

Jeffrey M. Kane

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EDUCATION

Ph.D. in Forestry (2012) Northern Arizona University, School of Forestry, Flagstaff, AZ

Dissertation Title: *Patterns and processes of tree mortality in montane forests of northern Arizona*

Adviser: Dr. Thomas E. Kolb

M.S. in Forestry (2007) Humboldt State University, College of Natural Resources, Arcata, CA

Thesis Title: *Fuel loading and vegetation response to mechanical mastication fuel treatments*

Adviser: Dr. J. Morgan Varner

B.S. in Environmental Science (1998) Plattsburgh State University- Plattsburgh, NY

PROFESSIONAL EXPERIENCE (since 2005)

2017- present	Associate Professor, Humboldt State University, Arcata, CA
2012- 2017	Assistant Professor, Humboldt State University, Arcata, CA
2008- 2012	Science Foundation of Arizona Fellow, Northern Arizona University, Flagstaff, AZ
Spring 2008	Lecturer, Humboldt State University and College of the Redwoods, Arcata, CA
Fall 2005 - Fall 2007	Graduate Research Assistant, Humboldt State University, Arcata, CA

TEACHING EXPERIENCE:

2017-present	Associate Professor, Dept. Forestry and Wildland Resources, Humboldt State University
2012-2017	Assistant Professor
	FOR 222 <i>Forest Health and Protection</i> + Lab (48 Lower Core) × 1 (times taught)
	FOR 223 <i>Introduction to Wildland Fire</i> + Lab (45-48 Lower Core) × 5
	FOR 323 <i>Fire Behavior</i> + Lab (15-20 Upper/1-2 Grad) × 6
	FOR 321 <i>Fire Ecology</i> + Lab (24-48 Upper/2 Grad) × 6
	FOR 422 <i>Wildland Fire Use</i> + Lab (16 Upper/1 Grad) × 1
	FOR 423/523 <i>Wildland Fuels Management</i> + Lab (15-20 Upper/2-4 Grad) × 6
	FOR 479 <i>Wildland Fire Management Capstone</i> (4 Upper) × 1
	FOR 480/680 <i>Professional Conference Preparation</i> (1 Upper/12 Grad) × 1
	FWWS 501 <i>Research Methods and Preparation</i> (1 Upper/15-22 Grad) × 5
	ENVS 482 <i>Internship</i> (13 Upper) × 1
2010-2011	Lecturer, School of Forestry, Northern Arizona University
	FOR313/314 <i>Forest Ecology</i> (genetics and physiology section) + Lab (34 Upper)
	FOR313/314 <i>Forest Ecology</i> (disturbance and recovery section) + Lab (34 Upper)
2008	Lecturer, Department of Forestry and Wildland Resources, Humboldt State University
	FOR 315 <i>Forest Management</i> + Lab (non-majors course)
2008	Lecturer, College of the Redwoods, Arcata, CA

FOR 77 *Introduction to Wildland Fire*
 2006-2007 Teaching Assistant, Wildland Fire Studies Institute, Humboldt State University
 FOR 321 *Fire Ecology + Lab* (2×)
 FOR 479 *Forestry Capstone*
 2006 Teaching Assistant, Department of Botany, Humboldt State University
 BOT 330 *Plant Ecology Lab* (20 upper)

Invited University Guest Lectures:

Climate Change Ecosystems and People (×2, 2014), *Dendroecology* (2010, 2011), *Disturbance Ecology* (×3, 2016), *Forest Ecosystems and People* (2013), *Forest Ecology* (2014, 2016), *Forest Management* (2013), *Forest Restoration* (2016), *Human Dimensions of Natural Resources* (2015), *Introduction to Wildland Fire*, College of the Redwoods (2014, 2015, 2016), *Environmental Reporting & Multimedia Storytelling* (2017), *Silvics* (2014), *Stand Dynamics* (2010, 2011), *Trees of North America* (×2, 2010), *Forestry and Modern Society* (2008, 2013), *Wildland Fuels Management* (2007), *Wildland Restoration* (2014).

Other Invited Guest Lectures:

- National Wildland Fire Coordinating Group (NWCG) RX310-Fire Effects course (2016, 2017, 2018)
- Northern California Prescribed Fire Training Exchange (2014, 2015)

GRANTS (Total = \$2,817,100, Kane = \$1,567,062):

Funded Research Grants

USDOI National Park Service, California Cooperative Ecosystems Studies Unit (2017-2020), \$64,162.

PI: J. Kane. *Fire effects monitoring in Klamath Network Parks*.

USDA CSREES McIntire-Stennis Program (2017-2020), \$165,584, PI: A. Stubblefield Co-PI: P. Berrill, J. Kane, E. Kelly, L. Kerhoulas, S. Marshall, R. Sherriff. Project: *Evaluating oak woodland restoration in northern California* (Kane portion: \$33,166).

USDA Forest Service Pacific Southwest Research Station, Joint Venture Agreement (2017-2019), \$70,500, PI: J. Kane. Project: *Effectiveness of variable density thinning and prescribed fire for promoting resistance to drought-induced bark beetle-caused tree mortality*

California Energy Commission (2017-2019), \$1.13M PI: K. Fingerhman. Co-PI: J. Kane + 7 others. *Net atmospheric greenhouse gas emissions from forest-derived woody biomass and field residues utilization for energy generation* (Kane portion: \$109,708)

USDA Forest Service Pacific Southwest Research Station, Joint Venture Agreement (2016), \$13,495, PI: J. Kane. Project: *Long-term fire behavior and effects modeling in masticated fuelbeds*

USDOI National Park Service, California Cooperative Ecosystems Studies Unit (2016-2018), \$15,000.

PI: J. Kane. *Increasing forest resistance to drought using prescribed fire*

Joint Fire Science Program (2016-2019), PI: S. Hood, Co-PI: J. Varner, P. van Mantgem. Collaborator: J. Kane. *Mortality reconsidered: Testing and extending models of fire-induced tree mortality across the United States*

USDOI Bureau of Land Management, Stewardship Agreement (2015-2017), \$83,924. PI: D. Greene, J. Kane, M. McCavour. *Baker cypress restoration*

USDOI National Park Service, Redwood National Park (2015-2016), \$12,247. PI: J. Kane. Project: *Lower Prairie Creek fire history study*

California Agricultural Research Initiative (2015-2016), \$29,326, PI: J. Kane. Project: *Effectiveness of prescribed fire and raking to promote sugar pine resilience in the Sierra Nevada*

Humboldt State University, Research, Scholarly, and Creative Activities Fund (2015), \$4,500, PI: J. Kane, E. Jules. Project: *Assessing the risk of duff build-up for legacy pine mortality during wildfire*

DOI United States Geological Survey, Redwood Field Station (2014), \$20,000, PI: J. Kane. Project: *Long-term effects of prescribed fire on forest fuels across the western United States*

DOI Southwest Climate Science Center (2014-2016), PI: P. van Mantgem; Collaborator: J. Kane. *How does climatic stress at intermediate timescales influence fire severity?*

USDA Forest Service Pacific Southwest Research Station, Joint Venture Agreement (2013-2015), \$61,000, PI: J. Kane. Project: *Competition and vigor in old-growth sugar pine*

USDA CSREES McIntire-Stennis Program (2014-2016), \$51,950, PI: J. Kane. Project: *Tree traits along a climate and fire regime gradient*

Education Grants

USDA-NIFA Hispanic Serving Institutions Education Grant (2014-2017), \$998,084, PI: A. Stubblefield, E. Kelly, J. Kane, E. Vasquez. Project: *CAMBIO: Climate change Adaptation and Management for Biodiversity to promote Inclusion and Opportunities for Hispanic students*

