
Robert T. Fahey – *Curriculum vitae*

George F. Cloutier Professor in Forestry & Director of the UConn Forest
Associate Professor
Department of Natural Resources and the Environment &
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EDUCATION

- PhD** **2011**
University of Wisconsin-Madison
Major: Forestry
Dissertation: “Establishment and persistence of early successional pine species in late-successional landscapes of the Great Lakes region” 212 p.
- Master of Science** **2005**
Oregon State University
Major: Forest Science, *Minor:* Botany
Thesis: “Patterns in understory vegetation communities across canopy gaps in young, Douglas-fir forests of western Oregon” 153 p.
- Bachelor of Science** **2001**
Cornell University
Major: Natural Resources
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PROFESSIONAL EXPERIENCE

- **Associate Professor** – *2022-present*. Department of Natural Resources and the Environment & Center for Environmental Sciences and Engineering, University of Connecticut, Storrs, CT.
 - **Assistant Professor** – *2016-2022*. Department of Natural Resources and the Environment & Center for Environmental Sciences and Engineering, University of Connecticut, Storrs, CT.
 - **Director** – *2021-present*. UConn Research and Teaching Forest. University of Connecticut, Storrs, CT.
 - **George F. Cloutier Professor in Forestry** – *2021-present*. University of Connecticut, Storrs, CT.
 - **Associate Director** – *2019-present*. UConn Eversource Energy Center, Storrs, CT.
 - **Forest Ecologist** – *2010-2015*. Center for Tree Science, The Morton Arboretum, Lisle, IL
 - **Lecturer** – *2012-2015*. University of Michigan – Biological Station, Pellston, MI
 - **Graduate Research Assistant** – *2006-2010*. Dept. of Forest and Wildlife Ecology, University of Wisconsin-Madison
 - **Graduate Research Assistant** – *2004-2005*. Dept. of Forest Science, Oregon State University, Corvallis, OR
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TEACHING

Provost Commendation for Teaching Excellence in 10 of 14 semesters of teaching at UConn
Mean Student Evaluation of Teaching: 4.6/5

- Forest Ecology. NRE 2455. UConn. Fall 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023
- Forest Management. NRE 4475. UConn, Spring 2020
- Exurban Silviculture. NRE 3500. UConn. Spring 2017, 2019
- Landscape Ecology. NRE 5461. UConn, Spring 2018, 2020
- Grant Proposal Writing. NRE 6500. UConn Spring 2024
- Natural Resources Colloquium. NRE 5698. UConn, Fall 2020, 2021, Spring 2021, 2022
- Forest Ecosystems. EEB 348. University of Michigan - Biological Station. Instructor. Summer 2012, 2013, 2015
- Woodland Conservation and Management. The Morton Arboretum – Woodland Stewardship Program. Co-instructor. Spring 2011, 2012, 2013, Fall 2014, Spring 2015
- Forest and Wildlife Ecology 410: Principles of Silviculture. UW-Madison. Volunteer lab teaching assistant and occasional lecturer. Spring 2007, 2008, 2009, 2010.
- Plant Pathology 123: Plants, Pathogens, and People. UW-Madison. Co-instructor. Fall 2008.

MENTORING

Director of Exurban Ecosystem Management Fellowship Program – funded through USDA NIFA National Needs Fellowship 2020-2025

Graduate students

- Primary advisor
 - Jillian Pastick, MS (2018)
 - Elliott Volin, MS (2018)
 - Julia Rogers, MS (2019)
 - Kerste Milik, MS (2020)
 - Danielle Tanzer, MS (2021)
 - Levon Bigelow, MS (2023)
 - Jillian Dyer, MS (2023)
 - Brandon Alveshere, Ph.D. (2023)
 - Nicholas Cranmer, MS (2023)
 - Amanda Bunce, Ph.D. (expected 2024)
- Committee member
 - Isabelle Zafetti, MS (2023) – UConn NRE
 - Durga Joshi, PhD – UConn NRE
 - Harshana Wedagedara, MS – UConn NRE
 - Kexin Song, PhD – UConn NRE
 - Elana Berlin, MS (2022) – UConn NRE
 - Kevin Li, PhD – UConn NRE
 - Sarah Klionsky, PhD – UConn NRE
 - Samantha Walker, MS (2019) – UConn NRE
 - Daniel Hale, MS (2019) – UConn NRE
 - Marjorie Liberati, Ph.D. (2018) – UConn NRE
 - Stephen DiFalco, MS (2020) – UConn NRE
 - Nancy Marek, Ph.D. (2022) – UConn NRE
 - Ben Townson, MS (2021) – UConn EEB
 - Michael Lacalasia, Ph.D. – UConn EEB
 - Pan Zhang, Ph.D. (2023) – UConn PSLA
 - Roi Ankori-Karlinsky, Ph.D., Columbia University
 - Mayra Rodriguez-Gonzalez. Ph.D. (2021) – Purdue University
 - Ben McCallister, MS (2022) - Purdue University
 - Ellen Stuart-Haentjens, Ph.D. - Virginia Commonwealth University

- Kayla Matthes, Ph.D. (2023) - Virginia Commonwealth University
- Douglas Lynch, Ph.D. (2014) – University of Illinois-Chicago
- Lindsay Darling, M.S. (2014) – Northwestern University
- Mary Moses, M.S. (2015) – Northern Illinois University

Undergraduate students

- UConn University Scholar/SURF Program
 - Mari Cullerton – NRE/Environmental Science – 2019-2021
- UConn Eversource Energy Center Undergraduate Research Fellowship Program – co-PI
 - Angie Green – Virginia Tech University - 2017
- UConn Undergraduate Research students
 - Andrew Muller – NRE 2021-23
 - Nicholas Cranmer – NRE 2019/2020
 - Keenan Rivers – NRE 2019/2020
 - Colin O’Brien – NRE 2019
 - Thomas Buhl – NRE - 2018
 - David Backhaus – NRE - 2017
- Morton Arboretum Undergraduate Research Fellowship Program – co-PI
 - Bruce Jake Berger – UW-Madison - 2015
 - Stuart Hupp – Virginia Tech - 2014
- UMBS NSF REU Program
 - Leah Capili – VCU - 2020
 - Laura Hickey – VCU - 2018
 - Shea Wales – Fort Lewis College - 2016
 - Nicolás Correa-Pascuas - University of Puerto Rico - 2015
 - Aubrie De La Cruz – Cal Poly Pomona - 2013
 - Elizabeth Stockton – Tufts University - 2012
- Undergraduate research interns
 - Jillian Pastick – Lake Forest College
 - Tatia Bauer – University of Michigan
 - Brian Bash – Northern Illinois University
 - David Carter – UW-Madison
 - David Gudex-Cross – UW-Madison
 - Albert Muelendyke – UW-Madison

PUBLICATIONS

(*Graduate Student advisee, **Undergraduate Student advisee, ^Post-doctoral advisee)

71 total publications, 23 as first or senior author; 53 at UConn

Total citations: 2914, H-index: 30, i10 index: 52

Worthley, T., A. Bunce*, A. Morzillo, C. Witharana, Z. Zhu, J. Parent, M. Rudnicki, J. Volin, N. Marek*, J. Rogers*, D. Kloster, D. Hale*, S. DiFalco*, N. Cranmer*, K. Song*, D. Joshi*, H. Wedagedara*, and **Fahey, R.T.** (Accepted). Stormwise: Innovative forest management to promote storm resistance in roadside forests. *Journal of Forestry*.

Bigelow, L.*, **R.T. Fahey**, J. Grabosky, R. Hallett, J. Henning, M. Johnson, and L. Roman. 2024. Predictors of street tree survival in Philadelphia: tree traits, biophysical environment, and socioeconomic context. *Urban Forestry and Urban Greening*. 94, 128284. <https://doi.org/10.1016/j.ufug.2024.128284>.

