

EMILY M. BOOTH

Department of Biology
Temple University
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Education

Ph.D. Plant Biology (August 2017)

The University of Texas at Austin, Austin, TX

Advisor: Dr. Norma Fowler

Graduate Portfolio Program in Applied Statistical Modeling (December 2015)

The University of Texas at Austin, Austin, TX

Advisor: Dr. Norma Fowler

M.S. Plant Biology and Conservation (December 2011)

Northwestern University, Evanston, IL and Chicago Botanic Garden, Glencoe, IL

Advisor: Dr. Krissa Skogen

B.A. Psychology (May 2005)

Oberlin College, Oberlin, OH

Research Experience

Post-Doctoral Research Fellow (October 2017-present)

Temple University, Philadelphia, PA and Fort Indiantown Gap National Guard Training Center, PA

- Study of impacts of fire and thinning on oak regeneration
- Study of the effects of timber harvesting and seasonality on tree growth rates
- Spatial analyses of fire effects and fuel loading
- Design data collection protocol and provide management and research recommendations

Graduate Student (August 2011-August 2017)

The University of Texas at Austin

- Drivers of post-wildfire woody and herbaceous plant recovery trajectories in a pine-oak woodland
- Effects of erosion control products on post-wildfire seedling emergence
- Relationship between pre-wildfire prescribed burns and wildfire severity
- Comparison of post-fire recovery of sprouting and non-sprouting woody plant species using community and demographic data
- Survey of invasive species

Graduate Research Assistantship (2013-2015)

The University of Texas at Austin and Texas Parks and Wildlife Department, Bastrop, TX

- In support of dissertation research (see above)
- Co-authored yearly vegetation assessments for Texas Parks and Wildlife Department

Graduate Student (August 2009-August 2011)

Northwestern University and Chicago Botanic Garden

- Potential effects of warming on *Penstemon palmeri* in Zion National Park, UT
- Growth chamber experiments simulating future IPCC climate change scenarios
- Floral morphological measurements along an elevational gradient
- Observation, identification and collection of floral visitors along an elevational gradient

Graduate Research Assistantship (2010-2011)

Chicago Botanic Garden and Zion National Park

- Vegetation surveys, pollinator observations, insect collection and preservation

Student Conservation Association (2007)

- Fire Effects Monitoring and Inventory Protocol (FIREMON) Crew Member, Durango, CO
- Natural Resources Intern, Mammoth Cave National Park, KY

Teaching and Mentorship

Research Mentor (2017-present), Temple University

- Kelly Franklin (M.S. student, 2018-present)
- Carolyn Paul (M.S. student, 2017-2018)

Career Mentor (2019), International Association of Wildland Fire Mentor Program

- Dr. Rachael Quill, University of Adelaide

Guest Lecturer (2018), Temple University

- 'Fire Ecology 101', Conservation Biology

Teaching Assistant (2012-2016), The University of Texas at Austin

- Ecology (2012 and 2016)
- Field Seminar in Environmental Science and Sustainability (2016)
- Introduction to Biology I (2014)
- Introduction to Biology II (2013)

Guest Lecturer (2014, 2015), The University of Texas at Austin

- Field Seminar in Environmental Science and Sustainability

Research Mentor (2013-2014), The University of Texas at Austin

- Lorraine Carnes (REU student, 2014): Invasive plant survey in Bastrop State Park, TX
- Christina Justice (REU student, 2013): Effects of prescribed burning on wildfire severity in Bastrop State Park, TX

Teaching Assistant (2010-2011), Northwestern University

- Ethnobotany

Publications

Peer Reviewed

Booth, E. M., G. Creacy, and N. L. Fowler. 2019. Burn severity and post-fire erosion control affect post-fire woody plant recruitment. *Natural Areas Journal* 39:189-196. *Submitted August 2017, accepted October 2018, published May 2019.*

Non-Peer Reviewed

Booth, E. M. and N. L. Fowler. 2015. Understanding post-wildfire vegetation trajectories in pine- oak woodlands. In: R. E. Keane, Jolly, M., Parsons, R., Riley, K. 2015. Proceedings of the large wildland fires conference, May 19-23, 2014, Missoula, MT. Proc. RMRS-P-73. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 345p.

Booth, E. M. 2013. Post-wildfire plant regeneration in Bastrop State Park. *Native Plant Society of Texas News*. 31(1):12.

