

TYLER K. REFSLAND

Program in Ecology, Evolution and Conservation Biology
Dept. of Natural Resources and Environmental Sciences
University of Illinois
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- EDUCATION** 2017: Ph.D. in Ecology, University of Illinois
 Dissertation title: "Post-fire regeneration of *Quercus* spp. under drought:
 evaluating individual to ecosystem-level mechanisms"
 Advisor: Dr. Jennifer Fraterrigo
2011: B.A. in Biology and Environmental Studies, St. Olaf College
- POSITIONS
HELD** 2013-Present: Graduate Research Assistant
 Department of Natural Resources and Environmental Sciences, University
 of Illinois
2012: Seasonal Technician
 Nantucket Conservation Foundation
2011: Field Assistant
 Cedar Creek Ecosystem Science Reserve, University of Minnesota
- GRANTS AND
FELLOWSHIPS** 2015-2017: Summer Research Grants
 Program in Ecology, Evolution and Conservation Biology, University of
 Illinois (\$2,500)
2014-2017: Summer/Fall Travel Grants
 The Graduate College at the University of Illinois (\$500)
 Program in Ecology, Evolution and Conservation Biology, University of
 Illinois (\$2,100)
2015: Clark Summer Research Grant
 School of Integrative Biology, University of Illinois (\$1,000)
2014-2015: Graduate Research Innovation Award (GRIN)
 Joint Fire Science Program (\$25,000)
2013: Summer Travel Grant
 Department of Natural Resources and Environmental Sciences,
 University of Illinois (\$250)
- MANUSCRIPTS
IN PRESS** [P1] **Refsland, T.K.** and J.M. Fraterrigo. 2017. Both canopy and understory traits
 act as response-effect traits in fire-managed forests. *Ecosphere*. DOI:
 10.1002/ecs2.2036
- MANUSCRIPTS
UNDER
PREPARATION** [P2] **Refsland, T.K.** and J.M. Fraterrigo. Fire increases drought vulnerability of
 Quercus alba seedlings by altering forest microclimate and nitrogen availability.

[P3] **Refsland, T.K.**, B. Knapp, K. Stephan and J.M. Fraterrigo. Drought resistance and resilience of adult *Quercus* spp. after 60 years of experimentally manipulated fire regimes

[P4] **Refsland, T.K.** and J.M. Fraterrigo. Meta-analysis of fire-driven filtering of plant hydraulic traits

TEACHING
EXPERIENCE

Teaching assistant: Ecology Merit Section, University of Illinois (Fall 2017)

- Curriculum development for merit-style discussion sections, emphasis on stimulating student-student interactions with challenging activities

Course coordinator: Environmental Biology Online, University of Illinois (Spring 2016)

- Facilitated communication between students, TAs and lecturer in online learning platform (Moodle). Enrollment ~ 375 students

Teaching assistant: Ecology (Fall 2014, Fall 2016), University of Illinois

- Laboratory with weekly field trips, emphasis on student-driven projects that spanned hypothesis development to writing two full-length scientific papers

Teaching assistant: Environmental Biology Online (Fall 2015), University of Illinois

- Moderator of online discussion forums, emphasis on environmental degradation, society and sustainability

Teaching assistant: Environmental Biology (Fall 2013), University of Illinois

- Led three discussion sections of 20 students each

MENTORING
EXPERIENCE

2017: Mentored an international exchange student through the University of Illinois International Summer Immersion Program (ISIP)

2017: Supervised one student through the University of Illinois Undergraduate Research Apprenticeship Program (URAP)

2014-2015: Supervised three undergraduate field assistants through the College of Agricultural, Consumer and Environmental Sciences (ACES) Summer Research Internship Program

2014-2017: Mentored four undergraduates in the University of Illinois Researcher's Initiative Program, which aims to introduce science to students from minority groups underrepresented in STEM fields

2013-Present: Managed and mentored six University of Illinois undergraduates for independent research course credit

AWARDS AND
HONORS

2017: Excellence in Teaching, *Ecology* TA
Center for Innovation in Teaching & Learning, University of Illinois

2016: Lebus Fund Award

School of Integrative Biology, University of Illinois (\$1,000)

2015: Phillip Smith Award

Illinois Natural History Survey (\$1,000)
2014: Graduate Research Fellowship Program (GRFP) Honorable Mention
National Science Foundation

CONFERENCE
PRESENTATIONS
(* undergraduate
mentee)

