

CURRICULUM VITAE

KENNETH J. ELGERSMA

DEPT. OF BIOLOGY, UNIVERSITY OF NORTHERN IOWA
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PROFESSIONAL APPOINTMENTS

Associate Professor, University of Northern Iowa	2019 – Present
Assistant Professor, University of Northern Iowa	2013 – 2019
Postdoctoral Fellow, University of Michigan	2010 – 2013

EDUCATION

Ph.D., Ecology and Evolution, Rutgers University, New Brunswick, NJ	2004 – 2010
M.S., Statistics, Rutgers University, New Brunswick, NJ	2008 – 2009
B.A., Environmental Studies and Biology, Dordt College, Sioux Center, IA	1998 – 2002

TEACHING

University of Northern Iowa (2013 – present)
Biostatistics; Organismal Diversity lab; Advanced Ecology; Restoration Ecology; Natural World; Ecology (with lab)

University of Michigan Biological Station (2018)
Introductory Statistics: Environmental Field Applications (with lab)

University of Michigan (2011)
Lecturer: *Food, Energy, and the Environment*

Rutgers University (2007 – 2009)
TA: *Principles of Ecology; Plant Ecology*

Dordt College (2000 – 2001)
TA: *Local Flora; Botany; Plant Physiology*

PUBLICATIONS

Peer-reviewed publications:

Elgersma, K.J., D. Magee, and A. Wen. (2024). Conservation Reserve Program vegetation affects occupancy of an invasive grass and invasive forb. *Ecological Restoration* 42(1): 54-63.

Elgersma, K.J., M.W. Vandever, and A. Wen. (2023). Mid-contract management alters Conservation Reserve Program vegetation in the central and western United States. *Ecological Restoration* 41(4): 169-179.

Glidden, A.J., Sherrard, M.E., Meissen, J.C., Myers, M.C., **Elgersma, K.J.** and Jackson, L.L. (2023). Planting time, first-year mowing, and seed mix design influence ecological outcomes

in agroecosystem revegetation projects. *Restoration Ecology* 31(4): e13818.
<https://doi.org/10.1111/rec.13818>

- Vandever, MW; **Elgersma, KJ**; Carter, SK; Wen, A; Welty, JL; Arkle, RS; Assal, TJ; Pilliod, DS; Mushet, DM; Iovanna, R (2023). Persistence and quality of vegetation cover in expired Conservation Reserve Program fields. *Ecosphere* 14(1): e4359.
<https://doi.org/10.1002/ecs2.4359>
- Jameson, E.E., **Elgersma, K.J.**, J.P. Martina, W.S. Currie, and D.E. Goldberg (2022). Size-dependent analyses provide insights into the reproductive allocation and plasticity of invasive and native *Typha*. *Biological Invasions* 24:3799–3815, <https://doi.org/10.1007/s10530-022-02881-9>
- Wen, A., **K.J. Elgersma**, M.E. Sherrard, L.L. Jackson, J. Meissen, and M.C. Myers (2022). Wild bee pollinators and their association with sown and unsown floral resources in reconstructed pollinator habitats within an agriculture landscape. *Insect Conservation and Diversity* 15(1): 102-113. <https://doi.org/10.1111/icad.12539>
- Yuan, Y., S.J. Sharp, J.P. Martina, **K.J. Elgersma**, and W.S. Currie (2021). Sustained-flux global warming potential driven by nitrogen inflow and hydroperiod in a model of Great Lakes coastal wetlands. *Journal of Geophysical Research: Biogeosciences* 126 (8), e2021JG006242. <https://doi.org/10.1029/2021JG006242>
- Vandever, M.W., S.K. Carter, T.J. Assal, K.J. Elgersma, A. Wen, J.L. Welty, R.S. Arkle, and R. Iovanna (2021). Evaluating establishment of conservation practices in the Conservation Reserve Program across the central and western United States. *Environmental Research Letters* 16 (7): 074011. <https://doi.org/10.1088/1748-9326/ac06f8>
- Sharp, S.J., **K.J. Elgersma**, J.P. Martina, and W.S. Currie (2021). Hydrologic flushing rates drive nitrogen cycling and plant invasion in a freshwater coastal wetland model. *Ecological Applications*, 31 (2), p.e02233. <http://dx.doi.org/10.1002/eap.2233>
- Boeck-Crew, C.M., M.C. Myers, M.E. Sherrard, **K.J. Elgersma**, G.A. Houseal, and D.D. Smith (2020). Stratification and perigynia removal improve total germination and germination speed in three upland prairie sedge species. *Native Plants Journal* 21 (2): 120-131. doi: 10.3368/npj.21.2.120
- Goldberg, D.G., E. Batzer, J. Martina, **K. Elgersma**, and J. Klimešová (2020). Allocation to clonal growth: critical questions and protocols to answer them. *Perspectives in Plant Ecology, Evolution, & Systematics* 43: 125511. <https://doi.org/10.1016/j.ppees.2020.125511>
- Meissen, J.C., A.J. Glidden, M.E. Sherrard, **K.J. Elgersma**, L.L. Jackson (2019). Seed mix design and first-year management influence multifunctionality and cost-effectiveness in prairie reconstruction. *Restoration Ecology* 28(4): 807-816. <https://doi.org/10.1111/rec.13013>
- Sherrard, M.E., **K.J. Elgersma**, J.M.A. Koos, C.M. Kokemuller, H.E. Dietz, A.J. Glidden, C.M. Carr, and C.A. Cambardella (2019). Species composition influences soil nutrient depletion and plant physiology in prairie agroenergy feedstocks. *Ecosphere* 10(7): e02805 doi: 10.1002/ecs2.2805
- Bansal, S, S Lishawa, S Newman, D Albert, M Anteau, M Chimney, R Cressey, S DeKeyser, **K Elgersma**, S A Finkelstein, J Freeland, R Grosshans, P Klug, D Larkin, B Lawrence, G Linz, J Marburger, G Noe, C Otto, N Reo, J Richards, C Richardson, L Rodgers, A Schrank, D Svedarsky, B Tangen, S Travis, N Tuchman, A van der Valk, D Wilcox, L Windham-Myers (2019). *Typha* (cattail) Invasion in North America: Biology, Regional Issues, Impacts, Desired Services and Management. *Wetlands* 39: 645–684. <https://doi.org/10.1007/s13157-019-01174-7>

