

RECENT RESEARCH

ON COLLEGE OF FORESTRY RESEARCH & DEMONSTRATION FORESTS

Below are examples of recent undergraduate honor theses, master's theses and professional papers, Ph.D dissertations, and journal articles resulting from research on the College of Forestry Research Forests, published 2017-2023. This list is not comprehensive.

Bennett, Max, David C. Shaw, and Laura Lowrey. 2023. Recent Douglas-fir Mortality in the Klamath Mountains Ecoregion of Oregon: Evidence for a Decline Spiral. *Journal of Forestry*, XX, 1–16. <https://doi.org/10.1093/jofore/fvad007>

Elfstrom, L.M.A., and Powers, M.D. In Press. Effects of Thinning on Tradeoffs Between Drought Resistance, Drought Resilience, and Wood Production in mature Douglas-fir in Western Oregon, USA. *Canadian Journal of Forest Research*. DOI: 10.1139/cjfr-2022-0235.

Brune, M. A. 2022. An analysis on the population genetic structure of *Ariolimax columbianus* around Corvallis, Oregon. Honors College Thesis, OSU. https://ir.library.oregonstate.edu/concern/honors_college_theses/9p290j038.

Burk, E. 2022. Simulator-based training for logging equipment operators. M.S. Thesis, Northern Arizona University.

Clements, N. 2022. Fifty years of change in a Pacific Northwest winter forest bird community. Honors College Thesis, OSU. https://ir.library.oregonstate.edu/concern/honors_college_theses/kw52jh575.

Elfstrom, M. 2022. Effects of thinning on tradeoffs between drought resistance, drought resilience, and wood production in mature Douglas-fir in Western Oregon. MS thesis, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/qn59qb56b.

Howe, K. 2022. Assessing Drought Effects in the OSU McDonald Research Forest in Corvallis, Oregon: How does Basal Area Increment (BAI) relate to Vapor Pressure Deficit (VPD) in Douglas-fir (*Pseudotsuga menziesii*) Following a Drought Event? M.F. Professional Project Paper, OSU

Kant, M. 2022. Signals of Hotter Drought Stress in Douglas-fir Tree Rings of the Anthropocene. M.S. Thesis. OSU. http://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/

Kooistra, C., Munanura, I., and Brown, R. 2022. Compartmenting support for dog regulations among adjacent households and other visitors at a multiple-use recreation area. *Journal of Outdoor Recreation, Education, and Leadership*, JOREL-2022-11032. <https://doi.org/10.18666/JOREL-2022-11032>

Morgan, C. J., Powers, M. and Strimbu, B. M. 2022. Estimating tree defects with point clouds developed from active and passive sensors. *Remote Sensing*. 14: 1938. <https://doi.org/10.3390/rs14081938>.

Ochoa, C. G., Jarvis, W. T., and Hall, J. 2022. A hydrogeologic framework for understanding surface water and groundwater interactions in a watershed system in the Willamette Basin in Western Oregon, USA. *Geosciences* 12: 109. <https://doi.org/10.3390/geosciences12030109>.

Ross, A. H, and Blunck, D. L. 2022. The Influence of Particle Size in Influencing Smoldering Behavior Through Porous Woody Fuel Beds. *Combustion Science and Technology*. <https://doi.org/10.1080/00102202.2022.2114351>

Azeez A., Zhao Y., Singh R., Yordanov Y, Dash M., Miskolczi P., Stojkovič K., Strauss SH, Bhalerao R, Busov V. 2021. EARLY BUD-BREAK 1 and EARLY BUD-BREAK 3 control resumption of poplar growth after winter dormancy. *Nature Communications*. <https://www.nature.com/articles/s41467-021-21449-0>

Cargill, S. K., Segura, C., Villamizar, S. R., and Warren, D. R. 2021. The influence of lithology on stream metabolism in headwater systems. *Ecohydrology* 14: e2284. <https://doi.org/10.1002/eco.2284>.

Coyle, C. M., and Gannon, D. G. 2021. Observations of orange-crowned warblers in vine maple. *Northwestern Naturalist* 102: 94-95. <https://doi.org/10.1898/1051-1733-102.1.94>.

Cronn, Richard C., Kristen N. Finch, Laura L. Hauck, Meaghan Parker-Forney, Brook G. Milligan, Jen ´elle Dowling, and Adventure Scientists. *Forensic Science International: Animals and Environments* 1 (2021) 100033. <https://doi.org/10.1016/j.fsiae.2021.100033>

Garms, C. G., and Strimbu, B. M. 2021. Impact of stem lean on estimation of Douglas-fir (*Pseudotsuga menziesii*) diameter and volume using mobile lidar scans. *Canadian Journal of Forest Research* 51: 1117-1130. <https://doi.org/10.1139/cjfr-2020-0484>.