Zhang, P.*, **R.T. Fahey**, and S. Park. 2024. The Importance of Tree Canopy on Vacant Land for

- Landscape Connectivity: Existing Contribution and Future Development Scenarios. *Urban Forestry and Urban Greening*. 94, 128235. <https://doi.org/10.1016/j.ufug.2024.128235>.
- Ankori-Karlinsky, R. *, J. Hall, L. Murphy, R. Muscarella, S. Martinuzzi, **R.T. Fahey**, J.K. Zimmerman, M. Uriarte. 2024. Chronic Winds Reduce Tropical Forest Structural Complexity Regardless of Climate, Topography, or Forest Age. *Ecosystems*. <https://doi.org/10.1007/s10021-024-00900-5>.
- Stuart-Haëntjens, E. *, J.W. Atkins, A.T. Fotis, R.D. Ricart, B.S. Hardiman, **R.T. Fahey**, B. Alveshere*, C. Vogel. Gough, C.M. 2023. Beech bark disease does not reduce the primary production of Great Lakes forests in middle and late successional stages. *Forest Ecology and Management*. 548. 121382
- Choi, D., E. LaRue, J. Atkins, J. Foster, J. Matthes, **R.T. Fahey**, B. Thapa, S. Fei, B. Hardiman. 2023. Short-Term Effects of Moderate Severity Disturbances on Forest Canopy Structure. *Journal of Ecology*. <https://doi.org/10.1111/1365-2745.14145>
- Wedagedara, H. *, C. Witharana, **R.T. Fahey**, D. Cerrai, D. Joshi*, J. Parent. 2023. Modeling the impact of local environmental variables on tree-related power outages along distribution powerlines *Electric Power Systems Research*. 221, 109486.
- LaRue, E, **R.T. Fahey**, B.S. Hardiman, J. Johnson, A. Elmore, P. Bhatt, C. Hakkenberg, S. Cousins, J.W. Atkins, B. Buma, D. Kashian, T. Surasinghe, A. Chen, M. Papes, L. Zhai, A. Koirala, J. Zambrano, B. Alveshere, J. St. Hilaire, S. Fei. 2023. Toward a unifying framework for characterizing ecosystem structural diversity. *Frontiers in Ecology and the Environment*. 21 (1), 4-13.
- McNeil, B., A. Elmore, **R.T. Fahey**. Tree crown economics. 2023. *Frontiers in Ecology and the Environment*. 21 (1), 40-48.
- Morzillo, A.T., L.K. Campbell, K.L. King, K.J. Lautar, L. Scott, M.L. Johnson, M. Clarke, L. Rhodes, L.R. Johnson, S. Pincetl, N.F. Sonti, D.H. Locke, J.P. Schmit, **R.T. Fahey**, and M.E. Baker. 2022. A tale of urban forest patch governance in four eastern US cities. *Urban Forestry and Urban Greening*. 75: 127693.
- Rodríguez González, M. I., B.C. Pijanowski, **R.T. Fahey**, and B.S. Hardiman 2022. The role of conserved and managed land in ecosystem service inequity. *Landscape and Urban Planning*. 227, 104516. <https://doi.org/10.1016/j.landurbplan.2022.104516>.
- Gough, C.M., J. Atkins, **R.T. Fahey**, P.S. Curtis, G. Bohrer, B.S. Hardiman, L. Hickey, L.E. Nave, K.M. Niedermaier, C.S. Clay, J.M. Tallant, B. Bond-Lamberty. 2022. Disturbance has variable effects on the structural complexity of a temperate forest landscape. *Ecological Indicators*. 140, p.109004.
- LaRue, E.A. **R.T. Fahey**, T. Fuson, J. Matthes, J. Foster, B.S. Hardiman. 2022. Evaluating the sensitivity of forest structural diversity characterization to LiDAR point density. *Ecosphere*. 13(9), p.e4209
- Atkins, J.W., J. Walter, A. Stovall, **R.T. Fahey**, C. Gough. 2022. Power-law scaling relationships link forest complexity and canopy height across forest types. *Functional Ecology*. <https://doi.org/10.1111/1365-2435.13983>
- Fahey, R.T.**, D. Tanzer, B. Alveshere, J. Atkins, C.M. Gough, B.S. Hardiman. 2022. An experimental approach for crown to whole-canopy defoliation in forests. *Canadian Journal of Forest Research*. 52:2, 286-292. <https://doi.org/10.1139/cjfr-2020-0527>
- Piana, M.R. R.A. Hallett, M.L. Johnson, N.F. Sonti, L.A. Brandt, M.F.J. Aronson, M. Ashton, M. Blaustein, D. Bloniarz, A.A. Bowers, M.E. Carr, V. D'Amico, L. Dewald, H. Dionne, D.A. Doroski, **R.T. Fahey**, H. Forgione, T. Forrest, J. Hale, E. Hansen, L. Hayden, S. Hines, J.M. Hoch, T. Ieatata, S.B. Lerman, C. Murphy, E. Nagele, K. Nislow, D. Parker, C.C. Pregitzer, L. Rhodes, J. Schuler, A. Sherman, T. Trammell, B.M. Wienke, T. Witmer, T. Worthley, I. Yesilonis. 2021. Climate adaptive silviculture for the city: practitioners and researchers co-create a framework for studying urban oak-dominated mixed hardwood forests. *Frontiers in Ecology and Evolution*. <https://doi.org/10.3389/fevo.2021.750495>
- Gough, C.M., G. Bohrer, B.S. Hardiman, L.E. Nave, C.S. Vogel, J. Atkins, B. Bond-Lamberty, **R.T.**

- Fahey**, A.T. Fotis, M.S. Grigri, L.T. Haber, Y. Ju, C.L. Kleinke, K.C. Mathes, K.J. Nadelhoffer, E. Stuart-Haëntjens, P.S. Curtis. 2021. Disturbance-accelerated succession increases the production of a temperate forest. *Ecological Applications*. <https://doi.org/10.1002/eap.2417>
- Janowiak, M.K., Brandt, L.A., Wolf, K.L.; Brady, M., Darling, L., Derby Lewis, A, **Fahey, R.T.**, Giesting, K, Hall, E., Henry, M., Hughes, M., Miesbauer, J.W., Marcinkowski, K., Ontl, T., Rutledge, A., Scott, L., and Swanston, C.W. 2021. Climate adaptation actions for urban forests and human health. *Gen. Tech. Rep. NRS-203*. Madison, WI: U.S. Department of Agriculture, Forest Service, Northern Research Station. <https://doi.org/10.2737/NRS-GTR-203>.
- LaRue E.A., W. Dodds, J. Rohr, K. Rose, F. Tromboni, B. Hardiman, J. Johnson, K. Dahlin, J. Atkins, **R.T. Fahey**, J.H. Thorp, M.I. Rodriguez-Gonzalez, J. Parker, M. Keller, S. Chandra, J. Liu, J. Knott, and S.Fei. 2021. The ongoing evolution of Macrosystems Biology. *Frontiers in Ecology and the Environment*. 19 (1), 11-19. <https://doi.org/10.1002/fee.2288>.
- Pastick, J.* , D. Maurer, and **R.T. Fahey**. 2020. Testing the potential for restoration-focused silviculture to affect ecosystem trajectories in urban-exurban oak woodlands. *Restoration Ecology*. doi: 10.1111/rec.13307
- Gough, C.M., J.W. Atkins, B. Bond-Lamberty, **R.T. Fahey**, M.S. Grigri, L.T. Haber, K.C. Mathes, S. Pennington, J.M. Tallant. 2020. Forest structural complexity and biomass predict first-year carbon cycling responses to disturbance. *Ecosystems*. 24 (3) 699-712. <https://doi.org/10.1007/s10021-020-00544-1>
- Gough, C.M., J.W. Atkins^, **R.T. Fahey**, B.S. Hardiman, and E.A. LaRue. 2020. Community and structural constraints on the complexity of eastern North American forests. *Global Ecology and Biogeography*. 29 (12) 2107-2118. <https://doi.org/10.1111/geb.13180>
- Volin, E.* A. Ellis, S. Hirabayashi, S. Maco, D. Nowak, J. Parent, and **R.T. Fahey**. 2020. Understanding macro-scale patterns in urban tree canopy and inequity. *Urban Forestry and Urban Greening*. <https://doi.org/10.1016/j.ufug.2020.126818>
- Atkins, J.W.^, **R.T. Fahey**, B.S. Hardiman, L. Haber*, E. Stuart-Haentjens*, LaRue, B. McNeil, D. Orwig, A. Stovall, J. Tallant, C. Gough. 2020. Application of multidimensional structural characterization to detect and describe moderate forest disturbance. *Ecosphere*. e03156. <https://doi.org/10.1002/ecs2.3156>
- Johnson, L., M. Johnson, L. Campbell, M. Carr, M. Clarke, V. D'Amico, L. Darling, T. Erker, **R.T. Fahey**, K. Lautar, D.H. Locke, A.T. Morzillo, S. Pincetl, L. Rhodes, J.P. Schmit, L. Scott, N.F. Sonti. 2020. Conceptualizing Social-Ecological Drivers of Change in Urban Forest Patches. *Urban Ecosystems*. <https://doi.org/10.1007/s11252-020-00977-5>
- LaRue, E.A., F.W. Wagner*, J.W. Atkins^, **R.T. Fahey**, C.M. Gough, S. Fei, B.S. Hardiman. 2020. Compatibility of aerial and terrestrial LiDAR for quantifying forest structural diversity. *Remote Sensing*. 12, 1407. <https://doi.org/10.3390/rs12091407>
- Haber, L.* , **R.T. Fahey**, S.B. Wales*, N. Correa-Pascuas**, W.S. Currie, and C.M. Gough. 2020. Forest structure, diversity, and primary production in relation to disturbance severity. *Ecology and Evolution*. 10 (10), 4419-4430. <https://doi.org/10.1002/ece3.6209>
- Wales, S.B.* , M.R. Kreider**, J.W. Atkins^, C.M. Hulshof, **R.T. Fahey**, L.E. Nave, K.J. Nadelhoffer, and C.M. Gough. 2020. Stand Age, Disturbance History and the Temporal Stability of Forest Production. *Forest Ecology and Management*. 460, 117865. <https://doi.org/10.1016/j.foreco.2020.117865>
- Fahey, R.T.**, J.W. Atkins^, C.M. Gough, B.S. Hardiman, L.E. Nave, P. Curtis, J. Tallant, L. Turner*, K. Nadelhoffer, C. Vogel, C. Scheuermann*, E. Stuart-Haentjens*, A. Fotis*, R. Ricart*. 2019. Defining a spectrum of integrative trait-based vegetation canopy structural types. *Ecology Letters*. 22 (12), 2049-2059. doi:10.1111/ele.13388