NSF- Research Experience for Undergraduates (2016-2018). PI: M. Johnson. Collaborator: J. Kane. Project: *Natural Resource Science on Native American Lands*

Pending Research Proposals

NRCS (2019-2021), \$355,919, PI: Lenya Quinn-Davidson, Co-PI: Jeffrey Stackhouse, Ben Guemont, Devin McGranahan, Collaborator: J. Kane. Project: *Following fire: Integrating social and ecological models of fire management to improve range systems* (Kane Proportion: \$74,734)

Unfunded Proposals Submitted

NSF-Macrosystems Biology (2018-2020), \$299,349 PI: H. Adams, Co-PI J. Kane, S. Ferrenberg. *The relative influence of climatic stress and bark beetle attack drivers on conifer tree mortality across western North America*

Joint Fire Science Program (2018-2020), \$439,895 PI: A. Faist, Co-PI: J. Kane, D. Schwilk. *Effects of heat on soil seed bank communities and environmental influences on germination after fire.* Selected for funding but insufficient funds available to support.

NSF-Macrosystems Biology (2017-2019), \$299,349 PI: H. Adams, Co-PI J. Kane. *The relative influence of climatic stress and bark beetle attack drivers on conifer tree mortality across western North America*

USDA-AFRI (2017-2021), \$12M PI: H.-S. Han. Co-PI: Kane + 20 others. *Waste to Wisdom II: Development of a Woody Biomass Feedstock Supply Chain for Bioenergy and Bioproducts in the Southwestern US*

NSF-Geography and Spatial Science Program (2016-2019), \$343,554 PI: R. Sheriff, Co-PI: J. Kane.
Effects of 30 years of fire interactions on forest biodiversity and traditional-use plants in mixed-conifer forests of the Klamath Mountains

NSF-Division of Environmental Biology (2016-2018), preproposal, PI: J. Kane, Co-PI: R. Sherriff, E. Jules, *Using fire interactions in mixed-conifer forests of the Klamath Mountains to assess foundational plant ecology concepts*

Joint Fire Science Program (2015-2017), \$377,239, PI: R. Sherriff, Co-PI: J. Kane. *Current and future impacts of increasing fire-interactions on vegetation and fire behavior in the Klamath Mountains*

National Science Foundation Department of Environmental Biology (2015-2017), \$403,000, PI: J. Kane, Co-PI: D. Laughlin. *Trait-based forest community assembly along shifting climate and fire regime gradients*

Joint Fire Science Program (2014-2016), \$323,741, PI: J. Kane, Co-PI: J. Kreye, J. Varner. *Drivers of fuel moisture dynamics and fire behavior within masticated fuelbeds across multiple experimental scales*

PUBLICATIONS (*denotes publication by graduate student, ^sdenotes publication by undergraduate student):

Google Scholar Citation Statistics (as of 9/13/2018): Citations = 1325, H-index = 17, i10-index = 19

Peer-reviewed Publications:

37. Cailleret, M., V. Dakos, S. Jansen, E. Robert, T. Aakala, M. Amoroso, J.A. Antos, C. Bigler, H. Bugmann, M. Caccianiga, J.J. Camarero, P. Cherubini, M. R. Coyle, K. Čufar, A. Das, H. Davi, G. Gea-Izquierdo, S. Gillner, L. Haavik, H. Hartmann, A.-M. Hereş, K.R. Hultine, P. Janda, **J.M. Kane**, V. I. Kharuk, T. Kitsberger, T. Klein, T. Levanic, J. C. Linares, F. Lombardi, H. Mäkinen, I. Mészáros, J. M. Metsaranta, W. Oberhuber, A. Papadopoulos, A. M. Petritan, B. Rohner, G. Sangüesa-Barreda, D. Sarris, J.M. Smith, A. B. Stan, F. Sterck, D. B. Stojanović, M. L. Suarez, M. Svoboda, V. Trotsiuk, R. Villalba, A. R. Westwood, P. H. Wyckoff, J. Martinex-Vilalta. (*In Press*). Early-warning signals of individual tree mortality based on annual radial growth. *Frontiers in Plant Science* (accepted October 20, 2018)
36. **Kane, J.M.**, J.M. Varner, M.R. Saunders (*Available Online*). Resurrecting the lost flames of American chestnut. *Ecosystems*. DOI: 10.1007/s10021-018-0318-1
35. Stephens, S.L., **J.M. Kane**, J.D. Stuart. 2018. Chapter 10: North Coast Bioregion. In: J. W. van Wagtendonk, N. G. Sugihara, S. L. Stephens, A. E. Thode, K. E. Shaffer, and J. Fites-Kaufman. *Fire in California's Ecosystems: Second Edition, Revised*. University of California Press, Berkeley, California, USA. Pp. 149-170.
34. Collins, B., J. Miller, **J.M. Kane**, D. Fry, A.E. Thode. 2018. Chapter 6: Characterizing Fire Regimes. In: J. W. van Wagtendonk, N. G. Sugihara, S. L. Stephens, A. E. Thode, K. E. Shaffer, and J. Fites-Kaufman. *Fire in California's Ecosystems: Second Edition, Revised*. University of California Press, Berkeley, California, USA. Pp. 71-86.

