JOSHUA PUHLICK

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Education

- Ph.D. Forest Resources, University of Maine, Orono, Maine, 2015
- M.S. Forestry, Northern Arizona University, Flagstaff, Arizona, 2011
- Graduate Certificate, Applied Statistics, Northern Arizona University, 2011
- B.S. Horticulture, University of Connecticut, Storrs, Connecticut, 2004
- B.S. Forestry, University of Maine, Orono, Maine, 1998

Professional Experience

- 2021 - present, Assistant Scientist, The Jones Center at Ichauway, Newton, GA
- 2018 - 2021, Research Associate, University of Maine, Orono, ME
- 2015 - 2018, Postdoctoral Research Associate, University of Maine, Orono, ME
- 2011 - 2015, Graduate Research Assistant, University of Maine, Orono, ME
- 2012 - 2013, Database Manager, Penobscot Experimental Forest, Bradley, ME
- 2008 - 2011, Graduate Research Assistant, Northern Arizona University, Flagstaff, AZ
- 2004 - 2008, Consultant Forester, Sole Proprietorship, Putney, VT
- 2004 - 2005, Assistant Manager, Mettowee Mill Nursery, Dorset, VT
- 1999 - 2002, Forester, International Paper Corporation, Ticonderoga, NY
- 1997, Timber Cruiser, Champion International Corporation, Costigan, ME
- 1996, Forest Technician, Ranger Division, USDI Acadia National Park, Bar Harbor, ME
- 1994 - 1998, Laboratory Technician, Applied Ecology, University of Maine, Orono, ME

Teaching Experience

- 2015 & 2017, Instructor, *Silviculture*, 3 credits, University of Maine, Orono, Maine (28 and 38 students in 2015 and 2017, respectively)
- 2015 & 2017, Co-Instructor, *Forest Ecology and Silviculture Field Laboratory*, 2 credits, University of Maine, Orono, Maine (22 and 33 students in 2015 and 2017, respectively)
- 2012 & 2013, Teaching Assistant, *Forest Landscape Management and Planning Laboratory*, 2 credits, University of Maine, Orono, Maine (22 students)

Synergistic Activities

- **Organizer, Host, Co-Instructor, Ecological Forestry Workshop**. 2024. Sponsored by The Jones Center at Ichauway, Newton, GA. Co-taught the concepts and application of ecological forestry to staff from federal and state fish and wildlife, and natural resource agencies across the southern U.S. The week-long professional development opportunity included classroom instruction, group exercises and field tours. Co-Instructor in 2023 & 2022.
- **Representative, Silviculture Instructors Tour**. 2024. Toured high-elevation forests managed to supply Fort Collins, CO with drinking water. Also, toured a high-elevation spruce and fir Adaptive Silviculture for Climate Change site, post-wildfire conditions in Rocky Mountain NP, and forests managed for glade skiing in Steamboat Springs, CO.
- **Organizer, Host, National Advanced Silviculture Program Southern Pine Module**. 2024. Sponsored by The Jones Center at Ichauway, Newton, GA. Online presentation on adapting forests to climate change and carbon management in longleaf pine ecosystems. During field tours at Ichauway, highlighted examples of these strategies to USDA Forest Service employees as part of their training for obtaining certification in silviculture.
- **Organizer, Co-Instructor, University of Florida Silviculture Field Day**. 2022–2024. Sponsored by The Jones Center at Ichauway, Newton, GA. Highlighted even-aged and uneven-aged silvicultural systems at Ichauway to undergraduate students in silviculture.
- **Organizer, Host, Moderator, Longleaf Pine Carbon Workshop**. 2022. Sponsored by The Jones Center at Ichauway, Newton, GA. Researchers from GA, FL, AL, SC, and MO met to discuss strategies for enhancing carbon accumulation in longleaf pine ecosystems. The three-day workshop included on-site presentations and field tours. There were also virtual presentations by officials from the USDA Forest Service and Resource Management Service, LLC.
- **Representative. Chart the Path**. 2022. Sponsored by the Georgia Climate Project. A three-hour virtual whiteboarding session to explore the future of climate collaboration in Georgia. The session included outlining opportunities to build the next phase of the Georgia Climate Project.
- **Organizer, Maine Adaptive Silviculture Network Field Tour**. 2021. Sponsored by the Maine Society of American Foresters and the University of Maine, Center for Research on Sustainable Forests and Cooperative Forestry Research Unit. Nashville Plantation, ME. The day-long field tour included research presentations and discussion groups. Attendees were eligible for Society of American Foresters educational credits.