**top-cited publication for the year in the journal Wetlands*

- Batzer, E.E., J.P. Martina, **K.J. Elgersma**, & D.E. Goldberg (2017). Clonal plant allocation to daughter ramets is a simple function of parent size across species and nutrient levels. *Plant Ecology* 218(11-12): 1299-1311. <https://doi.org/10.1007/s11258-017-0769-z>
- K.J. Elgersma**, J.P. Martina, W.S. Currie, and D.E. Goldberg (2017). Effectiveness of cattail (*Typha* spp.) management techniques depends on exogenous nitrogen inputs. *Elementa* 5:19. DOI: <http://doi.org/10.1525/elementa.147>.
- Goldberg, D.E., J.P. Martina, **K.J. Elgersma**, and W.S. Currie (2017). Plant size and competitive dynamics along nutrient gradients. *American Naturalist* 190(2): 229-243. <https://doi.org/10.1086/692438>
**Faculty of 1000 Recommended as being of special significance in its field*
- Laungani, R., **K. Elgersma**, K. McElligott, M. Juarez, & T. Kuhfahl. (2016). Biochar amendment of grassland soil may promote woody encroachment by Eastern Red Cedar. *Journal of Soil Science and Plant Nutrition* 16(4), 941-954. <http://dx.doi.org/10.4067/S0718-95162016005000067>
- J. Martina, WS Currie, DE Goldberg, and **KJ Elgersma** (2016). Nitrogen loading leads to increased carbon accretion in both invaded and uninvaded coastal wetlands. *Ecosphere* 7(9): e01459. <https://doi.org/10.1002/ecs2.1459>
- Elgersma, K.J.**, R. Wildová, J.P. Martina, D.E. Goldberg, and W.S. Currie (2015). Does clonal resource translocation relate to invasiveness of *Typha* taxa? Results from a common garden experiment. *Aquatic Botany* 126: 48-53. <https://doi.org/10.1016/j.aquabot.2015.06.008>
- Currie, W.S., Goldberg, D.E., Martina, J.P., Wildova, R., Farrer, E., **Elgersma, K.J.** (2014). Emergence of nutrient-cycling feedbacks related to plant size and invasion success in a wetland community-ecosystem model. *Ecological Modelling* **282**: 69–82. <https://doi.org/10.1016/j.ecolmodel.2014.01.010>
- Elgersma, K.J.**, S. Yu, T. Vor, and J.G. Ehrenfeld (2012). Microbial-mediated feedbacks of leaf litter on invasive plant growth and interspecific competition. *Plant & Soil* **356**(1-2): 341-355. <https://doi.org/10.1007/s11104-011-1117-z>
- Elgersma, K.J.**, Ehrenfeld, J.G., Yu, S., and Vor, T. (2011). Legacy effects overwhelm the short-term effects of exotic plant invasion and restoration on soil microbial community structure, enzyme activities, and nitrogen cycling. *Oecologia* **167**(3): 733-745. <https://doi.org/10.1007/s00442-011-2022-0>
- Foxman, B., **K.J. Elgersma**, A. Wen, M. Buxton, L. Zhang, and C. Barbosa-Cesnik (2011). Reply to Eells et al. Daily Cranberry Prophylaxis to Prevent Recurrent Urinary Tract Infections May Be Beneficial in Some Populations of Women. *Clinical Infectious Diseases* **52**: 1394-1395. (with erratum published in *Clin Infect Dis* 54(2): 309)
- Elgersma, K.J.** and J.G. Ehrenfeld (2011). Linear and non-linear impacts of a non-native plant invasion on soil microbial community structure and function. *Biological Invasions* **13**: 757-768. <https://doi.org/10.1007/s10530-010-9866-9>
- Ehrenfeld, J.G., B. Ravit, and **K. Elgersma** (2005). Feedback in the plant-soil system. *Annual Review of Environment and Resources* **30**: 75-115. <https://doi.org/10.1146/annurev.energy.30.050504.144212>