33. [§]Di Mario, A.A., **J.M. Kane**, E.S. Jules. 2018. Characterizing forest floor fuels surrounding large sugar pine (*Pinus lambertiana*) in the Klamath Mountains, California. *Northwest Science* 92: 181-190.
32. *Vernon, M., R. Sherriff, P. van Mantgem, **J. Kane**. 2018. Do fuel treatments promote resistance to multi-year drought in a mixed-conifer forest of northern California. *Forest Ecology and Management* 422: 190-198. DOI: 10.1016/j.foreco.2018.03.043
31. Kreye, J.K., J.M. Varner, G. Hamby, **J.M. Kane**. 2018. Mesophytic litter dampens flammability in pyrophytic oak-hickory woodlands. *Ecosphere* 9: e02078. DOI: 10.1002/ecs2.2078
30. *Grabinski, Z.S., R.L. Sherriff, **J.M. Kane**. 2017. Controls of reburn severity vary with fire interval in the Klamath Mountains, California, USA. *Ecosphere* 8: e02012. DOI: 10.1002/ecs2.2012
29. **Kane, J.M.**, J.M. Varner, M.R. Metz, P.J. van Mantgem. 2017. Characterizing interactions between fire and other disturbances and the impacts on tree mortality in western U.S. forests. *Forest Ecology and Management* 405: 188-199. DOI: 10.1016/j.foreco.2017.09.037
28. Adams, H.D., M. J.B. Zeppel, W.R.L. Anderegg, H. Hartmann, S.M. Landhäusser, D.T. Tissue, T.E. Huxman, P.J. Hudson, T.E. Franz, C.D. Allen, L.D.L. Anderegg, G.A. Barron-Gafford, D.J. Beerling, D.D. Breshears, T.J. Brodribb, H. Bugmann, R.C. Cobb, A.D. Collins, L.T. Dickman, H. Duan, B.E. Ewers, L. Galiano, D.A. Galvez, N. Garcia-Forner, M.L. Gaylord, M.J. Germino, A. Gessler, U.G. Hacke, R. Hakamada, A. Hector, M.W. Jenkins, **J.M. Kane**, T.E. Kolb, D.J. Law, J.D. Lewis, J.M. Limousin, A.K. Macalady, J. Martínez-Vilalta, M. Mencuccini, P. J. Mitchell, J.D. Muss, M.J. O'Brien, A.P. O'Grady, R.E. Pangle, E.A. Pinkard, F.I. Piper, J.A. Plaut, W.T. Pockman, J. Quirk, K. Reinhardt, F. Ripullone, A. Sala, S. Sevanto, J.S. Sperry, R. Vargas, M. Vennetier, D.A. Way, C. Xu, E.A. Yezpez, N.G. McDowell. 2017. A multi-species synthesis of physiological mechanisms in drought-induced tree mortality. *Nature Ecology & Evolution*. DOI: 10.1038/s41559-017-0248-x
27. *Slack, A.W., **J.M. Kane**, E.E. Knapp, R.L. Sherriff. 2017. Contrasting impacts of climate and competition on large sugar pine growth and defense in a fire-excluded, mixed-conifer forest of the central Sierra Nevada. *Forests* 8: 244. DOI: 10.3390/f8070244
26. **Kane, J.M.**, P.J. van Mantgem, L.B. Lalemand, M. Keifer. 2017. Higher sensitivity and lower specificity in post-fire mortality model validation of eighteen western U.S. tree species. *International Journal of Wildland Fire* 26:444-445. DOI: 10.1071/WF16081
25. Cailleret, M., S. Hansen, E. M. R. Robert, L. Desoto, T. Aakala, J. A. Antos, B. Beikircher, C. Bigler, H. Bugmann, M. Caccianiga, V. Čada, J.J. Camarero, P. Cherubini, H. Cochard, M. R. Coyea, K. Čufar, A. Das, H. Davi, S. Delzon, M. Dorman, G. Gea-Izquierdo, S. Gillner, L. Haavik, H. Hartmann, A.-M. Hereş, K.R. Hultine, P. Janda, **J.M. Kane**, V. I. Kharuk, T. Kitsberger, T. Klein, K. Kramer, F. Lens, T. Levanic, J. Carlos Linares Calderon, F. Lloret, R. Lobo-Do-Vale, F. Lombardi, R. López Rodríguez, H. Mäkinen, S. Mayr, I. Mészáros, J. M. Metsaranta, F. Minunno, W. Oberhuber, A. Papadopoulos, M. Peltoniemi, A. M. Petritan, B. Rohner, G. Sangüesa-Barreda, D. Sarris, J.M. Smith, A. B. Stan, F. Sterck, D. B. Stojanović, M. L. Suarez, M. Svoboda, R. Tognetti, J. M. Torres-Ruiz, V. Trotsiuk, R. Villalba, F. Vodde, A. R. Westwood,

- P. H. Wyckoff, N. Zafirov, J. Martinex-Vilalta. 2017. A synthesis of radial growth patterns preceding tree mortality. *Global Change Biology* 23:1675-1690. DOI:10.1111/gcb.13535
24. van Mantgem, P.J., L.B. Lalemand, M. Keifer, **J.M. Kane**. 2016. Duration of fuels reduction following prescribed fire in coniferous forests of U.S. national parks in California and the Colorado plateau. *Forest Ecology and Management* 379:265-272. DOI:10.1016/j.foreco.201607028.
 23. Kreye, J.K., J.M. Varner, **J.M. Kane**, E.E. Knapp, W.P. Reed. 2016. The impact of fuelbed aging on laboratory fire behaviour in masticated woody fuels. *International Journal of Wildland Fire* 12(2): 48-64. DOI: 10.1071/WF15214
 22. *Livingston, A.C., J.M. Varner, E.S. Jules, **J.M. Kane**, L.A. Arguello. 2016. Prescribed fire and conifer removal promote positive understory vegetation responses in *Quercus garryana* woodlands. *Journal of Applied Ecology* 53:1604-1612. DOI: 10.1111/1365-2554.12703
 21. Varner, J.M., **J.M. Kane**, J.K. Hiers, J.K. Kreye, J.W. Veldman. 2016. Suites of fire-adapted traits in the southeastern USA oaks: multiple strategies for persistence in fire-prone environments. *Fire Ecology* 12(2):48-64. DOI:10.4996/fireecology.1202048
 20. *Slack, A.W., ^sN.E. Zeibig-Kichas, **J.M. Kane**, J.M. Varner. 2016. Contingent resistance in longleaf pine (*Pinus palustris*) growth and defense 10 years following smoldering fires. *Forest Ecology and Management* 364:130-138. DOI: 10.1016/j.foreco.2016.01.014
 19. Varner, J.M., **J.M. Kane**, J.K. Kreye, E. Engber. 2015. The flammability of forest and woodland litter: A synthesis. *Current Forestry Reports* 1:91-99. DOI: 10.1007/s40725-015-0012-x
 18. Ferrenberg, S., **J.M. Kane**, J.M. Langenhan. 2015. To grow or defend? Pine seedlings grow less but induce more anatomical defenses when key resources are limited. *Tree Physiology* 35: 107-111. DOI: 10.1093/treephys/tpv015
 17. **Kane, J.M.**, ^sL.F. Dugi, T.E. Kolb. 2015. Establishment and growth of piñon pine regeneration vary by nurse type along a soil substrate age gradient in northern Arizona. *Journal of Arid Environments* 115: 113-119. DOI: 10.1016/j.jaridenv.2015.01.011
 16. **Kane, J.M.**, T.E. Kolb. 2014. Short- and long-term growth characteristics associated with tree mortality in southwestern mixed-conifer forests. *Canadian Journal of Forest Research* 44: 1227-1235. DOI: 10.1139/cjfr-2014-0186
 15. **Kane, J.M.**, T.E. Kolb, J.D. McMillin. 2014. Stand-scale tree mortality factors differ by site and species following drought in southwestern mixed conifer forests. *Forest Ecology and Management* 330: 171-182. DOI: 10.1016/j.foreco.2014.06.042
 14. Varner, J.M., **J.M. Kane**, E.M. Banwell, J.K. Kreye. 2014. Flammability of litter from southeastern trees: A preliminary assessment. In: Haywood, J.D. (ed.) Proceedings of the 17th Southern Silvicultural Research Conference. USDA Forest Service, Southern Research Station, Asheville, NC.