- Gough, C.M., J.W. Atkins[^], **R.T. Fahey**, B.S. Hardiman. 2019. High rates of primary production in structurally complex forests. *Ecology*. <https://doi.org/10.1002/ecy.2864>
- Fahey, R.T.**, J.W. Atkins[^], J. Campbell, M. Duffy^{**}, T. Fahey, L. Rustad, P. Schaberg, C. Driscoll. 2019. Effects of an experimental ice storm on forest canopy structure. *Canadian Journal of Forest Research*. 50 (2), 136-145. <https://doi.org/10.1139/cjfr-2019-0276>
- Weitzman, J.N., P.M. Groffman, J.L. Campbell, C.T. Driscoll, **R.T. Fahey**, T.J. Fahey, P.G. Schaberg, G.J. Hawley, and L.E. Rustad. 2019. Ecosystem nitrogen response to a simulated ice storm in a northern hardwood forest. *Ecosystems*. 23(6) 1186-1205. doi: 10.1007/s10021-019-00463-w
- Hickey, L.J.^{**}, J. Atkins[^], **R.T. Fahey**, M. Kreider, S. Wales^{*}, C.M. Gough. 2019. Contrasting development of canopy structure and primary production in planted and naturally regenerated red pine forests. *Forests*. 10 (7), 566. <https://doi.org/10.3390/fl0070566>
- Parent, J, T. Meyer, J. Volin, **R.T., Fahey**, and C. Witharana. 2019. An analysis of enhanced tree trimming effectiveness on reducing power outages. *Journal of Environmental Management*. 241, 397-406. <https://doi.org/10.1016/j.jenvman.2019.04.027>
- Atkins, J.W.[^], G. Bohrer, **R.T. Fahey**, B.S. Hardiman, T. Morin, A. Stovall, N. Zimmerman, and C.M. Gough. 2018. Quantifying forest and canopy structural complexity metrics from terrestrial LiDAR data using the forestR package. *Methods in Ecology and Evolution*. 9(10), 2057-2066. <https://doi.org/10.1111/2041-210X.13061>
- Scheuermann, C.S.^{*}, L.E. Nave, **R.T. Fahey**, K.J. Nadelhoffer, C.M. Gough. 2018. Mixed effects of ecosystem biological and physical structure on primary production in upper Great Lakes forests. *Oecologia*. 188(2), 405-415. doi: 10.1007/s00442-018-4236-x
- Gallinat, A.S., R.B. Primack, C.G. Willis, B. Nordt, A.D. Stevens, **R.T. Fahey**, A. Whittmore, Y. Du, Z.A. Panchen. 2018. Patterns and predictors of fleshy fruit phenology at five international botanic gardens. *American Journal of Botany*. 105(11), 1824-1834.
- Hardiman, B.S., L. LaRue, J.W. Atkins[^], **R.T. Fahey**, F. Wagner^{*}, and C.M. Gough. 2018. Spatial variation in canopy structure across forest landscapes. *Forests*. 9(8), 474; doi:10.3390/f9080474
- LaRue, L., J.W. Atkins[^], K. Dahlin, **R.T. Fahey**, C.M. Gough, S. Fei, and B.S. Hardiman. 2018. Linking Landsat to terrestrial LIDAR: Spectral indices of greenness and brightness are correlated with canopy structural complexity. *International Journal of Applied Earth Observations and Geoinformation*. 73: 420-427. <https://doi.org/10.1016/j.jag.2018.07.001>
- Atkins, J.W.[^], **R.T. Fahey**, B.S. Hardiman, C.M. Gough. 2018. Forest structural complexity predicts canopy light absorption at the sub-continental scale. *Journal of Geophysical Research: Biogeosciences*. 123(4): 1387-1405. <https://doi.org/10.1002/2017JG004256>
- Roman, L.A., H. Pearsall, T. Eisenman, T. Conway, **R. Fahey**, S. Landry, J. Vogt, N. van Doorn, M. Grove, D. Locke, A. Bardekjian, J. Battles, M. Cadenasso, C. Konijnendijk, M. Avolio, A. Berland, D. Jenerette, S. Mincey, C. Staudhammer. 2018. Human and biophysical legacies shape contemporary urban forests: A literature synthesis. *Urban Forestry and Urban Greening* 31: 157-168
- Fahey, R.T.**, B. Alveshere^{*}, J. I. Burton, A. D'Amato, Y.L. Dickinson, W.S. Keeton, C.C. Kern, A. Larson, B. Palik, K.J. Puettmann, M.R. Saunders, C.R. Webster, J.W. Atkins[^], C.M. Gough, B.S. Hardiman. 2018. Shifting conceptions of complexity in forest management and silviculture. *Forest Ecology and Management*. 421: 59-71 <https://doi.org/10.1016/j.foreco.2018.01.011>
- Sagara, B.T.^{*}, **R.T. Fahey**, C.S. Vogel, A.T. Fotis, P.S. Curtis, and C.M. Gough. 2018. Moderate Disturbance Has Similar Effects on Production Regardless of Stand Productivity and Composition. *Forests*. 9: 70; doi:10.3390/f9020070
- Fotis, A.^{*}, T. Morin, **R.T. Fahey**, B. Hardiman, G. Bohrer, and P. Curtis. 2018. Forest structure in space and time: biotic and abiotic determinants of canopy complexity and their effects on net primary productivity. *Agricultural and Forest Meteorology*. 250-251: 181-191.

<https://doi.org/10.1016/j.agrformet.2017.12.251>

- Bialecki, M.B., **R.T. Fahey**, and B.C. Scharenbroch. 2018. Variation in urban forest productivity and response to extreme drought across a large metropolitan region. *Urban Ecosystems*. 21(1): 157-169. <https://doi.org/10.1007/s11252-017-0692-z>
- Scharenbroch, B.C., D.R. Carter, M.B. Bialecki, **R.T. Fahey**, L. Scheberl, M. Catania, L. Roman, N. Bassuk, R. Harper, L. Werner, A. Siewert, S. Miller, L. Hutyra, S. Raciti. 2017. A rapid urban site index for assessing the quality of street tree planting sites. *Urban Forestry and Urban Greening*. 27: 279-286. <https://doi.org/10.1016/j.ufug.2017.08.017>
- Scharenbroch, B.C., M.B. Bialecki, and **R.T. Fahey**. 2017. Distribution and factors controlling soil organic C in the Chicago region, Illinois, USA. *Soil Science Society of America Journal*. 81(6): 1436-1449. doi:10.2136/sssaj2017.03.0087
- Fahey, R.T.** and M. Casali. 2017. Distribution of forest ecosystems over two centuries in a highly urbanized landscape. *Landscape and Urban Planning*. 164: 13-24. <https://doi.org/10.1016/j.landurbplan.2017.03.008>
- Brandt, L., A. Derby-Lewis, L. Scott, L. Darling, **R.T. Fahey**, L. Iverson, D. Nowak, A. Bodine, A Bell, S. Still, P. Butler, A. Dierich, S. Handler, M. Janowiak, S. Matthews, J. Miesbauer, M. Peters, A. Prasad, P.D. Shannon, D. Stotz, and C. Swanston. 2017. Chicago Wilderness Region Urban Forest Vulnerability Assessment and Synthesis: A Report from the Urban Climate Change Response Framework Chicago Wilderness Pilot Project. Gen. Tech. Rep. NRS-168. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 142 p. <https://doi.org/10.2737/NRS-GTR-168>
- Swanston, C. W., M. K. Janowiak, L. A. Brandt, P. R. Butler, S. D. Handler, P. D. Shannon, A. Derby Lewis, K. Hall, **R.T. Fahey**, L. Scott, A. Kerber, J.W. Miesbauer, and L. Darling. 2016. Forest Adaptation Resources: climate change tools and approaches for land managers, 2nd ed. Gen. Tech. Rep. NRS-GTR-87-2. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 161 p. <http://dx.doi.org/10.2737/NRS-GTR-87-2>
- Fahey, R.T.**, E.J. Stuart- Haëntjens*, C.M. Gough, A. De La Cruz**, E. Stockton**, C.S. Vogel, and P.S. Curtis. 2016. Evaluating forest subcanopy response to moderate severity disturbance and contribution to ecosystem-level productivity and resilience. *Forest Ecology and Management*. 376:135-147. <https://doi.org/10.1016/j.foreco.2016.06.001>
- Brandt, L., A. Derby-Lewis, **R.T. Fahey**, L. Scott, L. Darling, and C. Swanston. 2016. A framework for adapting urban forests to climate change. *Environmental Science and Policy*. 66:393-402. <https://doi.org/10.1016/j.envsci.2016.06.005>
- Fahey, R.T.** 2016. Variation in responsiveness of woody plant leaf-out phenology to anomalous spring onset. *Ecosphere*. 7(2):e01209.
- Stuart-Haëntjens, E.J*, P.S. Curtis, **R.T. Fahey**, C.S. Vogel, and C.M. Gough. 2015. Net primary production of a temperate deciduous forest exhibits a threshold response to increasing disturbance severity. *Ecology*. 96:2478–2487.
- Barber, N. and **R.T. Fahey**. 2015. Consequences of phenology variation and oxidative defenses in *Quercus*. *Chemoecology*. 25: 261-270.
- Panchen, Z. A., R. Primack, A. Gallinat, B. Nordt, A.D. Stevens, Y. Du., **R.T. Fahey**. 2015. Substantial variation in leaf senescence times among 1360 temperate woody plant species: Implications for phenology and ecosystem processes. *Annals of Botany*. doi: 10.1093/aob/mcv015
- Fahey, R.T.**, A. Fotis*, and K.D. Woods. 2015. Quantifying canopy complexity and effects on productivity and resilience in late-successional hemlock–hardwood forests. *Ecological Applications*, 25(3): 834-847.
- Carter, D.R., **R.T. Fahey**, K. Driesilker, M. B. Bialecki, and M Bowles. 2015. Evaluating trade-offs