Book Chapters:

- Elgersma, K.J.** (2014). Soils Suppressing and Promoting Non-native Plant Invasions. In: *Interactions in Soil: Promoting Plant Growth*. Springer Publishing, 22 p.

Other publications:

- Vandever, M.W., **Elgersma, K.**, and Wen, A. (2023) Percent vegetation cover, bare ground and presence of erosional features on managed Conservation Reserve Program fields across central and western United States, 2016-2019: U.S. Geological Survey data release, <https://doi.org/10.5066/P9JK2SSB>.
- Vandever, M.W., **Elgersma, K.**, Carter, S.K., Wen, A., Welty, J., Arkle, R., Assal, T.J., Pilliod, D.S., Mushet, D.M., and Iovanna, R. (2022) Characteristics, presence of erosional features, and cover of vegetation and bare ground on fields formerly enrolled in grassland, wetland, and wildlife practices of the Conservation Reserve Program in the central and western United States: U.S. Geological Survey data release, <https://doi.org/10.5066/P93BNY71>.
- Vandever, M.W., Carter, S.K., Assal, T.J., **Elgersma, K.**, Wen, A., Welty, J., Arkle, R., and Iovanna, R. (2021). Presence of erosional features and cover of grasses, forbs, and bare ground on fields enrolled in grassland, wetland, and wildlife practices of the Conservation Reserve Program in the central and western United States from 2016 to 2018: U.S. Geological Survey data release, <https://doi.org/10.5066/P9XCC65W>
- K.J. Elgersma** (2016). Bees and Colony Collapse Disorder. University of Northern Iowa Biology Department Annual Newsletter.
- K.J. Elgersma** (2015) Controlling invasive cattails by fire, herbicide, and mowing. University of Northern Iowa Tallgrass Prairie Center Fall Newsletter.
- LaPuma, D.A., **K.J. Elgersma**, and J.L. Lockwood (2009). Determining the statistical power of detecting declines in occupancy and abundance of the Cape Sable Seaside Sparrow (*Ammodramus maritimus mirabilis*). in: M.S. thesis, Rutgers University.
- Elgersma, K.J.** 2006. Why worry about exotic invasives? *Trail Walker* **86** (1): 7

GRANT AWARDS AND FELLOWSHIPS

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|--|-----------|
| Influence of emergency haying and grazing on CRP vegetation, grassland birds, and pollinators across a precipitation gradient. Co-I with Mark Vandever (PI) and A. Wen. USDA. Total budget: \$598,000. | \$190,284 |
| Implementing Clonal Plant Database Protocols in the NutNet Research Network. CHAS Faculty Support Grant. | \$497 |
| <u>Evaluating CRP vegetation response subsequent to haying and grazing by means of mid-contract management and emergency use in drought-prone regions.</u> Co-I with M. Vandever (PI) and A. Wen. USDA. | \$188,592 |
| <u>Integrating Systems Models and Remote Sensing to Explore Aquatic Ecosystem Vulnerability to Global Change in Lake Huron.</u> (2021-2024). Jason Martina (PI), Co-I's: L.L. Bourgeau-Chavez, W.S. Currie, D. Hyndman, A. Kendall, S. Martin, M. Sayers, KJ Elgersma, & P. Xue. NASA OCEAN. | |
| <u>Understanding morphological responses of <i>Typha</i> species to nutrient pollution.</u> (2021). Co-I with Anna Shapiro (PI). UNI GRASP Grant. | \$750 |
| <u>Wind Cave as a Terrestrial Analog for Possible Exobiological Environments off Earth.</u> (2020-2023). J. Sebree (PI), Co-I's: F. Soans, M. Sliwinski, M. Iqbal, J. Peters, K. Elgersma. NASA. | \$157,000 |
| <u>Genetic determination of taxonomic identity in native, invasive, and hybrid cattails in the Midwestern US.</u> (2019). Co-I with Emma Simpson (PI). UNI SOAR Grant. | \$494 |