13. Ferrenberg, S, **J.M. Kane**, J.B. Mitton. 2014. Resin duct counts assess tree-resistance to bark beetles across lodgepole (*Pinus contorta*) and limber (*Pinus flexilis*) pine. *Oecologia* 174:1283-1292. DOI:10.1007/s00442-013-2841-2
12. Anderegg, W.R.L., **J.M. Kane**, L.D.L. Anderegg. 2013. Consequences of widespread tree mortality triggered by drought and temperature stress. *Nature Climate Change* 3: 30-36. DOI:10.1038/NCLIMATE1635
11. Looney, C.E., B.W. Sullivan, T.E. Kolb, **J.M. Kane**, S.C. Hart. 2012. Effects of water addition on pinyon pine (*Pinus edulis*) water relations, growth, and mortality across a three million year old soil age gradient in northern Arizona, USA. *Plant and Soil* 357: 89-102. DOI:10.1007/S11104-012-1150-6.
10. Kerhoulas, L.P., **J.M. Kane**. 2012. Sensitivity of ring growth and carbon allocation to climatic variation vary within ponderosa pine trees. *Tree Physiology* 32: 14-23. DOI:10.1093/treephys/tpr112
9. DeFalco, L.A, T.C. Esque, M.B. Nickles, **J.M. Kane**. 2012. Supplementing seed banks to rehabilitate disturbed Mohave desert shrubland: where do all the seeds go? *Restoration Ecology* 20: 85-94. DOI:10.1111/j.1526-100X.2010.00739.x
8. **Kane, J.M.**, K.A. Meinhardt, T. Chang, B.L. Cardall, R. Michalet, T.G. Whitham. 2011. Drought-induced mortality of a foundation species (*Juniperus monosperma*) promotes positive afterlife effects in understory vegetation. *Plant Ecology* 212: 733-741. DOI:10.1007/s11258-010-9859-x
7. **Kane, J.M.**, T.E. Kolb. 2010. Importance of resin ducts in reducing ponderosa pine mortality from bark beetle attack. *Oecologia* 164: 601-609. DOI:10.1007/s00442-010-1683-4
6. **Kane, J.M.**, J.M. Varner, E.E. Knapp, R.F. Powers. 2010. Initial vegetation response to mechanical mastication treatments in a northern Sierra Nevada ponderosa pine forest. *Applied Vegetation Science* 13: 207-220. DOI:10.1111/j.1654-109X.2009.01062.x
5. **Kane, J.M.**, J.M. Varner, E.E. Knapp. 2009. Fuel loading in mechanically masticated fuelbeds in northern California and southwestern Oregon. *International Journal of Wildland Fire* 18: 686-697. DOI:10.1071/WF08072
4. DeFalco, L.A, T.C. Esque, **J.M. Kane**, M.B. Nickles. 2009. Seed banks in a degraded desert shrubland: Influence of soil surface condition and harvester ant activity on seed abundance. *Journal of Arid Environments* 20: 85-94. DOI:10.1016 /j.jaridenv.2009.04.017
3. **Kane, J.M.**, J.M. Varner, J.K. Hiers. 2008. The burning characteristics in southeastern oaks: Discriminating fire facilitators from fire impiders. *Forest Ecology and Management* 258: 2039-2045. DOI:10.1016/j.foreco.2008.07.039
2. Knapp, E.E., D.W. Schwilk, **J.M. Kane**, J.E. Keeley. 2007. Role of burning season on initial understory vegetation response to prescribed burning in a mixed conifer forest. *Canadian Journal of Forest Research* 37: 11-22. DOI:10.1139/X06-200

1. **Kane, J.M.**, E.E. Knapp, J.M. Varner. 2006 Variability in fuel loading of mechanically masticated fuel beds in Northern California and Southwestern Oregon. In: Andrews, P.L.; Butler, B.W. comps. 2006. Fuels Management- How to Measure Success: Conference Proceedings. 28-30 March; Portland, OR. Proceeding RMRS-P-41. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

Publications Submitted:

- DeSoto, L. et al. *In Review*. On the relationship between growth resilience to drought and future mortality risk in trees. *Nature Communications* (Submitted December 2nd 2018)
- Batlloori, E. et al. *In Review*. A global assessment of forest replacement patterns following drought-induced mortality events. *Nature Climate Change* (Submitted December 17th 2018)

Publications in Preparation:

- Kreye, J.K., J.M. Kane, J.M. Varner, J.K. Hiers. *In prep*. Radiant heating increases flammability of pine and oak litter via altered moisture dynamics. *Fire Ecology* (anticipated submission December 2018)
- *Slack, A.W., **J.M. Kane**, E.E. Knapp. *In prep*. Large sugar pine mortality models informed by growth, defense, and competition in a fire-excluded forest of the central Sierra Nevada. *Trees?* (Anticipated submission December 2018).
- Stevens, J.T., M. Kling, D. Schwilk, J.M. Varner, **J.M. Kane**. The biogeography of forest fire regimes: a trait-based approach.
- McNamara, B., J.M. Kane. Fuel succession in a rare California closed cone conifer. *Fire Ecology* (anticipated submission January 2018)
- Kane, J.M.**, Varner, J.M., M.C. Stambaugh, M.R. Saunders. *In prep*. Reconsidering the fire ecology of the iconic American chestnut. *Ecology* (anticipated submission January 2018)
- van Mantgem, P.J., L.B. Lalemand, M. Keifer, **J.M. Kane**. *In prep*. Long-term effects of prescribed fire on forest carbon stocks in coniferous forests of U.S. national parks in California and the Colorado Plateau. *Fire Ecology*

Reports and Other Publications:

- Kane, J.M.**, N. Prat Guitart 2018. Fuel Moisture. Encyclopedia of Wildfires and Wildland Urban Interface Fires. Springer
- Kane, J.M.**, E.A. Engber 2017. Fire history of coast redwood forests in Lower Prairie Creek, Redwood National Park. Final report submitted to Redwood National Park. February 2017.
- Kane, J.M.** 2015. *Prescribed Fire*. Encyclopaedia Britannica
<http://www.britannica.com/topic/prescribed-fire>

Kane, J.M. 2012. A review of America's Fires and Fire in the Forest. *Restoration Ecology*. 20: 286-287.

Kane, J.M., S.K. Heath, B. Kuhn. 2006. Non-native vascular plant inventory of riparian areas in Yosemite National Park, California. Final report submitted to Yosemite National Park and Sierra Nevada Inventory and Monitoring Network. January 2006. PRBO contribution #1335.

DeFalco, L., **J. Kane**, M. Nickles, T. Esque. 2005. Assessment of seed banks associated with disturbances at Fort Irwin National Training Center, California. Final Report prepared for the Integrated Training Area Management. September 2005.

PROFESSIONAL PRESENTATIONS

(* denotes presentation by graduate student, §denotes presentation by undergraduate student)

Oral Presentations ^(§denotes invited presentation)

¹**Kane, J.M.** Ecological insights of litter flammability traits in southeastern US tree species. 2018 Carlton N. Owens lecture series. Mississippi State University, Starkville, Mississippi. November 29th, 2018.

*Bernal, A., **Kane, J.M.**, Knapp, E.E. Spatial patterns and mechanisms of bark beetle-caused mortality following variable density thinning and prescribed fire treatments in a central Sierra mixed-conifer forest. 2018 California Forest Pest Council Annual Meeting. November 13th, 2018.

Kane, J.M., M. Wright, D.F. Greene. Ecoregional differences in reburn patterns of California wildfires. The Fire Continuum Conference. Missoula, MT, May 21st-24th, 2018.

Kane, J.M. Fuel management strategies to reduce wildfire impacts in California's coastal ranges. Living with fire in California's coast ranges: promoting fire-resilient communities and landscapes in an era of global change. Rohnert Park, CA, May 7th-9th, 2018.

Kreye, J.K., J.K. Hiers, J.M. Varner, J.M. Kane. Observations of fine-scale moisture dynamics and flammability in pine and oak litter: Solar heating, fuel position, and heating all matter. The Fire Continuum Conference. Missoula, MT, May 21st-24th, 2018.

Kreye, J.K., J.M. Varner, G. Hamby, **J.M. Kane**. Impacts of species composition on litter flammability: a potential role in the mesophication of eastern US hardwood forests. 7th International Fire Ecology and Management Congress. Orlando, FL, Nov. 2nd-Dec. 2nd, 2017.

*McNamara, B., **J.M. Kane**, D.F. Greene. Post-fire fuel succession patterns in Baker cypress forests. 7th International Fire Ecology and Management Congress. Orlando, FL, Nov. 2nd-Dec. 2nd, 2017.

Kane, J.M., E. Strand. An overview of the JFSP Graduate Research INnovation grant program. 7th International Fire Ecology and Management Congress. Orlando, FL, Nov. 2nd-Dec. 2nd, 2017.