Peer-Reviewed Publications

Willis, J. L., D. C. Bragg, J. B. Cannon, K. J. K. Gandhi, K. R. Kidd, A. D. Polinko, **J. J. Puhlick**, D. Saenz, M. A. Sayer, C. M. Schalk, A. B. Self, C. M. Siegert, and M. Varner. 2024. Assessing the potential impact of retaining native off-site tree species in woodland restoration. *Restor. Ecol.* 32(5): e14119. 12 p. doi: 10.1111/rec.14119.

Cannon, J. B., B. T. Rutledge, **J. J. Puhlick**, J. L. Willis, and D. G. Brockway. 2023. Tropical cyclone winds stimulate cone production in the masting species longleaf pine (*Pinus palustris* Mill.). *New Phytol.* 242: 289-301. doi: 10.1111/nph.19381.

Campôa, J. and **J. J. Puhlick**. 2023. Influence of climate fluctuations on *Pinus palustris* growth and drought resilience. *For. Ecosyst.* 10. doi: 10.1016/j.fecs.2023.100151.

Puhlick, J. J., T. L. O'Halloran, G. Starr, R. B. Abney, L. S. Pile Knapp, R. A. McCleery, K. D. Klepzig, S. T. Brantley, R. K. McIntyre, and B. Song. 2023. Opportunities for research on carbon management in longleaf pine ecosystems. *Forests.* 14, 874. doi: 10.3390/f14050874.

Harley, G. L., M. D. Therrell, J. T. Maxwell, A. Bhuta, J. C. Bregy, K. J. Heeter, T. Patterson, M. Rochner, M. T. Rother, M. Stambaugh, N. E. Zampieri, J. Altman, S. A. Collins-Key, C. M. Gentry, C. Guiterman, J. M. Huffman, D. J. Johnson, D. J. King, E. R. Larson, C. Leland, H. T. Nguyen, N. Pederson, **J. J. Puhlick**, M. P. Rao, M. Rodriguez-Caton, J. B. Sakulich, N. Singh, C. S. Tucker, S. L. van de Gevel, A. L. Kaiser, S. Ahmad. 2023. The Longleaf Tree-Ring Network: Reviewing and expanding the utility of *Pinus palustris* Mill. dendrochronological data. *Prog. Phys. Geogr.* doi: 10.1177/03091333221147652.

Puhlick, J. J. and I. J. Fernandez. 2023. Change in soil carbon, nitrogen, and phosphorus after timber harvesting in northern hardwood forests. *Soil Sci. Soc. Am. J.* 87(2): 404-416. doi: 10.1002/saj2.20496.

Puhlick, J. J., S. T. Brantley, T. L. O'Halloran, L. Clay, and K. D. Klepzig. 2022. Perspectives: Carbon markets might incentivize poorer ecological outcomes in longleaf pine ecosystems. *For. Ecol. Manage.* 520. doi: 10.1016/j.foreco.2022.120421.

Puhlick, J. J., A. R. Weiskittel, I. J. Fernandez, K. A. Solarik, and D. J. H. Sleep. 2022. Evaluation of projected carbon accumulation after implementing different forest management treatments in mixed-species stands in northern Maine. *Carbon Manag.* 13(1): 190-204. doi: 10.1080/17583004.2022.2063761.

Puhlick, J. J., D. C. Laughlin, M. M. Moore, C. H. Sieg, S. T. Overby, and J. D. Shaw. 2021. Soil properties and climate drive ponderosa pine seedling presence in the southwestern USA. *For. Ecol. Manage.* 486. doi: 10.1016/j.foreco.2021.118972.

Puhlick, J. J., I. J. Fernandez, and J. W. Wason. 2021. Non-native earthworms invade forest soils in Northern Maine, USA. *Forests*. 12, 80. doi: 10.3390/f12010080.

Puhlick, J. J., A. R. Weiskittel, L. S. Kenefic, C. W. Woodall, and I. J. Fernandez. 2020. Strategies for enhancing long-term carbon sequestration in mixed-species, naturally regenerated Northern temperate forests. *Carbon Manag.* 11(4): 381-397. doi: 10.1080/17583004.2020.1795599.

Puhlick, J. J. and I. J. Fernandez. 2020. Influence of mechanized timber harvesting on soil compaction in northern hardwood forests. *Soil Sci. Soc. Am. J.* 84(5): 1737-1750. doi: 10.1002/saj2.20127.

Ferrara, J. V., **J. J. Puhlick**, T. A. Patterson, and K. C. Glover. 2020. Dredging impacts on soil properties of the Kankakee River System 150 years after perturbation. *Wetlands*. 40(6): 2577-2584. doi: 10.1007/s13157-020-01347-9.