between oak regeneration and C sequestration in relation to management and historical land-use. *Forest Ecology and Management*, 343: 53-62.

- Fahey, R.T.** 2014. Composition, structure, and trajectories of Great Lakes coastal pine forests in relation to historical baselines and disturbance history. *American Midland Naturalist*, 172(2): 285–302
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MANUSCRIPTS IN REVIEW AND REVISION

- Gough, C.M., B. Buma, A. Jentsch, K. Mathes, **R.T. Fahey**. Disturbance theory for ecosystem ecologists: A primer. (in review). *Ecology and Evolution*.
- Cranmer, N.*, A. Bunce, B. Alvesshere, T. Worthley, **R.T. Fahey**. Tree Trimming Effects on 3-Dimensional Crown Structure and Tree Biomechanics. (In revision). For *Arboriculture and Urban Forestry*.
- Schmit, J.P., Johnson, L., L. Darling, **R.T. Fahey**, D.H. Locke, M. Aronson, N.F. Sonti. M. Johnson, L. Campbell, M. Carr, M. Clarke, V. D'Amico, T. Erker, K. Lautar, A.T. Morzillo, S. Pincetl, L. Rhodes, L. Scott. (In review). The influence of urban and agricultural landscape context on forest diversity and

structure across ecoregions. For *Ecological Applications*.

Alveshere B.C.* , J. Atkins, A. Stovall, and **R.T. Fahey**. Influence of variable disturbance severity and spatial patterning on forest canopy structure and complexity. (In review). For *Ecological Applications*.

Darling, L., D.H. Locke, C.R. Rollinson, J.P. Schmit., **R.T. Fahey**, A.T. Morzillo, M.L., Johnson, L.R. Johnson, M. Baker, N.F. Sonti, M.F.J., Aronson, and B.S. Hardiman. (In review). Ecological and developmental history impacts the equitable distribution of ecosystem services. For *Frontiers in Ecology and the Environment*.

Nave, L., J. Atkins, S. Benjamins-Carey, G. Bohrer, B. Castillo, C. Clay, J. Crumsey, **R.T. Fahey**, C. Gough, B. Hardiman, K. Hofmeister, V. Ivanov, A. Matheny, A. Menna, K. Nadelhoffer, B. Propson, F. Santos, A. Schubel, J. Tallant. (In review). Ecosystem succession and carbon sequestration in a northern temperate forest: controls and management implications. For *Ecological Applications*

Alveshere B.C.* , A. Bunce*, T. Worthley, and **R.T. Fahey**. Evaluating effects of silvicultural treatments on forest canopy structure outcomes (In review). For *Canadian Journal of Forest Research*.

MANUSCRIPTS IN PREPARATION (draft available on request)

Gough, C. M., B. Bond-Lamberty, C. McGuigan, B. Alveshere, L. Capili, C. Clay, M. Grigri, **R.T. Fahey**, C. Flower, K.C. Mathes, A. Johnson, L.T. Haber, K. Dorheim, L.E. Nave, K. Niedermaier. (In prep). Resist!: Sustaining forest carbon sequestration and wood production after biotic disturbance

Tanzer, D.* , R. Bagchi, J. Mickley, A. Barker-Plotkin, K. Rivers**, **R.T. Fahey**. (In prep). Assessing the influence of timing in tree mortality following drought-defoliation interaction. For *Forest Ecology and Management*. Submission planned for Fall 2022.

Tanzer, D.* , C. Witharana, **R.T. Fahey**. (In prep). Using single-date Landsat-8 imagery to detect and classify the severity of tree mortality following drought-defoliation interaction. For *International Journal of Applied Earth Observations and Geoinformation*. Submission planned for Fall 2022.

Rogers, J.* , T. Worthley, J. Volin, and **R.T. Fahey**. (In prep). Effects of management in roadside forests on understory light environment, plant community structure, and edge effects. For *Forest Ecology and Management*.

Rogers, J.* , T. Worthley, J. Volin, and **R.T. Fahey**. (In prep). Manipulation of forest edge environments affects the phenological niche advantage of invasive exotic plant seedlings. For *Journal of Ecology*.

Alveshere B.C.* , C.C. Kern, and **R.T. Fahey**. (In prep). Management influences forest structural development and canopy structural complexity. For *Canadian Journal of Forest Research*.

Foster, J.R., J.H. Matthes, **R.T. Fahey**, E. LaRue[^], B. Hardiman. (in prep). Landsat metrics of foliar biomass predict changes in ground-measured forest structure across a gradient of partial canopy disturbance at NEON sites. For *Ecosphere*.

R.T. Fahey, Dyer, J.* , A. Barker-Plotkin, C. Gough, A. Reinmann. (in prep). Impacts of experimental defoliation on tree and organ-level non-structural carbohydrate pools. For *Tree Physiology*.

Dyer, J.* , A. Barker-Plotkin, **R.T. Fahey**. (In prep). Relating forest drought-defoliation productivity resistance to legacies of pre-disturbance growth and site conditions. For *Canadian Journal of Forest Research*.

Fahey, R.T., L. Bigelow*, J. Henning, R. Hallett, M. Johnson, and L. Roman. (In prep). Change in Street Tree Community Composition and Structure over time in Philadelphia, Pennsylvania. For *Urban Ecosystems*.

Fahey, R.T., B.C. Alveshere*, J. Atkins, A. Stovall, and C.M. Gough. (In prep). Simulating effects of variable disturbance severity and spatial patterning on forest productivity and disturbance response. For *Canadian Journal of Forest Research*.

REPORTS

- Brandt, L., A. Derby Lewis, L. Scott, **R.T. Fahey**, L. Darling, and C. Swanston. 2017. Adapting Urban Forests to Climate Change in the Chicago Region. *Arborist News*. December 2017.
- Darling, L. and **R.T. Fahey**. 2016. Sustaining oaks in the Chicago region landscape: developing a plan for maintaining oak dominance in an urban landscape. *Journal of the International Oak Society*.
- Brandt, L., L. Scott, A. Derby Lewis, L. Darling, and **R.T. Fahey**. 2016. Lessons learned from the Urban Forestry Climate Change Response Framework. Houghton, MI: Northern Institute of Applied Climate Science. 36 pp.
- Fahey, R.T.**, L. Darling, J. Anderson. 2015. Sustaining Our Oaks: A Vision for the Future of Oak Ecosystems in the Chicago Wilderness Region. Chicago Wilderness. 40p.

CONFERENCES/WORKSHOPS/SESSIONS ORGANIZED

- Novel Ecosystem Dynamics in Human Dominated Ecosystems. Organized Oral Session. Ecological Society of America Annual Meeting, Louisville, KY. August 13, 2019.
- Understanding and promoting resilience of metropolitan-region forest socio-ecological systems. Organized Special Symposium. US Regional Association of the International Association for Landscape Ecology Annual Meeting. April 9-11, 2018.
- Quantifying forest complexity and integrating data into management. Organized Special Session, North American Forest Ecology Workshop, Edmonton, AL. June 19-22, 2017.
- Managing Urban Forests in a Changing Climate: The Morton Arboretum Urban Tree Conference. November 18–19, 2014. 126 Attendees.
- Sustaining Oaks in the Chicago Wilderness Region: A Conference on the Chicago Wilderness Oak Recovery Plan. The Morton Arboretum, September, 2014. 94 Attendees.