E. Strand, **J.M. Kane**. Closing remarks: GRIN values beyond the award. 7th International Fire Ecology and Management Congress. Orlando, FL, Nov. 2nd-Dec. 2nd, 2017.

Kane, J.M., *A.W. Slack. Examining the role of climate and competition on resin duct defenses: implications for tree mortality. Ecological Society of America Conference, Portland, OR. August 6-11th, 2017.

Kane, J.M., Z. Grabinski, R. Sherriff. Controls of fire severity in repeat fires vary with fire interval in the Klamath Mountains. Klamath Fire Ecology Symposium, Orleans, CA, May 10-12th, 2017.

Kane, J.M., *B. McNamara, D.F. Greene, M.J. McCavour. Considering prescribed fire management in a closed-cone conifer forest, Northern California Prescribed Fire Council Annual Meeting, Petaluma, CA, March 7-8th, 2017

Greene, D.F., M.J. McCavour, **J.M. Kane**. Facultative serotiny. Natural Areas Annual Conference, Davis, CA, October 18-20th, 2016.

- Kane, J.M.**, A. Carroll, E. Engber, S. Sillett. Assessing climate-fire history relationships in coast redwood forests. Coast Redwood Science Symposium, Eureka, CA. September 13-15, 2016.
- Kane, J.M.**, J. Teraoka, E. Engber, S. Powell. Long-term fuel dynamics following repeated restoration thinning treatments in a second-growth coast redwood forest: a case study. Coast Redwood Science Symposium, Eureka, CA. September 13-15, 2016.
- Kane, J.M.**, P.J. van Mantgem, L.L. Lalemand, M. Keifer. Post-fire tree mortality model assessment following prescribed burning treatments in National Park units of the Western U.S. 5th Fuels and Fire Behavior Conference, Portland, OR. April 11-15, 2016.
- Kane, J.M.**, P.J. van Mantgem, L.L. Lalemand. Post-fire tree mortality model assessment following prescribed burning treatments in National Park units of the Western U.S. 6th International Fire Ecology and Management Congress, San Antonio, TX. November 16-20, 2015.
- Saunders, M., E. Belair, M. Jenkins, S. Clark, **J.M. Kane**, J.M. Varner. Prescribed fire and American chestnut restoration: Are they compatible? 5th Fire in Eastern Oak Forests Conference, Tuscaloosa, AL. May 27-20th, 2015.
- Kane, J.M.** Consequences of drought-induced forest mortality and disturbance interactions. California Forest Pest Council Annual Meeting, Sacramento, CA. November 12-13th, 2014.
- Kane, J.M.**, S. Ferrenberg. Bark beetle resistance in trees associated with increased resin duct allocation: cumulative support from four western U.S. pine species. 99th Ecological Society of America Conference, Sacramento, CA. August 11-15th, 2014.
- Kane, J.M.**, J.M. Varner, P.J. van Mantgem, M.R. Metz. Potential patterns and mechanisms of altered disturbance interactions with fire: implications for tree mortality. AFE/IAWF Large Fires Conference May 19-23rd, 2014.
- Kane, J.M.** Klamath Mountains as a learning landscape to engage students in fire science research and management. 2014 Klamath Fire Ecology Symposium, Orleans, CA. April 15-17th, 2014.
- Kane, J.M.**, J.K. Kreye, J.M. Varner, E.E. Knapp. A scientific update on the effectiveness and impact of mechanical mastication treatments. Local Issues, Local Science: Emerging fire science research and approaches in the North Coast. CA Fire Science Consortium Workshop. Humboldt State University, Arcata CA. March 21st, 2013.
- Varner, J.M., J.K. Kreye, **J.M. Kane**. Correlated fire-adapted traits in southeastern USA oaks. 5th International Fire Ecology and Management Congress, Portland, OR. December 3-7, 2012.
- Kane, J.M.**, M.R. Metz, P.J. van Mantgem, J.M. Varner. 2012. Exacerbated synergisms: the potential impacts of increased interactions between fire and other disturbances on tree mortality. 5th International Fire Ecology and Management Congress, Portland, OR. December 3-7, 2012.
- Kane, J.M.** 2012. Climate change, fire, and tree death: Positive feedbacks and its potential consequences to wildlife. Humboldt State University, Department of Wildlife's EcoSeries Seminar, November 1st, 2012.
- Kane, J.M.** 2012. Facts and myths of the free fire movement: Implications for the future of prescribed fire. Northern California Prescribed Fire Council Meeting, South Lake Tahoe, CA. November 8-9, 2012.
- Kane, J.M.** 2012. Pinyon pine and juniper mortality impact understory vegetation and pinyon pine juvenile growth. 97th Ecological Society of America Conference, Portland, OR. August 6-10, 2012.
- Kane, J.M.**, T.E. Kolb. 2011. Patterns and processes of tree mortality on the Colorado Plateau. 11th Biennial Conference on the Colorado Plateau. Flagstaff, AZ. Oct 24-27, 2011
- Kane, J.M.**, T.E. Kolb. 2011. Site and species differences in tree mortality within mixed-conifer forests of northern Arizona. 96th Ecological Society of America Conference, Austin, TX. August 7-11, 2011.

- Kane, J.M.**, T.E. Kolb, and B.E. Sullivan. 2011. Carbon allocation to growth and defense structures along a soil age gradient. Pinyon Pine Ecology Symposium, Flagstaff, AZ. March 30th, 2011.
- Kane, J.M.**, T.E. Kolb. 2010. Importance of resin ducts in reducing ponderosa pine mortality from bark beetle attack. 61st Western Forest Insect Work Conference, Flagstaff, AZ. April 5-8, 2010.
- Kane, J.M.**, J.M. Varner, and J.K. Hiers. 2009. Differential burning characteristics in southeastern *Quercus* spp. litter. Discriminating fire facilitators from fire impiders. 4th International Fire Ecology and Management Congress, Savannah, GA. December 2-5, 2009.
- Kane, J.M.**, J.M. Varner, and E.E. Knapp. 2007. Initial understory vegetation response to mechanical mastication fuel treatments. 92nd Ecological Society of America annual meeting, San Jose, CA. August 5-10, 2007.
- Kane, J.M.**, J.M. Varner, and E.E. Knapp. 2006. Initial understory vegetation response to mechanical mastication fuel treatments. 3rd International Fire Ecology and Management Congress, San Diego, CA November 13-17, 2006.
- Kane, J.M.** and E.E. Knapp. 2002. Entomological studies in the FFS plots at Sequoia. Fire and Fire Surrogate Study at Sequoia National Park – Symposium I. Beetle Rock Education Center, Sequoia National Park. Aug. 22, 2002.
- Kane, J.M.** and S.M. Hermann. 2000. Population structure and reproductive traits in *Trillium underwoodii*. Association of Southeastern Biologists Bulletin 47: 145.