Puhlick, J. J., S. Fraver, I. J. Fernandez, A. Teets, A. R. Weiskittel, and L. S. Kenefic. 2019. Site quality, disturbance, and vegetation effects on carbon storage and accumulation in old, mixed-species stands in central Maine, USA. *Nat. Area. J.* 39(4): 429-441. doi: 10.3375/043.039.0406.

Puhlick, J. J., C. Kuehne, and L. S. Kenefic. 2019. Crop tree growth response and quality after silvicultural rehabilitation of cutover stands. *Can. J. For. Res.* 49(6): 670-679. doi: 10.1139/cjfr-2018-0248

Kuehne C., **J. J. Puhlick**, A. R. Weiskittel, A. Cutko, D. Cameron, N. Sferra, J. Schlawin. 2018. Data set of forest metrics for comparing stand structure and growth and yield between Ecological Reserves and managed forests of Maine, USA. *Ecology*. doi: 10.1002/ecy.2500

Puhlick, J. J., C. W. Woodall, and A. R. Weiskittel. 2017. Implications of land-use change on forest carbon stocks in the eastern United States. *Environ. Res. Lett.* 12. doi: 10.1088/1748-9326/aa597f

Puhlick, J. J., A. R. Weiskittel, I. J. Fernandez, S. Fraver, L. S. Kenefic, R. S. Seymour, R. K. Kolka, L. E. Rustad, and J. C. Brissette. 2016. Long-term influence of alternative forest management treatments on total ecosystem and wood product carbon storage. *Can. J. For. Res.* 46(11): 1404-1412. doi: 10.1139/cjfr-2016-0193

Puhlick, J. J., A. R. Weiskittel, S. Fraver, M. B. Russell, and L. S. Kenefic. 2016. Assessing the role of natural disturbance and forest management on dead wood dynamics in mixed-species stands of central Maine, USA. *Can. J. For. Res.* 46(9): 1092-1102. doi: 10.1139/cjfr-2016-0177

Puhlick, J. J., I. J. Fernandez, and A. R. Weiskittel. 2016. Evaluation of forest management effects on the mineral soil carbon pool of a lowland, mixed-species forest in Maine, USA. *Can. J. Soil Sci.* 96(2): 207-218. doi: 10.1139/cjss-2015-0136

Puhlick, J. J., S. Fraver, I. J. Fernandez, A. R. Weiskittel, L. S. Kenefic, R. K. Kolka, and M. -C. Gruselle. 2016. Factors influencing organic-horizon carbon pools in mixed-species stands of central Maine, USA. *For. Ecol. Manage.* 364: 90-100. doi: 10.1016/j.foreco.2016.01.009

Puhlick, J. J., M. M. Moore, and A. R. Weiskittel. 2013. Factors influencing height-age relationships and recruitment of ponderosa pine regeneration in northern Arizona. *West. J. Appl. For.* 28(3): 91-96. doi: 10.5849/wjaf.12-021

Russell, M. B., L. S. Kenefic, A. R. Weiskittel, **J. J. Puhlick**, and J. C. Brissette. 2012. Assessing and modeling standing deadwood attributes under alternative silvicultural regimes in the Acadian Forest region of Maine, USA. *Can. J. For. Res.* 42(11): 1873-1883. doi: 10.1139/x2012-131

Puhlick, J. J. 2012. Efficiency of sampling tree regeneration with two plot sizes in northern Arizona. *West. J. Appl. For.* 27(2): 100-101. doi: 10.5849/wjaf.10-039

Puhlick, J. J., D. C. Laughlin, and M. M. Moore. 2012. Factors influencing ponderosa pine regeneration in the southwestern USA. *For. Ecol. Manage.* 264: 10-19. doi: 10.1016/j.foreco.2011.10.002

Other Publications

Puhlick, J. J., B. O. Knapp, I. Goldberg, B. T. Rutledge, R. S. Taylor, and J. L. Willis. 2024. Silvicultural strategies for promoting longleaf pine recruitment in multiaged stands. In: Bragg, D. C.; Oswald, B. P.; Koerth, N. E., eds. Proceedings of the 22nd biennial southern silvicultural research conference. Gen. Tech. Rep. SRS-274. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station: 311–316. doi.org/10.2737/SRS-GTR-274-Pap48.

Puhlick, J. J., A. D. Polinko, and G. F. Nyen. 2024. Silvicultural strategies for converting longleaf pine plantations to multi-aged longleaf pine stands. In: Bragg, D. C.; Oswald, B. P.; Koerth, N. E., eds. Proceedings of the 22nd biennial southern silvicultural research conference. Gen. Tech. Rep. SRS-274. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station: 300–305. doi.org/10.2737/SRS-GTR-274-Pap46.