<u>Conservation Reserve Program (CRP) Vegetation, Soil and Mid-contract Management Assessment.</u> A. Wen (PI) & K. Elgersma. (2018-19). US Geological Survey.	\$10,000
<u>Conservation Reserve Program (CRP) Vegetation, Soil and Mid-contract Management Assessment.</u> A. Wen (PI) & K. Elgersma. (2018-19). US Geological Survey.	\$27,011
<u>Internal Nitrogen Cycling in Switchgrass.</u> (2016-17). University of Northern Iowa Pre-Tenure Faculty Grant	\$750
<u>Leaf longevity and nutrient use efficiency in native and invasive cattails.</u> (2016-17). Co-I with Clarissa LaPlante (PI). UNI CHAS GRASP Award.	\$749
<u>Do invasive cattails use nutrients more efficiently than non-invasive cattail species?</u> (2016-17). UNI CHAS Faculty Research/Creative Activity Grant.	\$1,171
<u>Quantifying how Global Change and Land Use Legacies Affect Ecosystem Processes at the Land Water Interface across the Great Lakes Basin.</u> (2017-20). Co-I with L Bourgeau-Chavez (PI), D. Hyndman, W. Currie, D. Goldberg, A. Kendall, J. Martina, S. Martin, N.H.F. French, B. Basso. NASA-IDS. Total budget: \$1,598,346.	\$47,753
<u>Implementing Adaptive Management and Monitoring for Restoration of Invasive <i>Phragmites</i></u> (2016-18). Co-I with L Bourgeau-Chavez (PI), P Higman, W Currie, & E Palm. US EPA Great Lakes Restoration Initiative. Total budget: \$648,799.	\$84,195
<u>Comprehensive Invasive <i>Phragmites</i> Management Planning</u> (2016-18). Co-I with L Bourgeau-Chavez (PI), M Billmire, P Higman, W Currie, & J Martina. Michigan Invasive Species Grant Program. Total budget: \$203,177.	\$14,358
Outstanding New Faculty Member Award, University of Northern Iowa Office of Research and Sponsored Programs (2015).	
<u>Effects of agriculture and biofuels on bee pollinator populations</u> (2014-15). PI with Co-I Andrew Ridgway. UNI GRASP Award Program.	\$750
<u>From data to knowledge: Using cyber infrastructure to enhance understanding of bioenergy agroecosystems</u> (2014-15). Co-I with Cathi Bonin (PI), Douglas Mupasiri, Krishna Rajan and Emily Heaton. EPSCoR Seed Grant Program. Total budget: \$19,999.	\$5,653
Equipment Grant: LI-COR Environmental Education Fund Matching Grant (2014). K. Elgersma (PI).	\$49,990
<u>Bringing Iowa's farming community into classrooms and agricultural research at UNI</u> (2013). Co-I, with Ai Wen (PI). Veridian Credit Union Community Engagement Fellowship Grant.	\$3,000
<u>How Often are Biologists Wrong? P-values and Lindley's Paradox in the Biological Sciences</u> (2013). UNI Capacity Building Student-Faculty Collaboration Grant.	\$3,300
<u>Wild pollinator dynamics and soil biogeochemistry in non-row crop agriculture in Iowa</u> (2013). University of Northern Iowa Capacity Building Scholarship Grant.	\$1,500
<u>Assessing ecosystem services provided by restored wetlands under current and future climate and land-use scenarios</u> (2013-15). PI with Co-Is WS Currie and DE	\$49,960