INVITED SEMINARS/PRESENTATIONS

(*graduate student, **undergraduate student, ^post-doctoral advisee)

17 invited seminars as lead author while at UConn

- Fahey, R.T.**, B. Alveshire, C. Gough, J. Atkins, A. Stovall. Modeling effects of moderate severity disturbance and management on forest structural diversity and productivity. Invited Presentation for the 2023 American Geophysical Union Fall Meeting, San Francisco, CA. 12/14/2023.
- Fahey, R.T.** Managing for forest complexity, ecosystem functioning, and resilience: evidence from natural disturbance, ecosystem-scale experiments, and modelling. Scion Science Seminar, Scion, NZ. 5/10/2023.
- Fahey, R.T.** Quantifying and modeling the effects of disturbance on forest complexity and ecosystem functioning using data derived from terrestrial laser scanning. High Resolution Sensing and Monitoring for Forestry Workshop, Scion, NZ. 3/8-9/2023.
- Fahey, R.T.** Increasing Diversity in Forestry Graduate Programs and Providing Work Experience Connected to Diverse Experiences Northeast-Midwest State Foresters Alliance - Forest Resource Planning Committee. 7/1/21.
- Fahey, R.T.** Canopy structure as a driver of forest ecosystem functioning and resilience to disturbance. Hudson Highlands Research Symposium. 6/28/21.
- Tanzer, D.*, **Fahey, R.T.**, A. Barker-Plotkin, R. Bagchi, J. Mickley. Assessing temporal dynamics of disturbance interactions as a driver of a forest mortality event. Ecological Society of America Annual Meeting. Salt Lake City, UT, August, 2020.
- Fahey, R.T.** Connecticut's Changing Forests: What it Means for Carbon Dynamics and Climate

- Resilience. UConn CLEAR Webinar. May 11, 2020.
- Fahey, RT.** Connecticut's Changing Forests: What it Means for Carbon Dynamics and Climate Resilience. Presentation to the Governor's Council on Climate Change (GC3). April 7, 2020.
- Bunce, AB*, **RT Fahey**, A. Morzillo, J. Parent, C Witharana, T. Worthley, D. Hale*, D. Kloster, N. Marek*, J. Rogers*. Stormwise: Promoting resilience in urban-exurban forest socioecological systems. IUFRO Wind and Trees Workshop, New Zealand. February, 2020. Invited Oral Presentation.
- Fahey, RT.** Understanding and managing urban forest socio-ecological systems to promote ecosystem functioning and resilience. University of Connecticut Department of Plant Sciences and Landscape Architecture Seminar Series. February, 2020.
- Fahey, RT.** Measuring and Manipulating Forest Canopy Structure to Promote Ecosystem Functioning and Resilience. Connecticut Agricultural Experiment Station Seminar Series. December, 2019.
- Fahey, RT.** Understanding and managing urban forest socio-ecological systems to promote ecosystem functioning and resilience. Virginia Commonwealth University Department of Biology Fall Seminar Series. October, 2019.
- Fahey, RT,** B. Alveshire*, J. Atkins^, C. Gough, B. Hardiman, L. LaRue. Quantifying and managing forest canopy structure to promote ecosystem resilience and functioning. Ecological Society of America Annual Meeting, Louisville, KY. August, 2019. Invited Oral Presentation.
- Bunce, AB*, **RT Fahey**, A. Morzillo, J. Parent, C Witharana, T. Worthley, D. Hale*, D. Kloster, N. Marek*, J. Rogers*. Adapting silviculture to urban-exurban forest socioecological systems. Ecological Society of America Annual Meeting, Louisville, KY. August, 2019. Invited Oral Presentation.
- Fahey, RT.,** L. Brandt, C. Staudhammer, N. VanDoorn. Vegetation conditions and dynamics in Wildland-Urban Interface Forests. USDA Forest Service National Workshop on Urban and Wildland-Urban Interface Forests Under Changing Conditions. Lone Tree, CO. June, 2019. Invited Presentation.
- Gough, C., Atkins, J^, **Fahey, R. T.,** Haber, L.* , Hickey, L.** , Stuart-Haentjens, E.* , Wales, S.* December, 2018. When Does Shifting Species Diversity and Canopy Structure Matter for the Land Carbon Sink?: A Cross-Scale Analysis. Invited Presentation for the American Geophysical Union Fall Meeting, Washington, DC.
- Fahey, RT.** Understanding and managing urban forests at the metropolitan region scale. Purdue University College of Forestry and Natural Resources Fall Seminar Series. September 18, 2018. Invited Seminar.
- Gough, CM, **Fahey RT,** Hardiman, BS, Atkins, J.^ The imperative of network ecology to advancing continental knowledge of carbon cycling-ecosystem structure relationships. Ecological Society of America Annual Meeting, New Orleans, LA. August, 2018. Invited Symposium Presentation.
- Atkins, J.^; **Fahey, R. T.;** Gough, C.; Hardiman, B. (2017, December). Canopy structural complexity predicts forest canopy light absorption at continental scales. Presentation for the American Geophysical Union, New Orleans, LA.
- Gough, C.; Bond-Lamberty, B.; Stuart-Haentjens, E.*; Atkins, J.^; Haber, L.*; **Fahey, R. T.** (2017, December). Carbon cycling at the tipping point: Does ecosystem structure predict resistance to disturbance? Presentation for the American Geophysical Union Fall Meeting, New Orleans, LA.
- Fahey RT.** Understanding linkages between forest structural complexity and ecosystem functioning and applications to ecologically-focused forest management. *Bennington College Department of Science Fall Seminar Series.* October 13, 2017. Invited Speaker.
- Fahey RT,** Atkins, J.^ Gough, CM, Hardiman, BS. Quantifying forest structural complexity: approaches, metrics, and a conceptual framework. *North American Forest Ecology Workshop,* Edmonton, AL. June 19-22, 2017. Invited Oral Presentation.
- Gough C, Bohrer G, Curtis P, Bond-Lamberty B, Stuart-Haentjens E,* Hardiman B, **Fahey R,** Atkins J,^

Sagara B,* Haber L.* The surprising role of disturbance in maintaining forest carbon sequestration: Implications for carbon science, policy and management. *2017 Joint NACP and Ameriflux Principal Investigators Meeting*, Plenary, Bethesda, MD, March 30, 2017.

Atkins, JW ^, **Fahey RT**, Gough CM, Hardiman BS. Canopy structural complexity as a continental predictor of primary production: Using NEON to transform understanding of forest structure-function *American Geophysical Union Fall Meeting 2016*, December 15, 2016. Invited Oral Presentation.

Fahey RT, Forecasting the Future of Urban Forests. *Connecticut Urban Forest Conference*. Invited Oral Presentation. October 26, 2016.

Fahey RT, Gough, CM, Hardiman, BS, Atkins, J.^ Understanding linkages between forest structural complexity and ecosystem functioning and applications to ecologically-focused forest management. *Harvard Forest Fall Seminar Series*. September 30, 2016. Invited Seminar.

Fahey, R.T. Sustaining Oaks in the Chicago Region Landscape through Restoration, Conservation, and Urban Forestry. Invited Oral Presentation. *8th International Oak Society Conference*. October 20, 2015.

Fahey, R.T. Modeling regional-scale urban forest composition, canopy structure, and benefits to support green infrastructure planning, oak ecosystem recovery, and climate adaptation. Invited Oral Presentation. *National Workshop on Large Landscape Conservation*, Washington, D.C. October 2014.

CONTRIBUTED PRESENTATIONS (SELECTED)

(*graduate student, **undergraduate student, ^post-doctoral advisee)

N. Cranmer*, Bunce, A.*, T. Worthley, **R.T. Fahey**. Characterizing Relationships Between Tree Biomechanics and 3D Tree Crown Structural Characteristics and Assessing Effects of Trimming. IUFRO Wind and Trees Conference. June 15, 2023

Bunce, A.*, T. Worthley, **R.T. Fahey**. Response of tree biomechanics to resilience-focused silviculture. IUFRO Wind and Trees Conference. June 15, 2023

Bunce, A.*, C. Riely, T. Worthley, **R.T. Fahey**. A Demonstration of Adaptive Silviculture in Southern New England. NESAF 2023. Nashua, NH. March 15, 2023.

R.T. Fahey, J. Atkins, G. Bohrer, B. Bond-Lamberty, P. Curtis, A. Fotis, C. Gough, L. Haber, L. Hickey, B. Hardiman, K. Mathes, K. Nadelhoffer, L. Nave, E. Stuart-Haentjens, J. Tallant, C. Vogel. Forest carbon cycling response to disturbance: evidence on patterns and mechanisms from ecosystem-level manipulations. iLEAPs-OzFlux Conference. February 2, 2023, Auckland, NZ.