Goralogia G.S., Howe G.T., Brunner A.M., Helliwell E., Nagle M., Ma C., Goddard A., Magnuson A., Klocko A., Lu H. et al.. 2021. Overexpression of SHORT VEGETATIVE PHASE-LIKE (SVL) in *Populus* delays onset and reduces abundance of flowering in field-grown trees. *Horticulture Research*, 8:167. <https://doi.org/10.1038/s41438-021-00600-4>

Heaston, E. D., Segura, C., and Warren, D. R. 2021. Do electrofishing activities disrupt stream biofilm standing stocks? An assessment from two headwater streams in Western Oregon. *North American Journal of Fisheries Management* 41: 466-473. <https://doi-org.oregonstate.idm.oclc.org/10.1002/nafm.10549>.

Kim, H. 2021. An examination of climate and land-use change as drivers of population dynamics in breeding birds. PhD Dissertation, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/mp48sm758.

Klocko, A., Goddard A., Jacobson J.R., Magnuson A., Strauss S.H. 2021. RNAi Suppression of LEAFY Gives Stable Floral Sterility, and Reduced Growth Rate and Leaf Size, in Field-Grown Poplars. *Plants*, 10(8):1594. <https://doi.org/10.3390/plants10081594>

Kruse, C. 2021. Communities in flux: The influence of hydroperiod on aquatic invertebrate communities in temporary ponds. MS Thesis, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/47429j08c.

Morgan, C. 2021. Estimating Tree Defect and Log Quality with Terrestrial Structure from Motion Photogrammetry and Handheld LiDAR. M.S. Thesis, OSU.

Rivers, J. W., and Betts, M. G. 2021. Postharvest bee diversity is high but declines rapidly with stand age in regenerating Douglas-fir forest. *Forest Science* 67: 275-285. <https://doi.org/10.1093/forsci/fxab002>.

Rodriguez, J. T., Lesmeister, D.B., and Levi, T. 2021. Mesocarnivore landscape use along a gradient of urban, rural, and forest cover. *PeerJ* 9: e11083. <https://doi.org/10.7717/peerj.11083>.

Ross, A. H. 2021. The influence of fuel characteristics on smoldering behavior through porous fuels. MS Thesis, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/xs55mm155.

Sherman, L., and Hagar, J. 2021. The snag's the limit: Habitat selection modeling for the western purple martin in a managed forest landscape. *Forest Ecology and Management* 480: 118689. <https://doi.org/10.1016/j.foreco.2020.118689>.

Williams, N. G., Hagar, J. C., and Powers, M. D. 2021. Evaluating the role of active management in mature Douglas-fir (*Pseudotsuga menziesii*) stands for songbird conservation. *Forest Ecology and Management* 502: 119609. <https://doi.org/10.1016/j.foreco.2021.119609>.

Begay, B. E. 2020. Assessment of the impact of forest management activities on forest aesthetics using photogrammetric point clouds. MS Thesis, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/s1784t32m.

Davila-Santiago, E. 2020. Opening Pandora's Box: Machine learning applications for chemical forensics and nontarget chemical analyses. MS Thesis, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/x346dc185.

Dormontt, E.E., D.I. Jardine, K.-J. van Dijk, B.F. Dunker, R.R.M. Dixon, V.D. Hipkins, S. Tobe, A. Linacre, and A.J. Lowe. 2020. *Forensic Science International: Genetics* 46 (2020)102252. <https://doi.org/10.1016/j.fsigen.2020.102252>

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- Falke, L. P., Henderson, J. S., Novak, M., and Preston, D. L. 2020. Temporal shifts in intraspecific and interspecific diet variation among 3 stream predators. *Freshwater Science* 39: 115-125. <https://doi-org.oregonstate.idm.oclc.org/10.1086/707599>.
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- Garms, C. 2020. Using point clouds for single tree forest inventory at the beginning and end of the rotation. PhD Dissertation, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/6q182s91d.
- Glass, H. C. 2020. Chemical ecology and genetics of rough-skinned newts, *Taricha granulosa*. Ph.D Dissertation, University of Calgary, Calgary, AB. <http://hdl.handle.net/1880/112113>
- Gorski, J. 2020. Professional Paper for Ramsdell Forest Management Plan Riparian Area. M.F. Professional Project Paper, OSU.
- Hall, J. 2020. A hydrogeologic framework for understanding watershed-scale surface water and groundwater interactions in Western Oregon, USA. MS Thesis, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/fx719t93p.
- Johnson, K. 2020 Land use impacts on water quality in Oak Creek watershed. Honors College Thesis, OSU. https://ir.library.oregonstate.edu/concern/honors_college_theses/7s75dk188
- Klocko A., Brunner A.M., Ma C., Etherington E., Rosenstiel K., Magnuson A., Taylor B.J., Cappellazzi J., Lockwood T., Covarrubias N. et al.. 2020. RNAi of AGAMOUS genes in sweetgum alters reproductive organ identity and decreases fruit persistence. *Plant Direct*. Doi:10.1002/pld3.225
- Lu H., Gordon M.I., Amarasinghe V., Strauss S.H. 2020. Extensive transcriptome changes during seasonal leaf senescence in field-grown black cottonwood (*Populus trichocarpa* Nisqually-1). *Scientific Reports*. 10:6581. Doi:10.1038/s41598-020-63372-2
- Monsalve, A., Segura, C., Hucke, N. and Katz, S. 2020. A bed load transport equation based on the spatial distribution of shear stress – Oak Creek revisited. *Earth Surface Dynamics* 8: 825–839. <https://doi.org/10.5194/esurf-8-825-2020>.
- Monson R.K., Winkler B., Rosenstiel T, Block K., Merl-Pham J, Strauss SH, Ault K, Maxfield J, Moore DJP, Trahan NA et al.. 2020. High productivity in hybrid-poplar plantations without isoprene emission to the atmosphere. *Proceedings of National Academy of Sciences*. (main planting at Peavy Arboretum). Doi: 10.1073/pnas.1912327117.
- Preston, D. L., Layden, T. J., Segui, L. M., Falke, L. P., Brant, S. V., and Novak, M. 2020. Trematode parasites exceed aquatic insect biomass in Oregon stream food webs. *Journal of Animal Ecology* 90: 766-775. <https://doi-org.oregonstate.idm.oclc.org/10.1111/1365-2656.13409>.