Poster Presentations (* denotes presentation by graduate student, ⁵ denotes presentation by undergraduate student)

- Kreye, J.K., **J.M. Kane**, J.M. Varner, G. Hamby, J.K. Heirs. Effect of radiative heating on litter flammability. 7th International Fire Ecology and Management Congress. Orlando, FL, Nov. 2th-Dec. 2nd, 2017.
- *Rios, L., **J.M. Kane**. Effects of prescribed fire season on *Pinus lambertiana* growth and defense in Sequoia and Kings Canyon National Park. 7th International Fire Ecology and Management Congress. Orlando, FL, Nov. 2th-Dec. 2nd, 2017.
- *Martorano, C., **J.M. Kane**. Variability of surface fuels in conifer-encroached oak woodlands of Humboldt County, California. 7th International Fire Ecology and Management Congress. Orlando, FL, Nov. 2th-Dec. 2nd, 2017.
- *Bernal, A., **J.M. Kane**, E. Knapp. The effectiveness of variable density thinning and prescribed fire in promoting resistance to drought- induced bark beetle mortality. 7th International Fire Ecology and Management Congress. Orlando, FL, Nov. 2th-Dec. 2nd, 2017.
- McCavour, M.J., D.F. Greene, **J.M. Kane**. Faculative serotiny. Society of American Foresters conference, Albuquerque, N.M. November 13th-18th, 2017.
- *Barela-Nystrom, A., **J.M. Kane**, L. Richmond. Revitalizing Yurok Ethnoforestry: Utilizing ecology and oral history to assess the role of fire on pepperwood (*Umbellularia californica*) flower and fruit production. Klamath Fire Ecology Symposium, Orleans, CA, May 10-12th, 2017.
- Stubblefield, A., E.C. Kelly, **J.M. Kane**, G. Ortiz-Lombardo. CAMBIO: Adapting to a changing student demographic with experiential learning and research opportunities related to forests, rangelands, and watersheds. USDA-NIFA Hispanic Serving Institute Project Directors Meeting, Albuquerque, NM. February, 2017.
- *Rios, L., **J.M. Kane**. Effects of prescribed fire season on sugar pine growth and defense in Sequoia and Kings Canyon National Park. USDA-NIFA Hispanic Serving Institute Project Directors Meeting, Albuquerque, NM. February, 2017.
- *Rios, L., **J.M. Kane**. Effects of prescribed fire season on sugar pine growth and defense in Sequoia and Kings Canyon National Park. Third Southwest Fire Ecology Conference, Tucson, Arizona. November 28-December 2nd, 2016.

- *McNamara, B., D.F. Greene, **J.M. Kane**, M.J. McCavour. Post-fire seedling establishment patterns of *Hesperocyparis bakeri*. Third Southwest Fire Ecology Conference, Tucson, Arizona. November 28-December 2nd, 2016. **Recipient of the Outstanding Student Poster Award**
- §Bradley, T. and **J.M. Kane**. Litter flammability of American chestnut forests. Humboldt State University Undergraduate Scientific Research Symposium. Arcata, CA. October 19th, 2016.
- *Glebocki, R., R. Sherriff, **J.M. Kane**, J.M. Varner, D.H. LaFever. Fuel loading and moisture dynamics in thinned coast redwood – Douglas-fir forests in Headwaters Forest Reserve, California. Coast Redwood Science Symposium, Eureka, CA. September 13-15, 2016.
- §Harris, C., §W. Sinclair, §H. Huynh, §T. Knott, **J.M. Kane**, D.F. Greene. Baker cypress seed viability in relation to cone age. 3rd Annual Humboldt State University IdeaFest, Arcata, CA. April 21st, 2016.
- §DiMario, A.A., **J.M. Kane**, E. Jules. Characterizing forest floor fuels surrounding large sugar pine. 3rd Annual Humboldt State University IdeaFest, Arcata, CA. April 21st, 2016.
- McCavour, M.J., D.F. Greene, **J.M. Kane**. Ecological restoration plan for the Baker Cypress (*Hesperocyparis bakeri*) in the Upper Burney Creek Baker Cypress Research Natural Area of California. Society for Ecological Restoration Regional Conference, Portland, OR. April 4-8, 2016.
- Stubblefield, A., E.C. Kelly, **J.M. Kane**. CAMBIO: Adapting to a changing student demographic with experiential learning and research opportunities related to forests, rangelands, and watersheds. USDA-NIFA Hispanic Serving Institutes Conference, Washington, DC. December 7-9, 2015.
- *Slack, A.W., **J.M. Kane**, E.E. Knapp. The role of growth, defense and competition on sugar pine (*Pinus lambertiana*) mortality in a fire excluded old-growth forest of the Sierra Nevada 6th International Fire Ecology and Management Congress, San Antonio, TX. November 16-20, 2015.
- §Zeibig-Kichas, N.E., A.W. Slack, **J.M. Kane**, E.E. Knapp. The importance of resin duct production on increased sugar pine (*Pinus lambertiana*) resin flow in an old-growth forest in the Sierra Nevada. 2015 Undergraduate Scientific Research Symposium, Humboldt State University, Arcata, CA. October 16th, 2015.
- *Slack, A.W., §N.E. Zeibig-Kichas, **J.M. Kane**, E.E. Knapp. Increased competition related to fire exclusion limits sugar pine growth in a Sierra Nevada old-growth forest. 2nd Annual Humboldt State University IdeaFest, Arcata, CA. April 17th, 2015.
- §Zeibig-Kichas, N.E., *Slack, A.W., **J.M. Kane**, E.E. Knapp. The importance of resin duct production on increased sugar pine (*Pinus lambertiana*) resin flow in an old-growth forest in the Sierra Nevada. 2nd Annual Humboldt State University IdeaFest, Arcata, CA. April 17th, 2015.
- Stubblefield, A., E.C. Kelly, **J.M. Kane**, E. Vasquez. CAMBIO: Adapting to a changing student demographic with experiential learning and research opportunities related to forests, rangelands, and watersheds. USDA-NIFA Hispanic Serving Institute Project Directors Meeting, Miami, FL. December 7-9, 2014.
- *Slack, A.W., §N.E. Zeibig-Kichas, **J.M. Kane**, J.M. Varner. Smoldering duff fire impacts on longleaf pine growth and defense. 99th Ecological Society of America Conference, Sacramento, CA. August 11-15, 2014.
- *Johnston, K.M., **J.M. Kane**, C. Dugaw. Intraspecific variation in climate- and fire-related functional traits among northwestern California tree species: a preliminary analysis. AFE/IAWF Large Fires Conference May 19-23, 2014.
- Kane, J.M.**, T.E. Kolb. Resin duct production and size predict mortality in ponderosa pine trees in northern Arizona. 94th Ecological Society of America annual meeting, Albuquerque, NM. Aug. 2-7, 2009.

- Kane, J.M.**, T.E. Kolb. Resin duct production and size predict mortality in ponderosa pine trees in northern Arizona. Association of American Geographers Annual Meeting, Las Vegas, NV. Mar. 22-27, 2009.
- Kane, J.M.**, T.E. Kolb. Resin duct production and size predict mortality in ponderosa pine trees in northern Arizona. Science Foundation of Arizona, Grand Challenges Summit, Biosphere 2, Oracle, AZ. Mar. 27-29, 2009.
- Kane, J.M.**, J.M. Varner, and J.K. Hiers. Differential burning characteristics in southeastern *Quercus* spp. litter: Implications for restoration of longleaf pine forests. 92nd Ecological Society of America annual meeting, San Jose, CA. August 5-10, 2007.
- Kane, J.M.**, J.M. Varner, and E.E. Knapp. Methodological analysis of estimating fuel loading in machine masticated areas. North Coast Regional Graduate Conference, Humboldt State University, Arcata, CA. Feb. 22-23, 2007.
- Kane, J.M.**, J.M. Varner, E.E. Knapp. Variability in fuel loading of mechanically masticated fuel beds: a preliminary analysis. 1st Fire Behavior and Fuels Conference. Portland, OR.
- Hermann, S.M., **J.M. Kane** and H. Kessler. Reproductive allometry in *Trillium underwoodii*. XVI International Botanical Congress-Abstracts. July 12, 1999.

