# Nathan G. Kiel

Ph. D. Candidate | Department of Integrative Biology | University of Wisconsin-Madison
Madison, WI 53706 | nathankiel3@gmail.com | nathankiel.com | Twitter: @even_kiel25 | He/Him

## EDUCATION

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| 2019-2024 | **Ph.D.** University of Wisconsin-Madison, Department of Integrative Biology<br>Madison, Wisconsin \| Minor: Translational Ecology<br>Dissertation: *Patterns and trajectories of postfire plant communities in Greater Yellowstone* Advisor: Dr. Monica Turner |
| 2015-2019 | **B.S.** State University of New York College of Environmental Science and Forestry<br>Syracuse, New York \| Conservation Biology, Minor: Native Peoples and the Environment<br>*Summa cum laude* \| Honors Thesis: *Can disruption of an ant-plant mutualism explain lack of recovery of forest herbs in post-agricultural forests of New York?*<br>Advisor: Dr. Robin Kimmerer |
| Fall 2017 | Round River Conservation Studies, Patagonia Program \| Aysén Region, Chile<br>Thesis: *Evaluating the feasibility of sustainable ecotourism development in the town of Villa O'Higgins* |

## ACADEMIC EXPERIENCE

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| 2021-2024 | Graduate Research Assistant, Department of Integrative Biology, University of Wisconsin-Madison |
| 2019-2021 | Graduate Teaching Assistant**,** Departments of Integrative Biology and Botany, University of Wisconsin-Madison |
| 2016-2018 | Undergraduate Lab Assistant, Department of Environmental and Forest Biology, SUNY-ESF, Advisor: Dr. Gregory McGee |

## PUBLICATIONS ^undergraduate mentee

7. Ausavich^, Z. O. and **N. G. Kiel**. 2024. What the heart wants: adaptive significance of cordate leaf morphology in *Arnica* (Asteraceae). *Western North American Naturalist* in press.
6. Augustine, S. P., I. Bailey-Marren, K. T. Charton, **N. G. Kiel**, and M. S. Peyton. 2024. Improper data practices erode the quality of global ecological databases and impede the progress of ecological research. *Global Change Biology* 30:e17116 https://doi.org/10.1111/gcb.17116.
5. **Kiel, N. G.**, W. H. Romme, and M. G. Turner. 2023. Snag-fall patterns following stand-replacing fire vary with bole characteristics and topography in subalpine forests of Greater Yellowstone. *Forest Ecology and Management* 549:121585 https://doi.org/10.1016/j.foreco.2023.121485.
4. **Kiel, N. G**., K. H. Braziunas, and M. G. Turner. 2023. Peeking under the canopy: anomalously short fire-return intervals alter subalpine forest understory plant communities. *New Phytologist* https://doi.org/10.1111/nph.19009.
3. Braziunas, K. H., **N. G. Kiel**, and M. G. Turner. 2023. Less fuel for the next fire? Short-interval fire delays forest recovery and interacting drivers amplify effects. *Ecology* e4042 https://doi.org/10.1002/ecy.4042.

2. **Kiel, N. G.**, and M. G. Turner. 2022. Where are the trees? Extent, configuration, and drivers of poor forest recovery 30 years after the 1988 Yellowstone fires. *Forest Ecology and Management* 524:120536 https://doi.org/10.1016/j.foreco.2022.120536.
1. **Kiel, N. G.**, G. R. Griffiths, and G. G. McGee. 2020**.** Can disruption of an ant-plant mutualism explain lack of recovery of forest herbs in post-agricultural forests of New York? *Northeast Naturalist* 27(2):215-228 https://doi.org/10.1656/045.027.0204.

## TEACHING

**Instructor and Curriculum Design**

2023 *Exploring Biology*, University of Wisconsin-Madison
Co-designed and team-taught, 1 semester, 145 students

2023 *General Ecology*, University of Wisconsin-Madison
Designed lab module, guest instructor, 1 week, 64 students

2023 *Introduction to Environmental Studies*, Edgewood College
Guest instructor, 1 week, 18 students

**Graduate Teaching Assistant**

2019-2021 *Introductory Biology Laboratory*, University of Wisconsin-Madison
3 semesters, 154 students

2020 *General Ecology*, University of Wisconsin-Madison
1 semester, 24 students

**Guest Lectures**

2024 "Ecophysiology: Plant Traits and Environmental Adaptations." Plant Physiology, Department of Botany, University of Wisconsin-Madison.

