forest Ecology and Management.* 335, 60-70.

Ganio, L.M., Woolley, T.J., Shaw, D.S., Fitzgerald, S. 2015. The discriminatory ability of postfire tree mortality logistic regression models. *Forest Science*. 61, 344-352.

Shaw, D.S., Woolley. 2014. Vertical foliage retention in Douglas-fir trees and stands across environmental gradients of the western Oregon Coast Range influenced by foliage disease. *Northwest Science.* 88 (1), 23-32.

Woolley, T.J., Shaw, D.S., Ganio, L.M., Fitzgerald, S. 2011. A Review of Logistic Regression Models Used to Predict Post-fire Tree Mortality of Western North American Conifers. *International Journal of Wildland Fire*. 21 (1), 1-35.

Woolley, T. Shaw, D., Fitzgerald, S. Kurth, L. 2011. Mountain Pine Beetle (Dendroctonus ponderosae) and Lodgepole pine (Pinus contorta) in south-central Oregon: Fuel dynamics and consequences for fire behavior through time. In Proceedings of 3rd Fire Behavior and Fuels Conference, October 25-29, 2010, Spokane, WA. Published by the International Association of Wildland Fire, Birmingham, Alabama, USA.

Shaw, D., Woolley, T., Fitzgerald, S. 2010. The Canopy as Fuel. *International Canopy Network Newsletter.*

Woolley, T., Ganio, L.M., Shaw, D., Fitzgerald, S. 2010. A framework to evaluate post-fire tree mortality logistic models. In "The '88 Fires: Yellowstone and Beyond, Conference Proceedings. Edited by R.E. Masters, K.E.M., Galley, and D.G. Despain. Tall Timbers Miscellaneous Publication No. 16. Tall Timbers Research Station, Tallahassee, FL.

Woolley, T. Shaw, D. 2009. Editors: Swiss Needle Cast Cooperative Annual Report. 103 pages.

Davis, L., Bar-Ness, Y., Woolley, T., Shaw, D., Rolph, D. 2009. Characterization of biological diversity, structure, and composition within old-growth forest refugia and young-managed forests in the Willapa Hills, Washington. Final report to The Nature Conservancy.

Woolley, T. Shaw, D. 2008. Editors: Swiss Needle Cast Cooperative Annual Report. 96 pages.

Woolley, T.J., Shaw, D., and Hagar, J. 2007. Created Wildlife Tree Monitoring Report: Trends and Future Recommendations. Internal report to the McKenzie River Ranger District, Willamette National Forest.

Woolley, T.J., Harmon, M.E., and O'Connell, K.E. 2007. Estimating Annual Bole Biomass Production Using Uncertainty Analysis. *Forest Ecology and Management* 253, 202-210.