N. Cranmer*, **R.T. Fahey**, C. Witharana, T. Worthley, B. Alveshere*, A. Bunce*. Characterizing Relationships Between Tree Biomechanics and 3D Tree Crown Structural Characteristics and Assessing Effects of Drought and Management. Ecological Society of America Annual Meeting. August, 2022, Montreal, QC.

Dyer, J.*, R. Fahey, D. Tanzer*, K. Rivers**, A. Barker-Plotkin. Relating forest drought - defoliation resistance to pre-disturbance growth and memory of prior defoliation. Ecological Society of America Annual Meeting. August, 2022, Montreal, QC.

Alveshere, B.C.*, J. Atkins, A. Stovall, and **R.T. Fahey**. Modeling effects of moderate severity disturbance on forest canopy structure and complexity. Ecological Society of America Annual Meeting. August, 2022, Montreal, QC.

Tanzer, D.*, **Fahey, RT.**, A. Barker-Plotkin, R. Bagchi, J. Mickley. The role of timing in drought and defoliation-related tree mortality in temperate mixed-hardwood forests. Ecological Society of America Annual Meeting. August, 2022, Montreal, QC.

Bigelow, L.* J. Henning, L. Roman, and **R.T. Fahey**. "Shifting Composition, Structure, and Characteristics of Philadelphia's Street Trees". Urban Tree Diversity Conference, St. Petersburg, FL. Aug. 2-3, 2022.

- Bigelow, L.* J. Henning, L. Roman, and **R.T. Fahey**. “Longitudinal Community Analysis of Philadelphia’s Street Trees (2015-2021)”. International Society of Arboriculture Annual International Conference, 11-14 September 2022, Malmö, Sweden.
- Fahey, R.T.**, J. Campbell, L. Rustad. Canopy structure and Moderate Disturbance: Early Results from the Ice Storm Experiment. Hubbard Brook LTER Annual Meeting. 7/8/21.
- Tanzer, D.*, **Fahey, R.T.**, A. Barker-Plotkin, R. Bagchi, J. Mickley. The role of timing in drought and defoliation-related tree mortality in temperate mixed-hardwood forests. Ecological Society of America Annual Meeting. August, 2021.
- C.M. Gough, B.P. Bond-Lamberty, L.E. Nave, C. Clay, K.C. Mathes, L. Haber, M.S. Grigri, E. Agee, K. Dorheim, S. Pennington, A.N. Shiklomanov, J. Tallant, **R.T. Fahey**, P. Curtis, K.J. Nadelhoffer, E.J. Stuart-Haëntjens, B.S. Hardiman, G. Bohrer. American Geophysical Union Fall Meeting, December, 2020.
- J.L. Campbell, L. Rustad, CT Driscoll, T. Fahey, **R.T. Fahey**, H. Fakhraei, P. Groffman, W. Leuenberger, P. Schaberg, J. Weitzman. Effects of an Experimental Ice Storm on Carbon and Nitrogen Cycling in a Northern Hardwood Forest. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2019.
- L. Hickey, J.W. Atkins, **R.T. Fahey**, M.R. Kreider, S. Wales, C. Gough. Canopy Structure-Carbon Sequestration Relationships in Plantation and Naturally Regenerated Red Pine. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2019.
- EJ Stuart-Haëntjens, B.S. Hardiman, **R.T. Fahey**, G. Bohrer, C. Rey-Sanchez, S. J Cheng, T. Morin, P. Curtis, C.S. Vogel, C. Gough. Lessons from a 15-year eddy-covariance dataset: could changing soil water content tip the temperate forest carbon balance? American Geophysical Union Fall Meeting, San Francisco, CA, December, 2019.
- E.A. LaRue, W.K. Dodds, J.R. Rohr, K.M. Dahlin, J.H. Thorp, J.S. Johnson, B.S. Hardiman, M. Rodriguez-Gonzalez, M. Keller, **R.T. Fahey**, J. Knott, M. D. SanClements, J. Atkins, F. Tromboni, G.G. Parker, J. Liu, S. Fei. The evolution of macrosystems biology. Ecological Society of America Annual Meeting, Louisville, KY. August, 2019.
- B. Hardiman, E. LaRue, J. Atkins, C.M. Gough, **R.T. Fahey**, K.M. Dahlin, F. Wagner, S. Fei. Understanding the influence of forest canopy structure on ecosystem functions at continental scales. Ecological Society of America Annual Meeting, Louisville, KY. August, 2019.
- L. Johnson, M. Johnson, M. Aronson. **R.T. Fahey** et al. Social-ecological drivers of change in urban forest patches. Ecological Society of America Annual Meeting, Louisville, KY. August, 2019.
- Alvshere, B.C.*, C.C. Kern, and **R.T. Fahey**. Management influences forest structural development and canopy structural complexity. North American Forest Ecology Workshop. Flagstaff, AZ. June, 2019.
- Atkins, J.∧, **Fahey, R. T.**, E. Stuart-Haentjens*, Haber, L.* , LaRue, L., McNeil, B. Orwig, D., Stovall, A., Tallant, J., Hardiman, B., Gough, C. December, 2018. Unique Canopy Structural Signatures of Moderate Disturbance Derived from Terrestrial LiDAR Poster for the American Geophysical Union Fall Meeting, Washington, DC.
- Stuart-Haentjens, E.* , Atkins, J, **Fahey, R. T.**, Fotis, A. Ricart, R. Hardiman, B., Gough, C. December, 2018. Using Terrestrial LiDAR to Examine Forest Structural Complexity Following Disturbance. Poster for the American Geophysical Union Fall Meeting, Washington, DC.
- S. Wales*, Kreider, M., Atkins, J, **Fahey, R. T.**, Nave, L. Nadelhoffer, K., Gough, C. December, 2018. Mechanisms underlying production stability in temperate deciduous forests. Poster for the American Geophysical Union Fall Meeting, Washington, DC.
- Volin, E.*; **Fahey, R. T.** Inequity in Urban Tree Canopy: Current Patterns and Future Scenarios. *Partners in Community Forestry Conference*, Irvine, CA. November 8, 2018. Contributed Oral Presentation.

- Rogers, J.*; T. Worthley, J. Volin, and **R.T. Fahey**. Edge effects in managed and unmanaged roadside forests. *Natural Areas Conference*. Bloomington, IN, October, 22-25, 2018. Contributed Oral Presentation. (Awarded best student presentation)
- Atkins, J.^; **Fahey, R. T.**; Gough, C.; Hardiman, B. Coupling ecosystem complexity with leaf to canopy light and carbon cycling dynamics. *Ecological Society of America Annual Meeting*, New Orleans, LA. August, 2018. Contributed Oral Presentation.
- LaRue, L.^, Atkins, J.W., K. Dahlin, **R.T. Fahey**, C.M. Gough, S. Fei, and B.S. Hardiman. Linking Landsat to terrestrial LIDAR: Spectral indices of greenness and brightness are correlated with canopy structural complexity. *Ecological Society of America Annual Meeting*, New Orleans, LA. August, 2018. Contributed Oral Presentation.
- Volin, E.*; **Fahey, R. T.** (2018, April). Understanding macro-scale patterns in urban tree canopy and inequity across socio-cultural and biophysical regions. Presentation for the American Association of Geographers, New Orleans, LA.
- Fahey, R. T.**; Atkins, J.^; Gough, C.; Haber, L.*; Stuart-Haentjens, E.*; Hardiman, B.; Orwig, D.; Campbell, J.; Rustad, L.; Duffy, M.** (2017, December). Effects of moderate severity disturbances on forest structural complexity: A study of ice and fire. Poster for the American Geophysical Union Fall Meeting, New Orleans, LA.
- Pastick*, J., D. Maurer, and **R.T. Fahey**. Adaptive management experiments for restoration of oak ecosystems: effects of canopy thinning on seedling regeneration and groundlayer plant communities. *Natural Areas Conference*, Fort Collins, CO, October 11, 2017. Contributed Oral Presentation
- Fahey RT**, Fan, C.^, Johnston, M., Scott, L., Darling, L. Modeling forest composition and biomass across large urbanized landscapes. *International Association of Landscape Ecology - US Annual Meeting*. April 11, 2017. Contributed Oral Presentation.
- Fahey RT**, Gough, CM, Hardiman, BS, Atkins, J.^ Mechanisms linking forest canopy structural complexity with primary production: Evaluating the generality of ecosystem structure-production relationships at a continental scale. *Harvard Forest Ecology Symposium*, March 21, 2017. Poster.
- Fahey RT**, Tallant J, Gough CM, Hardiman BS, Atkins J.^, Scheuermann CM.* Comparison of Aerial and Terrestrial Remote Sensing Techniques for Quantifying Forest Canopy Structural Complexity and Estimating Net Primary Productivity. *American Geophysical Union Fall Meeting 2016*, December 15, 2016. Oral Presentation.
- C.M. Gough, **R.T. Fahey**, B.S. Hardiman, C.M. Scheuermann*, J.W. Atkins^ (2016). (Why) Does Physical Complexity Matter?: Forest Physical Structure and Carbon Cycling. *An Integrated Network for Terrestrial Ecosystem Research on Feedbacks to the Atmosphere and Climate (INTERFACE): Linking experimentalists, ecosystem modelers, and Earth system modelers*.
- B.S. Hardiman, C.M. Gough, **R.T. Fahey**, J.W. Atkins^ (2016). Is canopy complexity a global predictor of forest growth? Using NEON to understand ecosystem structure-production relationships across broad spatial scales. 2016 *Ecological Society of American Annual Meeting*. Fort Lauderdale, FL.
- M.B. Bialecki and **Fahey, R.T.**, April 2015. Drivers of variation in tree productivity and response to extreme drought across an urban landscape. Contributed Oral Presentation at *American Association of Geographers Annual Meeting*, Chicago, IL
- M. Moses*, **Fahey, R.T.**, and D. Goldblum, April 2015. Carbon Assimilation of Oak Seedlings Under Canopy Openness Manipulations. Contributed Oral Presentation at *American Association of Geographers Annual Meeting*, Chicago, IL
- M.B. Bialecki and **Fahey, R.T.**, August 2014. Tree growth and resilience to extreme drought across an urban land-use gradient. Contributed Oral Presentation at *Ecological Society of America Annual Meeting*, Sacramento, CA
- M. Casali and **Fahey, R.T.** March 2014. Mapping temporal change in oak-dominated ecosystems in the