Oral Presentations and Posters

Invited

Booth, E. M., Haydt, T., Henry, S., and Sewall, B.J. 2019. Informing prescribed burning practices through the integration of quantitative, spatial, and photographic data. Pennsylvania Prescribed Fire Council Annual Meeting, Gettysburg, PA (oral presentation).

Booth, E. M. and N. L. Fowler. 2015. Wildland fire in central Texas. *Native Plant Society of Texas Annual Symposium*, Austin, TX (oral presentation).

Booth, E. M. and N. L. Fowler. 2013. Post-wildfire plant community regeneration in the Lost Pines. *Native Plant Society of Texas, Williamson County Chapter*, Georgetown, TX (oral presentation).

Booth, E. M. and N. L. Fowler. 2012. Effects of pre-wildfire prescribed burns, wildfire intensity, and post-wildfire management on plant regeneration in the Lost Pines of Texas. 'Fire Trek' Special Session, 5th International Fire Congress of the Association for Fire Ecology, Portland, OR (oral presentation).

Booth, E. M. and N. L. Fowler. 2012. Effects of wildfire severity and post-wildfire management on tree regeneration in the Lost Pines region of Texas. *Native Plant Society of Texas Annual Symposium*, Kerrville, TX (poster presentation).

Contributed

Booth, E. M., Haydt, T., Henry, S., Lambrinos, J.-D., and Sewall, B. J. 2019. Effects of burning and thinning treatments on oak and maple stem densities. *Association of Fire Ecology*, Tucson, AZ (oral presentation).

Booth, E. M., Haydt, T., Henry, S., and Sewall, B. J. 2019. Effects of timing of burning and mechanical thinning on oak

- and maple stem densities. Fire in Eastern Oak Forests Symposium, State College, PA (poster presentation).
- Booth, E. M.**, Haydt, T., Henry, S., Sewall, B. J. 2018. Interactions between stand thinning and season influence tree growth in a temperate coniferous and broadleaf forest. Ecological Society of America Annual Meeting, New Orleans, LA (oral presentation).
- Paul, C. P., L. Powers, C. Hauer, **E. M. Booth**, D. McNaughton, S. Henry, T. Haydt, and B. J. Sewall. 2018. Effects of forest management techniques on bat habitat use. 65th Annual Meeting of The Western Section of The Wildlife Society, Santa Rosa, CA (poster presentation).
- Booth, E. M.** and N. L. Fowler. 2015. Post-wildfire legacy effects in a pine-oak woodland. 6th International Congress of the Association of Fire Ecology, San Antonio, TX (poster presentation).
- Booth, E. M.** and N. L. Fowler. 2015. Effects of soil, light availability, and burn severity on post-wildfire recruitment of dominant woody species in a pine-oak woodland. Ecological Society of America Centennial Meeting, Baltimore, MD (poster presentation).
- Booth, E. M.** and N. L. Fowler. 2014. Understanding post-wildfire vegetation trajectories in pine-oak woodlands. Large Wildland Fires Conference, Missoula, MT (poster presentation).
- Justice, C. J., **E. M. Booth**, and N. Fowler. 2014. The effect of prescribed burns and wildfire on vegetation in Bastrop State Park, TX. American Geophysical Union Fall Meeting, San Francisco, CA (poster presentation).
- Booth, E. M.**, N. L. Fowler, and E. Keith. 2013. Effects of management actions and wildfire severity on post-wildfire vegetation recovery in the Lost Pines of Texas. Ecological Society of America Annual Meeting, Minneapolis, MN (oral presentation).
- Booth, E. M.**, and N. L. Fowler. 2013. Post-wildfire plant regeneration in the Lost Pines of Texas. The University of Texas at Austin Integrative Biology Graduate Student Symposium, Austin, TX (oral presentation).
- Booth, E. M.**, and K. Skogen. 2011. Potential effects of Climate Change on *Penstemon palmeri* (Plantaginaceae) in Zion National Park, Utah, U.S.A. Ecological Society of America Annual Meeting, Austin, TX (poster presentation).