**Undergraduate Teaching Assistant**

2019 *Forest and Shade Tree Pathology*, SUNY ESF (1 semester)

2018 *General Biology Laboratory*, SUNY ESF (1 semester)

2016 *General Biology Lecture*, SUNY ESF (1 semester)

## RESEARCH GRANTS

*total awarded as PI = $394,996*

2024 – 2027 "The effects of seed dispersal and seedling establishment limitations on climate-driven tree species range shifts in the northeastern U.S." Northeastern States Research Cooperative *($389,996, national)*. Co-Principal Investigator.

2022 "Consequences of postfire forest conversion and benefits of managing for fire refugia in Greater Yellowstone." National Park Service Research Reserve Funds *($75,000, national).* Graduate student investigator.

2017 "Ant dispersal of forest understory herb seeds." Clara Carter Higgins Summer Environmental Studies Grant, Garden Club of America *($3000, national).* Undergraduate Principal Investigator.

2017 "Ant dispersal of forest understory herb seeds." National Garden Clubs Grant *($1000, national).* Undergraduate Principal Investigator.

2017 Edward Abbey Grant, Round River Conservation Studies *($750, institutional).*

2016 SUNY-ESF Alumni Association Grant *($250, institutional).*

## AWARDS AND RECOGNITION

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| 2024 | University of Wisconsin-Madison Student Research Travel Award *($1500, institutional)* |
| 2023 | Honorable mention, Tom Damman Award, Vegetation Section of the Ecological Society of America *($230, institutional)* |
| 2023 | Les Real & Jim Brown Student Travel Award, Ecological Society of America *($100, institutional)* |
| 2022 | University of Wisconsin-Madison Department of Integrative Biology Graduate Summer Research Award *($3500, departmental)* |
| 2021 | University of Wisconsin-Madison Department of Integrative Biology Graduate Summer Research Award *($856, departmental)* |
| 2021 | Honorable mention, Graduate Research Fellowship Program, National Science Foundation |
| 2019 | SUNY-ESF Distinguished Biology Scholar Award for Conservation Biology |
| 2019 | SUNY-ESF Robin Hood Oak Award for Academic Excellence |
| 2019 | Highlighted Student Speaker, SUNY-ESF Spring Banquet |

## UNDERGRADUATE MENTORSHIP poster presentation[1]; fellowship[2]; peer-reviewed publication[3]

Nadia Nackers[1] (University of Wisconsin-Madison, September 2023 – December 2023)
Sam Morell[1] (University of Wisconsin-Madison, September 2023 – December 2023)
Eileen Mavencamp[1,2,3] (University of Wisconsin-Madison, September 2021 – May 2023)
Zach Ausavich[3] (University of Wisconsin-Madison, July 2022 – December 2022)
Madelyn DeMarco (University of Wisconsin-Madison, July 2022 – August 2022)
Sophie Kuehn[1] (University of Wisconsin-Madison, January 2022 – May 2022)
Nick Tipper (University of Wisconsin-Madison, July 2021 – August 2021)
Julia Warren (University of Wisconsin-Madison, July 2021 – August 2021)

## PROFESSIONAL EXPERIENCE AND DEVELOPMENT

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| 2023 | **WISCIENCE Scientific Teaching Fellow**, University of Wisconsin-Madison<br>Coursework and practical experience in college science teaching, materials design, and mentored practicum; co-designed and co-taught a first-semester freshman course on several biological topics |
| 2022-2023 | **BioHouse Undergraduate Community Mentor,** University of Wisconsin-Madison<br>Mentored 14 first-semester freshmen across two semesters in developing as biologists, learning about biological research on campus, and identifying career opportunities in biology |
| 2020-2023 | **Delta Research, Teaching, and Learning Program**, University of Wisconsin-Madison<br>Coursework and practical experience in science communication, ethical and equitable teaching, and course design; included internship on teaching-as-research for skills in designing, implementing, and assessing a teaching module |
| 2018 | **Summit Steward**, Adirondack Mountain Club**,** Lake Placid, NY<br>Science communication, education, and conservation of alpine ecosystems |

*Invited Presentations*

2024 Patterns and trajectories of postfire plant communities in Greater Yellowstone. Department of Biology Seminar, Université de Sherbrooke, Sherbrooke, QC, Canada.

*Contributed Ecology and Biology Presentations*

**Kiel, N. G.,** E. F. Mavencamp^, K. H. Braziunas, and M. G. Turner. 2023. Sparse or failed postfire tree regeneration alters plant communities and reduces carbon stocks in Greater Yellowstone. Oral presentation. Annual Meeting of the Ecological Society of America, Portland, Oregon, August 6-11.

**Kiel, N. G.**, K. H. Braziunas, and M. G. Turner. 2022. Peeking under the canopy: effects of short fire-return intervals on herbaceous understories in Greater Yellowstone. Oral presentation, Biennial Scientific Conference on the Greater Yellowstone Ecosystem, Bozeman, Montana, May 15-18.