- Chicago metropolitan region. Contributed Poster at *Central Hardwood Forest Conference*. Carbondale, IL.
- Goodrich-Stuart, E.J.* , A. De La Cruz**, **R.T. Fahey**, and C.M. Gough. December 2013. Disturbance severity and net primary production resilience of a Great Lakes forest ecosystem. *American Geophysical Union*.
- M.B. Bialecki and **Fahey, R.T.**, August 2013. Tree growth and resilience to extreme drought across an urban land-use gradient. Contributed Poster at *Ecological Society of America Annual Meeting*, Minneapolis-St. Paul, MN
- Fahey, R.T.**, A. Fotis, and K. Woods. June 2013. Drivers of canopy structural complexity in old-growth forests. Contributed Oral Presentation at the *North American Forest Ecology Workshop*, Bloomington, IN.
- Fahey, R.T.** and M. Bowles, November 2012. Understanding the Chicago urban forest continuum. Contributed Oral Presentation at the *Chicago Wilderness Congress*, Chicago, IL.
- Fahey, R.T.** November 2012. Assessing inter- and intra-specific variation in tree phenology in response to recent climatic changes. Contributed Oral Presentation at the *Chicago Wilderness Congress*, Chicago, IL.
- Fahey, R.T.** and C.G. Lorimer, June 2011. Competitive status of underplanted eastern white pine in mesic hemlock-hardwood forests: can gap-based restoration succeed? Contributed Oral Presentation at the *North American Forest Ecology Workshop*, Roanoke, VA.
- Fahey, R.T.** C.G. Lorimer, and D.J. Mladenoff. August 2010. Persistence of Eastern White Pine in Hemlock-Hardwood Forests: An Early-successional Species in a Late-successional Landscape. Contributed Oral Presentation at *Ecological Society of America Annual Meeting*, Pittsburgh, PA.
- Fahey, R.T., and** C.G. Lorimer. August 2008. Eastern White Pine in Hemlock-Northern Hardwood Forests: Habitat Relationships and Change from Pre-settlement Condition. Contributed Poster at *Ecological Society of America Annual Meeting*, Milwaukee, WI
- Fahey, R.T.**, C.G. Lorimer. April 2008. Pre-settlement distributions of eastern white pine and development of predictive habitat models. Contributed Paper at US Regional Association of the *International Association for Landscape Ecology Annual Symposium*, Madison, WI.
- Fahey, R.T.**, K.J. Puettmann, and S.D. Berryman. August 2005. Patterns in understory vegetation distributions across gap openings in variable density thinned forest stands in western Oregon. Contributed Paper at *Ecological Society of America Annual Meeting*, Montreal, Quebec.

FUNDING

Awarded (Total - \$6,629,174)

Active – as lead PI

Eversource Energy Center

R.T. Fahey (PI), T. Worthley (co-PI). Evaluating effects of forest management and climate change related tree stress on energy grid reliability and resilience through a damage prediction modeling framework. 2023-2026. **\$449,063**

USDA NIFA National Needs Fellowship Program

R.T. Fahey (PI), A. Helton, B. Lawrence, A. Morzillo, C. Rittenhouse, T. Rittenhouse, J. Vokoun, T. Worthley. Training Forest Resources Graduates For An Exurban Forest Future. 2019-2024. **\$246,000**

Connecticut Department of Energy and Environmental Protection

R.T. Fahey (PI). CT Urban and Community Forest Program: Analysis of State UCF Conditions and Resources. 2021-2023. **\$300,000**

Eversource Energy Center

R.T. Fahey (PI), T. Worthley (co-PI). Vegetation management and modeling to promote resilient trees, power, and communities. 2020-2023. **\$306,072**

USDA McIntire-Stennis

R.T. Fahey (PI), Worthley, T. (Co-I). Evaluating patterns and drivers of structural variation in edge forests and their functional consequences. 2021-2024. **\$59,639**.

Active – as co-PI

National Science Foundation

J. Knighton, **R.T. Fahey**, G. Wang. (PIs). Examining differential tree drought responses with phylogenies and process-based catchment water age modeling **\$689,896**

NSF IUCRC

M. Anagnostou et al. (**R. Fahey – co-PI**). Industry–University Cooperative Research Center (IUCRC) for Weather Innovation and Smart Energy and Resilience (WISER). **\$750,000**

UConn NEUCORSE

M. Anagnostou et al. (**R. Fahey – co-PI**): CLEAN EARTH: Collaboratory on Environmental Advocacy, Net-zero Energy, and Renewable Technologies. **\$100,000**

USDA National Institute of Food and Agriculture

J. Knighton (PI), **R.T. Fahey**, T. Worthley, (Co-PIs). Studying how insect infestation affects forest water use and resilience to future climate stressors with isotopic tracers and process-based modeling. **\$299,910**

USDA Forest Service

T. Trammell et al. (RT. Fahey – Senior Personnel). Silviculture in the city: Advancing urban and climate adapted management strategies for forested natural areas in the Northeastern U.S. through science and training. **\$300,000**

Eversource Energy Center

A. Morzillo, **R.T. Fahey**, C. Witharana, Z. Zhu, T. Worthley (co-PIs) Assessing the effect of green energy development/sprawl patterns on C mitigation potential of forests and working lands. 2021-2022. **\$50,000**

USDA McIntire-Stennis

T. Worthley (PI), Morzillo, A.T. (Co-I), **Fahey, R.T.** (Co-I). Resilience, Carbon Sequestration and Carbon Storage in the Exurban Forest: Decision-Making and Stakeholder Reaction with Adaptive Silviculture for Climate Change. 2021-2024. **\$60,000**

USDA McIntire-Stennis

J. Knighton (PI), T. Worthley, **Fahey, R.T.** (Co-Is). Assessing the Impact of Silviculture on Forest Root Zone Water Residence Times. 2021-2024. **\$58,652**

Completed

At UConn

Tree Research and Education Endowment Fund

R.T. Fahey (PI), Roman, L (Co-PI), Grabowsky, J. (Co-PI). Monitoring and modeling changes in street tree communities over time. 2019-2023. **\$25,000** (Additional **\$27,500** provided by USDA Forest Service through Research Joint Venture Agreement).

USDA McIntire-Stennis

R.T. Fahey (PI), Worthley, T. (Co-I). Experimentally testing linkages between forest canopy structural complexity and stand productivity and resilience. 2018-2021. **\$90,000**

National Science Foundation

R.T. Fahey, B.S. Hardiman, J. Matthes. (PIs). Collaborative Research: MSA: Incorporating Structural Effects of Disturbance into Ecosystem Models. 2019-2022: **\$299,384 (\$29,204 to UConn)**

National Science Foundation

M. Anagnostou (PI), **R. Fahey**, D. Cerrai, A. Bagtzoglou, C. Witharana (co-PIs). Industry-University Cooperative Research Center (IUCRC) for Weather Innovation and Smart Energy Resilience. 2021-2022. **\$20,000**

Civil and Environmental Engineering Research Initiative

D. Cerrai (PI), **RT Fahey** (co-PI). Machine learning based wildfire ignition model: preliminary study. 2020. **\$20,000**.