Honors and Awards

The University of Texas at Austin (2011-2017)

- Jean Andrews Summer Fellowship (2017)
- Graduate School Dissertation Writing Fellowship (2016)
- Student Employee Excellence Certification (2015)
- Plant Biology Graduate Student Research Support (2013)
- Plant Biology Graduate Student Travel Support (2013)
- Integrative Biology Recruitment Fellowship (2011)

Texas Parks and Wildlife Department (2013-2015)

- Research grant: 'Effects of pre-fire conditions, fire severity, and post-fire management on plant community recovery trajectories in the Lost Pines of Texas', PI: Dr. Norma Fowler

Association for Fire Ecology (2012)

- Travel, Research, and Educational Experience (TREE) Grant

Native Plant Society of Texas (2012)

- Ann Miller Gonzalez Graduate Research Grant

Inducted into Phi Kappa Phi Honor Society (2012)

Northwestern University and Chicago Botanic Garden (2009-2010)

- Plant Biology and Conservation Travel Grant (2010)
- Shaw Fellowship (2009)

Americorps (2007)

- Education Award

Oberlin College (2001, 2003-2005)

- Oberlin College Merit-Based Scholarship

Professional Organizations

- Association for Fire Ecology
- Ecological Society of America
- International Association of Wildland Fire
- Pennsylvania Prescribed Fire Council

Professional Development

National Wildfire Coordinating Group Courses

- RT-130, Wildland Fire Safety Training Annual Refresher (2018, 2019. Fort Indiantown Gap National Guard Training Center, PA)
- S-290, Intermediate Wildland Fire Behavior (2016. Web course)
- RX-310, Introduction to Fire Effects (2015. Association of Fire Ecology, San Antonio, TX)
- RT-130, Annual Fireline Safety Refresher (2014. Ladybird Johnson Wildflower Center, TX)
- S-130/S-190, Firefighter Training & Introduction to Wildland Fire Behavior (2013. Bertram, TX)
- L-180, Human Factors in the Wildland Fire Service (2013. Bertram, TX)
- I-100, Introduction to Incident Command System (2013. Bertram, TX)

Esri Massive Open Online Course (MOOC)

- Going Places with Spatial Analysis (2016)

The University of Texas at Austin

- Introduction to Biological Computing (2015)
- Inclusive Leadership (2015)
- Conflict Resolution (2014)
- Peer Management (2014)

Skills

Computational

- ArcGIS, ArcGIS Online, BehavePlus, ERDAS IMAGINE, FFI/FFI-Lite, HTML/CSS, Image-Pro Premiere, Python, QGIS, R, SAS, SigmaPlot

Research and fieldwork

- Experimental design, vegetation surveys including Fire Monitoring Handbook protocols, plant identification and collection, insect collection and preservation, fuel surveys, GPS and map and compass navigation, forestry tools (clinometer, DBH tape, canopy densiometer, etc.)

Languages

- English, French

Service and Outreach

Temple University Postdoctoral Association (2020-present)

- Secretary (elected position)

Encyclopædia Britannica (2020)

- Invited interviewee for 'Botanize!' podcast, available here: <https://www.britannica.com/topic/Botanize-2159577>

Association for Fire Ecology (2019-present)

- Member of Diversity and Inclusivity Committee

George Washington Carver Secondary Science Fair (2019)

- Volunteer judge for student projects

Ecological Society of America (2018)

- Volunteer session presider at annual meeting

Wissahickon Valley Park, Philadelphia, PA (2018)

- Volunteer for invasive species removal and trail maintenance

Ladybird Johnson Wildflower Center, Austin, TX (2014, 2017)

- Presented a booth at Jean Andrews Lecture Series science fair (2017)
- Volunteer wildland firefighter on prescribed burns (2014)

Science Under the Stars, Austin, TX (2016)

- Co-organized Science Under the Stars, a semester-long public lecture series
- Presented a public talk on the role of wildland fire in Texas

The University of Texas at Austin (2013-2014)

- Interview for the College of Natural Sciences, available here: <https://cns.utexas.edu/news/portrait-of-a-fire-ecologist> (2014)
- Interview for 'They Blinded Me With Science' on KVRX (student radio station) (2014)
- Developed and presented at a booth for outreach events at the Texas Natural Science Center (2013)

Student Association for Fire Ecology (SAFE) (2012-2015)

- Founder and President, Central Texas chapter

Association for Fire Ecology (2012-2015)

- Student volunteer at annual meetings

Ecological Society of America (2011-2015)

- Student volunteer at annual meetings