Conference Activities

- The Fire Continuum Conference, Missoula, MT (2018)
- Moderator for *Prescribed Fire* contributed session
- 7th International Fire Ecology and Management Congress. Orlando, FL (2017)
- Special Session: Stoking the flames for the next generation of Fire Scientists (Co-organized with Eva Strand)
 - Fire Circle: A conversation on how to write a successful GRIN (Graduate Research Innovation) proposal (Co-organized with Eva Strand)
- 3rd Association of Fire Ecology, Southwest Fire Ecology Conference, Tucson, AZ (2016).
- Student poster award judge
- 99th Ecological Society of America Conference, Sacramento, CA (2014)
- Presider for *Climate Change: Communities* contributed oral session
- 97th Ecological Society of America Conference, Portland, OR (2012)
- “Ecological consequences of climate and infestation-caused tree mortality: Effects on organisms and processes from local to global scales” (Co-organizer with H. Adams, N. McDowell)
 - Presider for *Fire* contributed oral session
- 61st Western Forest Insect Work Conference, Flagstaff, AZ (2010) “Tree mortality processes” (Co-organizer with M. Gaylord, T. Kolb)

MENTORING

Research Associates (1)

Micah Wright (2017)- M.S. Colorado State University

Graduate Committee Chair

Graduated (2):

Bret McNamara (Natural Resources (NR)- Forest, Watershed, and Wildland Sciences; MS Spring 2018)
 Andrew Slack (NR- Forest, Watershed, and Wildland Sciences; MS Fall 2016)

Current (3):

Kevin Burns (NR - Forest, Watershed, and Wildland Sciences; MS *expected* 2017)
Alexis Bernal (NR- Forest, Watershed, and Wildland Sciences; MS *expected* 2019)
Caroline Martorano (NR- Forest, Watershed, and Wildland Sciences; MS *expected* 2019)

Graduate Committee Membership

Graduated (16):

Laura Lalemand (NR- Forest, Watershed, and Wildland Sciences; MS Spring 2018)
Michael Vernon (NR- Forest, Watershed, and Wildland Sciences; MS Summer 2017)
Laura Morgan (Biology; MS Summer 2017)
Ben Iberle (NR - Forest, Watershed, and Wildland Sciences; MS Fall 2016)
Melissa Kimble (NR- Environmental Science; MS Summer 2016)
Joel Bisson (NR- Forest, Watershed, and Wildland Sciences; MS Spring 2016)
Jennell Jackson (Biology; MS Spring 2016)
Emily Ferrell (NR - Environmental Science; MS Fall 2015)
Heesung Woo (NR- Forest, Watershed, and Wildland Sciences; MS Fall 2015)
Zawisa Grabinski-Parker (NR - Forest, Watershed, and Wildland Sciences; MS Summer 2015)
Radoslaw Glebocki (NR - Forest, Watershed, and Wildland Sciences; MS Summer 2015)
Madelinn Schriver (NR - Forest, Watershed, and Wildland Sciences; MS Spring 2015)
Melissa DeSiervo (Biology; MS Fall 2014)
Adrian Frediani (NR - Forest, Watershed, and Wildland Sciences; MS Spring 2014)
Robert Howe (NR - Forest, Watershed, and Wildland Sciences; MS Spring 2014)
Amy Livingston (NR - Forest, Watershed, and Wildland Sciences; MS Spring 2014)

Current (2):

Jill Beckmann (NR- Forest, Watershed, and Wildland Sciences; MS *expected* 2018)
Gabriel Goff (NR- Forest, Watershed, and Wildland Sciences; MS *expected* 2019)

Undergraduate Student Research Assistants/Interns

Humboldt State University (33)

2018: A. Abregado, E. Hoeft, M. Lopez, C. Nichols, A. Thibault – paid assistants **2017:** T. Bradley – volunteer, B. Henry, J. Avitia - paid assistants, **2016:** J. Dorman, C. Harris, A. Williams, E. Luckens – paid assistants, T. Bradley- REU student, C. Durran- independent study, **2015:** A. Di Mario – paid assistant, M. G. D. Dos Santos, P. C. Neves, I. Pfutz, E. R. Oliverio - Interns, A. Shearer- paid assistant, J. Andersen, M. Volmer- volunteer, J. Wright, G. Gradillas, K. Dedrick-independent study, S. Fleming-Morrison –volunteer **2014:** M. Vossmer-volunteer, N. Ziebig-Kichas-volunteer/paid assistant, C. Campbell-volunteer/paid assistant, C. Gregory-independent study, M. Kennedy-volunteer **2013:** M. Vogelevolunteer-independent study, B. Hunter-volunteer.

Northern Arizona University (4)

F. Dugi (2011)-REU student (Navajo Technical College), B. Dechant (2009-2011)-paid assistant, D. Carlson (2010-2011)-paid assistant, D. Kennedy (2011)-paid assistant.

SERVICE

Professional Service

Associate Editor for *Fire Ecology* (2015- present)

Journal Reviewer (40 total, 36 since 2012)

Agricultural and Forest Meteorology (2016), *Applied Vegetation Science* (2012), *Arizona-Nevada Academy of Science* (2014), *Dendrochronologia* (2013), *Ecological Applications* (2014), *Ecological Engineering* (2014), *Ecosystems* (2015), *European Journal of Forest Research* (2014), *Fire Ecology* (2009, 2013, 2014, 2016), *Forest Ecology and Management* (2011, 2012, 2015, 2016 × 2, 2017 × 2, 2018), *Forests* (2011, 2014), *Global Change Biology* (2016), *International Journal of Wildland Fire* (2014, 2016, 2017, 2018 × 2), *Journal of Applied Ecology* (2012), *New Phytologist* (2013, 2017, 2018), *Oecologia* (2010, 2015), *PLoS One* (2013), *Plant Biology* (2014), *Plant Ecology* (2015), *Rangeland Ecology and Management* (2015), *Southern Journal of Applied Forestry* (2013), *Tree Physiology* (2012, 2015)

Ad-hoc reviewer of manuscripts and reports

- USGS (2018)
- USDA Forest Service (2018 × 2)
- Humboldt County (2018)

Book Reviewer (3)

- *Fire in California's Ecosystems* (2017)- provided peer reviews for two chapters
- *Field Guide to Manzanitas* (2015)- provided peer review of ecology chapter

Wildland Fire Education and Training Center Steering Committee Member/Reviewer (2015-present)- participated in conference calls about program development and reviewed several scripts and videos of wildland fire science teaching materials.

Grant Reviewer

- USDA McIntire-Stennis Forestry Research Program Grant Reviewer: three internal reviews (HSU), one external review (Mississippi State University)
- USDA/ DI Joint Fire Science Graduate Research Innovation (GRIN) Grant Reviewer: Review Co-Leader: 2016-2017; Panel Leader: 2013-2015; Super Panel Leader: 2013-2014.
- USDA Small Business Innovation Research Program Reviewer (2015)

Committees

- Coast Redwood Forest Symposium (2016)
 - Steering Committee Member
 - Fire Ecology/Effects Session Moderator
- Education Committee, Association for Fire Ecology (Member: 2012-present; Chair: 2014)
- Northern California Prescribed Fire Council
 - Steering Committee (Member: 2013-present, Vice Chair: 2014-present)
 - Training Committee (Member: 2013- 2016)
 - Research Committee (Member: 2017-present)
- Advisory Committee Member, California Fire Science Consortium, Northern region (2012-present)

- Fire and Fuels Advisory Council Member, Mid-Klamath Watershed Council (2012-present)
- Northern Region Team Member, California Fire Science Consortium (2012-present)
- Research Committee, Northwestern California Oak Network (2015-present)

Participant, Sudden Oak Death Workshop, Redwood National and State Parks (2 hrs, November 7, 2016)

Participant, Drought and Ecosystems Workshop, Redwood National and State Parks (February 4, 2014)

Panel Expert, Fuels Treatment Workshop. I provided expert input on fuel treatment effectiveness and impacts for a workshop organized by the office of Assemblyman Wes Chesbro to inform proposed legislation regarding prescribed fire and thinning treatments (March 11, 2014).