- [C17] **Refsland, T.K.**, J.M. Fraterrigo. Forest drought vulnerability after fire: how fire-induced resprouting and altered microclimate affect *Quercus* water relations under experimental drought. Ecological Society of America Annual Meeting. Portland, OR. Aug 6-11, 2017.
- [C16] Ennab, N.*, **T.K Refsland**, J.M. Fraterrigo. A meta-analysis of fire-induced filtering of plant traits and the implications for carbon storage. University of Illinois Undergraduate Research Symposium. Urbana, IL. Apr 28, 2017. (Poster) Awarded 'Outstanding presentation' by University of Illinois Office of Undergraduate Research
- [C15] Khan, T.*, **T.K Refsland**, J.M. Fraterrigo. The effect of fire disturbance on adult *Quercus* spp. growth in drought years. University of Illinois Undergraduate Research Symposium. Urbana, IL. Apr 28, 2017. (Poster)
- [C14] Swire, M.*, **T.K Refsland**, J.M. Fraterrigo. Effect of prescribed fire on forest drought resistance and resilience: a dendrochronological approach. University of Illinois Researcher's Initiative Symposium. Urbana, IL. Apr 24, 2017. (Poster)
- [C13] **Refsland, T.K.**, J.M. Fraterrigo. Plant response-effect trait linkages along a resource gradient in fire-managed forests: implications for soil carbon stocks. Midwest Ecology and Evolution Conference. Urbana, IL. Mar 17-19, 2017.
- [C12] **Refsland, T.K.**, J.M. Fraterrigo. Does fire-induced re sprouting in oaks mediate their drought response? Ecological Society of America Annual Meeting. Fort Lauderdale, FL. Aug 7-12, 2016.
- [C11] Repp, V.*, **T.K. Refsland**, J.M. Fraterrigo. Effects of fire-driven vegetation change on mycorrhizal abundance, colonization and host tree fitness. Illinois Undergraduate Research Symposium. Urbana, IL. Apr 17-23, 2016. (Poster)
- [C10] **Refsland, T.K.**, J.M. Fraterrigo. Potential for prescribed fire to promote drought resistance of *Quercus alba* seedlings in a changing climate. Central Hardwoods Conference. Columbia, MO. Mar 28-Apr 1, 2016.
- [C9] Milla, K.*, **Refsland, T.K.**, V. Repp*, J. Woodyard*, J.M. Fraterrigo. Fire-driven changes to the forest understory community strongly influence tree seedling fitness. Midwest Ecology and Evolution Conference. Oxford, OH. Mar 19-20, 2016.
- [C8] **Refsland, T.K.** and J.M. Fraterrigo. Influence of prescribed fire on drought vulnerability of *Quercus alba* seedlings. Midwest Ecology and Evolution Conference. Oxford, OH. Mar 19-20, 2016.
- [C7] **Refsland, T.K.**, J.M. Fraterrigo. Effects of recurring fire disturbance on plant functional diversity may promote soil carbon accumulation in temperate deciduous forest. Ecological Society of America Annual Meeting. Baltimore, MD. Aug 9-14, 2015.
- [C6] **Refsland, T.K.**, J.M. Fraterrigo. Fire-induced changes in plant functional diversity may promote soil carbon inputs in temperate deciduous forests. Fire

in Eastern Oak Forests Conference. Tuscaloosa, AL. May 27-29, 2015.
(Poster)

- [C5] Milla, K. *, **T.K. Refsland**, J.M. Fraterrigo. Prescribed fire effects on tree fitness and mycorrhizal relations. Illinois Undergraduate Research Symposium. Urbana, IL. Apr 19-25, 2015. (Poster)
- [C4] **Refsland, T.K.**, J.M. Fraterrigo. Plant functional diversity reveals disturbance effects on soil carbon in temperate deciduous forests. University of Illinois Graduates in Ecology and Evolutionary Biology Symposium. Urbana, IL. Feb 14, 2015.
- [C3] **Refsland, T.K.**, J.M. Fraterrigo. Confronting the indirect effects of prescribed fire: the impact of understory vegetation shifts on carbon stocks of oak-hickory forests. Ecological Society of America Annual Meeting. Sacramento, CA. Aug 10-15, 2014. (Poster)
- [C2] **Refsland, T.K.**, J.M. Fraterrigo. How does low-intensity, fire-based management impact ecosystem services? Oak Woodlands & Forest Fire Consortium Workshop. Harrisburg, IL. Jan 19, 2014.
- [C1] **Refsland, T.K.**, L.A. DeGuire, A.D. Webb, E.S. Babcock. Leaf litter processing in an impaired southeastern Minnesota stream: The indirect effects of flow velocity on decomposition. Ecological Society of America Annual Meeting. Austin, TX. Aug 7-12, 2011. (Poster)

PROFESSIONAL
SERVICE AND
OUTREACH

Conference Organizer

- [1] Co-organizer: Midwest Ecology and Evolution Conference. Urbana, IL. Mar 17-19, 2017
- [2] Lead organizer: Graduates in Ecology and Evolutionary Biology Symposium. Urbana IL. Feb 15, 2015.

Departmental Service

Steering Committee, Program in Ecology, Evolution and Conservation Biology, University of Illinois (2016 – Present)

Department Search Committee, Natural Resources and Environmental Sciences, University of Illinois (2015)

Outreach

2014 - 2016: Volunteer judge at Next Generation Science and Engineering Fair, Next Generation Elementary and Middle School, Champaign, IL

2015-2016: Vice President and Treasurer, Graduates in Ecology and Evolutionary Biology, University of Illinois

2014-2015: Plants iView after-school program volunteer, Urbana Middle School

PROFESSIONAL
MEMBERSHIP

2011-Present: Ecological Society of America (ESA)

2017: American Geophysical Union (AGU)

2011-2012: Society for Ecological Restoration (SER)

2010-2012: American Institute for Biological Sciences (AIBS)