USDA McIntire-Stennis

T. Worthley (PI), Morzillo, A.T. (Co-I), **Fahey, R.T.** (Co-I). Assessing woodland owner interest in adaptive silviculture as a response to climate change. 2018-2021. **\$90,000**

UConn Research Excellence Program

R.T. Fahey (PI). Interacting disturbance in forest ecosystems: Does disturbance memory affect resistance and resilience of forest productivity? 2019-2020. **\$24,896**

National Science Foundation.

R.T. Fahey (PI), C. Witharana (Co-PI). RAPID: Assessing temporal dynamics of disturbance interactions as a driver of a novel forest mortality event. 2019-2020. **\$57,849**.

Eversource Energy Center

A. Morzillo (PI), **R. Fahey**, J. Volin, T. Worthley, J. Parent (co-PIs). Stormwise II: Vegetation Management and Modeling for Storm Resistant Trees, Resilient Power and Sustainable Futures. 2018-2019. **\$1,004,000**

National Science Foundation

R.T. Fahey, C.M. Gough, and B.S. Hardiman (PIs). Is canopy structural complexity a global predictor of primary production?: Using NEON to transform understanding of forest structure-function. 2016-2018. **\$299,940 (\$59,940 to UConn)**

Eversource Energy Center

J. Parent (PI), J.C. Volin, T. Meyer, W. Zhang, **R. Fahey**, E. Anagnostou & D. Wanik. Further evaluation of airborne & mobile LiDAR technologies for monitoring roadside vegetation and utility infrastructure. 2016-2017. **\$150,074**

USDA McIntire-Stennis.

R.T. Fahey. Evaluating the effects of forest management on development of canopy structural complexity and light use efficiency. 2016-2018. **\$86,384**

USDA Forest Service - National Urban and Community Forestry Advisory Council.

R.T. Fahey (PI), D. Nowak, S. Hirabayashi, S. Maco, B. Toomey, R. Blankenhorn. Planning for equitable urban landscapes: Identifying communities underserved by urban forest green infrastructure, assessing future risks, and optimizing management strategies. 2016-2018. **\$298,525 (\$158,000 to UConn)**

Center for Tree Science at the Morton Arboretum

R.T. Fahey. Restoration of oak ecosystems in human-dominated landscapes. 2016-2019. **\$78,760**.

Prior to UConn

USDA Forest Service - National Urban and Community Forestry Advisory Council

Fahey, R.T. and B. Scharenbroch. 2012-14 (Co-PIs). Carbon Sequestration and Resiliency of the Urban Forest Landscape. **\$143,150**

USDA Forest Service – State and Private Forestry

Fahey, R.T. 2012-14. Assessing Oak Resources of Northeast Illinois and Implementing a Cooperative Strategy to Restore Oak Dominance to the Region's Tree Canopy. Received as subaward through Chicago Wilderness Trust. **\$115,000**

Lake County Forest Preserve District

Fahey, R.T. 2013-15. Oak Woodland Ecosystem Restoration Experiment: implementation and monitoring. **\$30,431**

Illinois DNR – Illinois Wildlife Preservation Fund

Fahey, R.T. 2012. Dendrochronological analysis of Illinois Natural Areas Inventory sites. **\$2,000**

Huron Mountain Wildlife Foundation

Fahey, R.T. 2012-13. Assessing drivers and implications of canopy structural complexity in late-successional hemlock-northern hardwood forests. **\$5,400**

Illinois-Indiana Sea Grant College Program

Fahey, R.T. 2011. Restoration of native pine species in Great Lakes coastal environments. **\$8,795**

Lake County Forest Preserve District

Fahey, R.T. 2011-12. Adaptive management of Southern Des Plaines River Forest Preserves: Data analysis and restoration experiment design. **\$69,871**

Huron Mountain Wildlife Foundation

Fahey, R.T. and C.G. Lorimer. 2007-8. The origin and perpetuation of emergent white pines in hemlock-northern hardwood forests. **\$4,983**

Garden Club of America: Ecological Restoration Grant

Fahey, R.T. 2006. Ecology and restoration of supercanopy white pine in mesic hemlock-northern hardwood forests. **\$8,000**

Pending/Planned

National Science Foundation

R.T. Fahey, J. Garnas, C. Johnson, J. Matthes, P. Groffman, C. Hicks Pries, M. Ayres. (PIs). Collaborative Research: Canopy tree species loss as a driver of forest ecosystem transformation. **\$2,496,844 requested**. Submitted 7/31/2023.

USDA National Institute of Food and Agriculture

J. Knighton (PI), **R.T. Fahey** (Co-PI). Effects of forest species loss on hydraulic strategy, canopy complexity, and ecosystem service provisioning through coupled field model experiments. **\$749,195 requested**. Submitted 9/14/2023.

National Science Foundation

R.T. Fahey, B. Hardiman, E. LaRue, (PIs) S. Qiu, J. Wang, Z. Zhu (co-PIs). Collaborative Research: MRA: Structural stability and vegetation state transitions in forested ecosystems across the NEON network. **\$2,177,050 requested**. Submitted 11/13/2023.

National Science Foundation

R.T. Fahey, C.M. Gough, and M. Lucash. (PIs). Unraveling the mechanistic underpinnings of compounding disturbance effects on forest production: A coupled field-modeling experiment across scales. **\$1,330,947 requested**. Submitted 9/5/2023.

RESEARCH NETWORKS/WORKING GROUPS

- National Urban Silviculture Network – USDA Forest Service – Research Co-Lead
- National Ecological Observatory Network – Site Disturbance Technical Working Group
- Adaptive Silviculture for Climate Change – Lead PI for Southern New England Site
- Ecosystem Structural Diversity Network – NSF funded

- Forest Pest Adaptation Working Group – USGS/NPN
- New England Forest Adaptation Working Group – USFS/NCASC
- NSF SESYNC Pursuit: Social and ecological drivers of change over time in urban forest patches - Named Participant
- NSF Research Coordination Network: Terrestrial Laser Scanning in Ecology – Named Participant
- NSF SESYNC Working Group: Growing the Urban Forest: Revealing the Processes that Shape Urban Canopy - Named Participant

HONORS/AWARDS

- George F. Cloutier Professorship in Forestry – *2021-2024*
- UConn AAUP Excellence in Research and Creativity: Early Career - *2020*
- UConn Research Excellence Program - *2019*
- Provost Commendation for Teaching Excellence – *2016, 2017, 2018, 2019*
- Huron Mountain Wildlife Foundation: Manierre Award - *2013*
- UW Vilas Travel Award - *2010*
- HHMI Program in Scientific Teaching Fellow - *2009*
- Garden Club of America Fellowship in Ecological Restoration - *2007*
- Oregon State University Department of Forest Science Hayes Fellowship - *2005*
- Member Xi Sigma Pi Forestry Honor Society – *2005*

SERVICE

Professional Memberships/Service:

- CT State Vegetation Management Task Force
- CT Governor’s Council on Climate Change – Working and Natural Lands Sub-group
- Connecticut Urban Forest Council
- Society of American Foresters – Yankee and New England Chapters
- Ecological Society of America
- American Geophysical Union
- International Association for Landscape Ecology – US Chapter
- Forest Guild
- International Society of Arboriculture – Urban Tree Growth and Longevity Working Group
- Chicago Regional Trees Initiative – Director of Forest Composition and Modeling Program
- Chicago Wilderness Oak Ecosystem Recovery Working Group – Co-chair
- Chicago Wilderness Climate Change Taskforce
- Chicago Wilderness Trees and Green Infrastructure Taskforce

UConn Service:

University level:

- Centers and Institutes Committee

College level:

- Sustainable Landscapes – Strategic Planning Working Group
- Excellence Committee
- Land Use Committee

Department level:

- UConn Forest Director and Member of Executive Committee
- Promotion Tenure and Re-appointment Committee - Member
- Graduate Program Committee - Member
- Departmental AAUP Representative

- Awards Committee – past Chair
- Seminar Committee –past Chair/Member
- Faculty Search Committee – Member

Reviews:

Granting agencies:

- USDA NIFA – BNRE Panel Fall 2018
- NSF (CAREER, DEB, CREST)
- Swiss NSF
- MITACS Canada
- UConn REP
- UConn SURF

Publishers:

- Yale University Press

Journals:

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| – Frontiers in Ecology and the Environment | – Journal of Vegetation Science |
| – Ecology Letters | – Applied Vegetation Science |
| – Ecology | – Forests |
| – Ecological Monographs | – Plant Ecology |
| – Ecological Applications | – Forest Ecology and Management |
| – Bioscience | – Ecosphere |
| – Journal of Ecology | – Botany |
| – Journal of Applied Ecology | – Rhodora |
| – Global Change Biology | – Arboriculture and Urban Forestry |
| – Agricultural and Forest Meteorology | – European Journal of Forest Research |
| – Urban Forestry and Urban Greening | – Journal of the Torrey Botanical Society |
| – Urban Ecosystems | – Northeastern Naturalist |
| – Ecography | – Ecological Engineering |
| – Ecosystems | – Canadian Journal of Botany |
| – Plos One | |
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