Qi, C. 2020. Individual tree detection and measurement from terrestrial point cloud. MS Thesis, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/8w32rc97t.

Waddle, J. Hardin, Daniel A. Grear, Brittany A. Mosher, Evan H. Campbell Grant, Michael J. Adams, Adam R. Backlin, William J. Barichivich, et al. 2020. Batrachochytrium Salamandrivorans (Bsal) Not Detected in an Intensive Survey of Wild North American Amphibians. *Scientific Reports* 10, no. 1 (December 2020): 13012. <https://doi.org/10.1038/s41598-020-69486-x>.

Cargill, S. A. 2019. The influence of lithology on stream metabolism in mountain systems. MS Thesis, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/5712md14z.

Cruzan, M.B. 2019. How to Make a Weed—The saga of the slender false brome invasion in the North American West and lessons for the future. *BioScience* 69:496-507. <https://doi.org/10.1093/biosci/biz051>

Green, P. Q. 2019. Insight into the productivity, cost and soil impacts of cable-assisted harvester-forwarder thinning in Western Oregon. MS Thesis, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/zk51vn91g.

Green, P. Q., Chung, W., Leshchinsky, B., Belart, F., Sessions, J., Fitzgerald, S. A., Wimer, J. A., Cushing, T., and Garland, J. J. 2019. Insight into the productivity, cost and soil impacts of cable-assisted harvester-forwarder thinning in Western Oregon. *Forest Science* 66: 82-96. <https://doi.org/10.1093/forsci/fxz049>.

Klee, A. 2019. Determinants of willingness to pay for forest recreation based on payment type using contingent valuation: A practical application for forest managers. MS Thesis, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/5138jm64p.

Marchini, G.L., Maraist, C.A., and Cruzan, M.B. 2019. Functional trait divergence, not plasticity, determines the success of a newly invasive plant. *Annals of Botany* 123: 667-679. <https://doi.org/10.1093/aob/mcy200>

Nguyen, T. T. H. 2019. Diversity and activity of microbial extracellular peptidases in soil. PhD Dissertation. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/kh04dv860.

Preston, D. L., Falke, L. P., Henderson, J. S., and Noval, M. 2019. Food-web interaction strength distributions are conserved by greater variation between than within predator-prey pairs. *Ecology* 100: e02816: <https://doi.org.oregonstate.idm.oclc.org/10.1002/ecy.2816>.

Segui, L. M. 2019. State-structured species interactions and their consequences across levels of biological organization. PhD Dissertation, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/9g54xq08j.

Sherman, L. M. 2019. Habitat associations and diet composition of western purple martins in Western Oregon. MS Thesis, OSU. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/nk322k717.

- Stanton, A. H. 2019. The production of dissolved organic carbon (DOC) over time with change in substrate type, temperature, and mineral soil inclusion. Honors College Thesis, OSU. https://ir.library.oregonstate.edu/concern/honors_college_theses/h989r847j.
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- Tzanakakis, V. A., Taylor, A. E., Bakken, L. R., Bottomley, P. J., Myrold, D. D., and Dörsch, P. 2019 Relative activity of ammonia oxidizing archaea and bacteria determine nitrification-dependent N₂O emissions in Oregon forest soils. *Soil Biology and Biochemistry* 139: 107612. <https://doi.org/10.1016/j.soilbio.2019.107612>.
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Klocko A.L, Lu H., Magnuson A., Brunner A.M., Ma C., and Strauss S.H. 2018. Phenotypic expression and stability in a large-scale field study of genetically engineered poplars containing sexual containment transgenes. *Frontiers in Bioengineering and Biotechnology*. 6:100. Doi: 10.3389/fbioe.2018.00100.

Kooistra, C., and Munanura, I. 2018. OSU Research Forests Recreation Survey Report. Available online here: <https://cf.forestry.oregonstate.edu/recreation/recreation-management>.

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