University, College, and Department Service

Administrative Technical Representative, McIntire-Stennis program for HSU (2017- present)

Member, Initiating Unit Personnel Committee, Environmental Science and Management (Fall 2017)

Member, College Personnel Committee, College of Natural Resources (Fall 2017- present)

Member, HSU Planning Committee for Research, Scholarship and Creative Activities (Fall 2014- Spring 2016).

Chair, CNRS Curriculum Committee, College of Natural Resources (Spring 2014- Spring 2017).

Member, Curriculum Committee, Department of Forestry and Wildland Resources. *I served on the committee during substantial curricular revisions and program review* (3 hours/week during curricular revisions). Spring 2013.

Outcomes Assessment Committee, Department of Forestry and Wildland Resources (Member: 2013-2014; Chair: 2014- present).

Member, Faculty Hearing Panel, Department of Forestry and Wildland Resources (Spring 2013- present)

Member, Scholarship Committee, Department of Forestry and Wildland Resources (Spring 2013- present)

Faculty Advisor, HSU Student Association for Fire Ecology (2012-present). *I help students with club operations, guest speaker arrangements, prescribed burning activities, and field trips. I have accompanied students to several regional, national, and international conferences.* (1-2 hours/week; variable)

Faculty Advisor, Forest Ecology Research Network for graduate students (2014-present). *I meet with a group of graduate students, other faculty, and local scientists to discuss forest ecology research. I also help students coordinate a seminar series focused on forest ecology and provide guidance on club activities* (0.5 hour/week).

Community Service

The Intercept: quoted in an article entitled “Ryan Zinke uses climate-fueled wildfires to boost the timber industry-and it’s not the first time.” By Alleen Brown (August 18th, 2018). <https://theintercept.com/2018/08/18/ryan-zinke-wildfires-timber-industry/>

Daily Beast: quoted in an article entitled “We’re running out of money to fight California’s wildfires.” By Victoria Albert (August 9th, 2018). <https://www.thedailybeast.com/the-government-is-running-out-of-money-to-fight-californias-wildfires>

Sacramento Bee: quoted in an article entitled “Trump wants to clear more trees to halt fires. The feds need to spend more, experts say.” By Emily Cadei and Kate Irby (August 7th, 2018). <https://www.sacbee.com/news/politics-government/capitol-alert/article216160995.html>

High Country News: quoted in an article entitled “Shrub-choked wildlands played a role in California fires”. By Elizabeth Shogren (October 24th, 2017). <https://www.hcn.org/articles/wildfire-what-role-did-wildlands-play-in-californias-wine-country-fires>

LA Times: quoted in an article entitled “Northern California is facing catastrophic wildfires more typically seen in the south. Experts aren’t sure why” by Bettina Boxall (October 16th, 2017). <http://www.latimes.com/local/lanow/la-me-fire-north-south-20171016-story.html>

Times Standard: quoted in an article entitled “Forest Service: Island fire benefitting wilderness” by Sam Armanino (August 11th, 2017). <http://www.times-standard.com/article/NJ/20170810/NEWS/170819978>

Invited Presenter/Participant, Mattole Restoration Council, *The importance of pyrodiversity to North Coast* (5 hrs, December 5th, 2015)

Contributor, KMUD Monday Morning Magazine, 2015 Humboldt County Fire Season (2 hrs, October 26th, 2015)

Del Norte TriPLICATE, The science of wildfires. By Jessica Cejnar (August 31st, 2015). <https://www.triplicate.com/csp/mediapool/sites/Triplicate/News/story.csp?cid=4397575&sid=923&fid=151>

Mad River Union: quoted in an article entitled “Wildfire Behavior Called ‘Unprecedented’” by Paul Mann about the 2015 fire season (August 15, 2015).

Invited Presenter, Friends of the Arcata Marsh, *The importance of pyrodiversity to northern California* (1 hr, June 17th, 2015)

Invited Presenter, California Native Plant Society, North Coast Chapter, *Pyrodiversity and its importance to the northern California flora* (2 hrs, September 10, 2014)

Panelist, Northcoast Environmental Center hosted a local documentary and I served on a panel discussion about prescribed fire in the northwestern California region. (3 hrs, March 27, 2013)

Presenter and Attendee, I presented a talk entitled “A scientific update on the effectiveness and impact of mechanical mastication treatments”. Local Issues, Local Science: Emerging fire science research and

approaches in the North Coast. CA Fire Science Consortium Workshop. Humboldt State University, Arcata CA. (3 hrs, March 21st, 2013)

Invited Presenter, Humboldt State University Biodiversity Conference

- Invited by student organizers to conduct fire demonstrations as one of the featured conference events (6 hrs, September 29th, 2012)
- Invited by student organizers to conduct fire demonstrations one of the featured conference events and gave an oral presentation about fire and biodiversity (8 hrs, October 5th, 2013)

Fire Lab Demonstrations and Tours (0.5- 1 hr each)

- Sweet Home High School (Oregon) Students (2017)
- American Indian College Motivation Day Workshop (2015)
- Camp Odyssey: Arcata Natural Resource Science Camp (2013, 2015, 2016, 2017, 2018)
- Fortuna High School AP Environmental Science Students (2014)
- 4-H Forestry Club Members (2014)
- Hoopa California Conservation Corps (2014, 2016, 2017)
- “I’ve Already Been Admitted to College” program sponsored by Student Academic Services Outreach Program Talent Search TRiO and the Humboldt County Office of Education’s Decade of Difference program (2012, 2017)

PROFESSIONAL CERTIFICATION AND MEMBERSHIPS

Certified Wildland Fire Ecologist, Association for Fire Ecology (2012)

Member, Association for Fire Ecology (2006-present)

Member, International Association of Wildland Fire (2006-9, 2012-present)

Member, Ecological Society of America (2006-present)

Member, American Association for the Advancement of Science (2010-2015)

Member, Northwestern Science Association (2017)

HONORS/AWARDS

- 2016 Presidential Scholar award (College of Natural Resources, HSU), \$1400
- 2016 McCrone Promising Faculty Scholars award (HSU), three faculty awarded annually university-wide, \$1500
- 2015 Presidential Scholar award (College of Natural Resources, HSU), \$750
- 2015 Faculty Research Incentive Award Program (HSU), \$2,000
- 2015 Advisor of the Year (nomination), HSU
- 2014 Presidential Scholar award (College of Natural Resources, HSU), \$300
- 2013 Faculty Research Incentive Award Program (HSU), \$4,000
- 2013 Presidential Scholar award (College of Natural Resources, HSU), \$500
- 2011 Hafen Scholarship (School of Forestry, NAU), \$3,000
- 2011 Achievement Rewards for College Scientists (ARCS), \$7,000
- 2009-2012 Science Foundation of Arizona Fellowship, \$25,000 per year for 4 years
- 2007 Dillard-Bailey Scholarship (Forestry Dept. HSU), \$1,200

- 2007 North Coast Regional Graduate Conference Award of Distinction in Oral and Poster presentations
- 1998 Roger Tory Peterson Memorial Award in Field Ecology (Plattsburgh State University)