**Kiel, N. G.**, K. H. Braziunas, and M. G. Turner. 2022. Peeking under the canopy: effects of short fire-return intervals on herbaceous understories in Greater Yellowstone. Oral presentation, UW-Madison Center for Ecology and the Environment's Spring Symposium, Madison, Wisconsin, May 2-3.

**Kiel, N. G.** and M. G. Turner. 2021. The other sixteen percent: Areas of poor forest recovery following the 1988 Yellowstone Fires. Oral presentation (1:01:45), US-IALE Annual Meeting, virtual, April 12-16.

**Kiel, N. G.**, G. R. Griffiths, and G. G. McGee. 2018. Can disruption of an ant-plant mutualism explain lack of recovery of forest herbs in post-agricultural forests of New York? Oral presentation, SUNY Undergraduate Research Conference, Oneonta, New York, April 20.

**Kiel, N. G.**, G. R. Griffiths, and G. G. McGee. 2018. Can disruption of an ant-plant mutualism explain lack of recovery of forest herbs in post-agricultural forests of New York? Oral presentation, Northeast Natural History Conference, Burlington, Vermont, April 13-15.

**Kiel, N. G.**, N. Benecke, G. R. Griffiths, and G. G. McGee. 2017. Does beetle diversity vary across land-use history and ecoregional gradients in central New York's forests? Poster, New York Society of American Foresters Conference, Syracuse, New York, January 25-27.

*Contributed Curriculum Design and Teaching Presentations*

**Kiel, N. G.**, L. Berry, S. W. Anderson, K. T. Charton, T. Wintermute, and T. J. Givnish. 2024. Greater than the sum: leveraging field ecological research to scaffold authentic inquiry opportunities for scientists across career stages. Oral presentation. Annual Meeting of the Ecological Society of America, Long Beach, California, August 4-9.

**Kiel, N. G.,** J. M. Griffin, N. Ruggeri, and M. G. Turner. 2023. The role of gameplay in improving student attitudes and understanding of the nitrogen cycle. Poster presentation, UW-Madison Center for Ecology and the Environment's Spring Symposium, Madison, Wisconsin, May 1-2.

*Symposia*

Anderson, S. W., L. Berry, P. W. Chan, K. T. Charton, B. Corder, T. J. Givnish, **N. G. Kiel**, M. S. Peyton, L. Taylor, J. Tourville, and T. H. Wintermute. 2024. From temperate deciduous forest to alpine tundra: elevational gradients in plant form and function on Mt. Washington, New

Hampshire, USA. Organized Oral Session, Ecological Society of America Annual Meeting, Long Beach, California, August 4-9.

## Science Communication and Media Reports

*Outreach*

2023 Kiel, N. G. and M. G. Turner. When wildfire makes the forest understory the star. *Park Science* 37(2).

2023 Ecologically and environmentally themed newsletters. Gathering Growth Foundation, LLC, April – May 2023.

2022 Studying Yellowstone's burn scars to reveal its future. Reflective essay and podcast, *Edge Effects* digital magazine, Center for Culture, History, and Environment, UW-Madison.

2022 "Peeking under the canopy: climate, fire, and Greater Yellowstone plant communities". Public talk (virtual), Teton Chapter, Wyoming Native Plants Society, Jackson, Wyoming.

2020 "Herbaceous flora of our northeast woods: stories of stone walls, seed dispersers, and slugs". Public talk (virtual), North Branch Nature Center, Montpelier, Vermont.

2017 Pascua River Expedition. Video essay and documentary, Round River Conservation Studies, Patagonia Program, Aysén Region, Chile.

*Interviews*

2023 Made to burn: how climate change impacts fire-adapted environments. Lydia Larsen, *The Badger Herald*.

## Service

2023 Project Reviewer, U.S. GLOBE Regional Student Research Symposium

2023 Graduate Student Coordinator, Applicant Support for the Application Process (ASAP) Initiative, UW-Madison Department of Integrative Biology

2020-Present Peer Reviewer (*3*)

- Ecology (*1*)
- Food Webs (*1*)
- Journal of Applied Ecology (*1*)

2021 UW-Madison Department of Integrative Biology Representative to SACNAS graduate student recruitment event

2020-2021 President, Department of Integrative Biology Graduate Student Organization

2018-2019 President, Society for Conservation Biology, Central New York Chapter

2018 Vice-President, Society for Conservation Biology, Central New York Chapter

## Professional Memberships and Certifications

Ecological Society of America (ESA)
North American Regional Association of the International Association for Landscape Ecology
Leave No Trace Trainer
Wilderness First Aid, Wilderness Medical Associates (2018 – 2021)