Willis, J. L., D. C. Bragg, J. B. Cannon, K. J. K. Gandhi, K. R. Kidd, A. D. Polinko, **J. J. Puhlick**, D. Saenz, M. A. Sayer, C. M. Schalk, A. B. Self, C. M. Siegert, and M. Varner. 2024. Does restoring woodland structure with loblolly or slash pine produce desired ecosystem functions? In: Bragg, D. C.; Oswald, B. P.; Koerth, N. E., eds. Proceedings of the 22nd biennial southern silvicultural research conference. Gen. Tech. Rep. SRS-274. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station: 268–270. doi.org/10.2737/SRS-GTR-274-Pap40.

Cannon, J. B., B. T. Rutledge, **J. J. Puhlick**, J. L. Willis, and D. G. Brockway. 2024. Hurricanes stimulate cone production in longleaf pine woodlands. In: Bragg, D. C.; Oswald, B. P.; Koerth, N. E., eds. Proceedings of the 22nd biennial southern silvicultural research conference. Gen. Tech. Rep. SRS-274. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station: 306–310. doi.org/10.2737/SRS-GTR-274-Pap47.

Puhlick, J. J. (contributing author) 2022. Fire and Carbon. Rutledge, B. T., and R. K. McIntyre (eds). Prescribed fire at The Jones Center at Ichauway: A 28-year case study. Newton, Georgia: The Jones Center at Ichauway. 29 p. doi.org/10.58497/50713.

Puhlick, J. J., and S. Bugbee. 2021. Maine Adaptive Silviculture Network (MASN) Field Tour Booklet. Maine Society of American Foresters and University of Maine, Center for Research on Sustainable Forests and Cooperative Forestry Research Unit.

Puhlick, J. J., and A. R. Weiskittel. 2021. Carbon stocks and sequestration on ecological reserves in Maine. General Technical Report. University of Maine, Center for Research on Sustainable Forests. Available on the Maine Natural Areas Program website.

Roth, E., **J. J. Puhlick**, and I. J. Fernandez. 2020. Relative risk of soil nutrient depletion among different intensities of biomass removal during timber harvesting in Maine, USA. Final Report. University of Maine, Center for Undergraduate Research.

Puhlick, J. J., A. R. Weiskittel, B. E. Roth, and A. S. Nelson. 2019. Evaluation of silvicultural options for increasing productivity of early successional stands in the Acadian Forest Region. Final Report. Center for Advanced Forestry Systems.

Ferrara, J. V., K. C. Glover, and **J. J. Puhlick**. 2019. Dredging impacts on soil properties of the Kankakee River System 150 years after perturbation. Senior Capstone Project.

Kenefic, L. S., K. M. Gerndt, **J. J. Puhlick**, and C. Kuehne. 2018. Overstory and regeneration data from the "Rehabilitation of cutover mixedwood stands" study at the Penobscot Experimental Forest. 2nd Edition. Fort Collins, CO: Forest Service Research Data Archive. https://doi.org/10.2737/RDS-2016-0024-2

Kuehne, C., **J. J. Puhlick**, and A. R. Weiskittel. 2018. Ecological Reserves in Maine: Initial results of long-term monitoring. General Technical Report on behalf of Maine Natural Areas Program and The Nature Conservancy.

Puhlick, J. J. 2015. How silvicultural treatments and site quality affect carbon storage on the Penobscot Experimental Forest: A 60-year perspective. Ph.D. dissertation, University of Maine, Orono, ME. 169 p. http://digitalcommons.library.umaine.edu/etd/2262

Waskiewicz, J. D., L. S. Kenefic, N. S. Rogers, **J. J. Puhlick**, J. C. Brissette, and R. J. Dionne. 2015. Sampling and measurement protocols for long-term silvicultural studies on the Penobscot Experimental Forest. Gen. Tech. Rep. NRS-147. Newtown Square, PA: USDA, Forest Service, Northern Research Station. 32 p.

Waskiewicz, J. D., L. S. Kenefic, **J. J. Puhlick**, N. S. Rogers, and J. C. Brissette. 2014. Overstory tree and regeneration data from the "Management Intensity Demonstration" study at Penobscot Experimental Forest. Fort Collins, CO: Forest Service Research Data Archive. http://dx.doi.org/10.2737/RDS-2014-0003

Brissette, J. C., L. S. Kenefic, M. B. Russell, and **J. J. Puhlick**. 2012. Overstory tree and regeneration data from the "Silvicultural Effects on Composition, Structure, and Growth" study at Penobscot Experimental Forest. USDA, Forest Service, Northern Research Station. http://dx.doi.org/10.2737/RDS-2012-0008

Puhlick, J. J. 2011. Regional- and local-scale modeling of ponderosa pine seedling densities in the Southwest. M.Sc. thesis, Northern Arizona University, Flagstaff, AZ. 80 p.