Goldberg. University of Michigan Water Center Tier I Grant Program.	
<u>Garlic mustard alters forest community composition through indirect effects in its native and invasive range</u> (2008). Rutgers Ecology & Evolution Graduate Program Academic Excellence Award.	\$1,000
<u>Indirect effects of garlic mustard (<i>Alliaria petiolata</i>) on forest community composition</u> (2008). William L. Hutcheson Memorial Forest Research Grant.	\$1,500
<u>Novel Weapons Hypothesis of Biological Invasions and Plant-Microbe Feedback</u> (2006). William L. Hutcheson Memorial Forest Research Grant.	\$1,200
National Science Foundation Graduate Research Fellowship (2006-2009).	\$127,500
Rutgers University Graduate School-New Brunswick Pre-Dissertation Award (2006).	\$1,000
Invasive Plant Atlas of New England Conference Travel Scholarship (2005).	\$75
National Science Foundation Graduate Research Fellowship Honorable Mention (2005).	
<u>Plant-soil positive feedback as a mechanism of exotic plant invasion</u> (2005). William L. Hutcheson Memorial Forest Research Grant.	\$1,500
Rutgers University Life Sciences Fellowship (2004-2005)	\$15,000
Rutgers University Graduate School-New Brunswick Graduate Student Award (2004-2005)	\$5,000
National Science Foundation Research Experience for Undergraduates (2001)	

PRESENTATIONS

Oral Presentations

- C. Calvo, **KJ Elgersma**, DE Goldberg, WS Currie, JP Martina. Biotic resistance across a nutrient gradient in experimental coastal wetlands. Contributed talk at 2023 Ecological Society of America Annual Meeting, Aug. 10, 2023, Portland, Oregon.
- C. Calvo, M. Battaglia, L. Bourgeau-Chavez, W.S. Currie, **K. Elgersma**, D. Hyndman, A. Kendall, M. Sayers, J.P. Martina. Integrating Systems Models and Remote Sensing to Explore Aquatic Ecosystem Vulnerability to Global Change in Lake Huron. 2023 NASA Carbon Cycle and Ecosystems Joint Science Workshop. May 8-12, College Park, Maryland.
- Sean J. Sharp, J. P. Martina, **K. J. Elgersma**, Ye Yuan, W. S. Currie. Nutrient Loading Regime Determines N and P Limitation and Alters Ecosystem Function in Simulated Coastal Wetlands Along a Climate Change Gradient. Oral presentation at the American Geophysical Union Annual Fall Conference, Dec. 8, 2020. <https://agu.confex.com/agu/fm20/webprogram/Paper773776.html>
- Anthony D Kendall, M. Battaglia, L. L Bourgeau-Chavez, W. S. Currie, **K. J. Elgersma**, D. E. Goldberg, Q. F Hamlin, D. W Hyndman, S. L Martin, J. P Martina, S. J.Sharp. Connecting Landscape-Applied Nutrients to Widespread Coastal Wetland Invasion Across the Laurentian Great Lakes. Oral presentation at the American Geophysical Union Annual Fall Conference, Dec. 8, 2020. <https://agu.confex.com/agu/fm20/meetingapp.cgi/Paper/753840>

- Jason P. Martina, **K. J. Elgersma**, D. E. Goldberg, S. J. Sharp, & W. S. Currie. Tipping the Tipping Point: After a Regime Shift to *Typha* Dominance can Management or High Water Levels Push a Wetland Plant Community Back to a Pre-Invaded State? Oral presentation at the American Geophysical Union Annual Fall Conference, Dec. 8, 2020.
<https://agu.confex.com/agu/fm20/webprogram/Paper738549.html>
- Ye Yuan, **K. J. Elgersma**, J. P. Martina, S. J. Sharp, & W. S. Currie. Modeling the effects of nitrogen and hydroperiod on greenhouse gas emissions in Great Lakes coastal wetlands. Oral presentation at the American Geophysical Union Annual Fall Conference, Dec. 8, 2020.
<https://agu.confex.com/agu/fm20/webprogram/Paper749427.html>
- W.S. Currie, J.P. Martina, & **K.J. Elgersma**. A primer on the user-friendly Mondrian model for wetland ecology and invasive species management. Webinar hosted by the Great Lakes Phragmites Collaborative, July 25, 2018.
- K.J. Elgersma**. Agent-based simulation modeling of wetland plant invasions: How changes in an agricultural landscape modify ecosystem function. Invited seminar for the University of Northern Iowa Physics Colloquium, April 11, 2018.
- W. S. Currie, **K. J. Elgersma**, J. Martina, and L. Bourgeau-Chavez. The Mondrian model: a tool for developing an adaptive management framework to restore invaded wetlands. Oral presentation at the International Association of Great Lakes Researchers Conference, Detroit, MI, May 15-19, 2017.
- KJ Elgersma** & J Young. Soil respiration in seasonally-flooded marginal agricultural lands used for biofuel production. Oral presentation at Society of Wetland Scientists annual meeting, Corpus Christi, TX, 06/02/2016.
- J Martina, **KJ Elgersma**, DE Goldberg, & WS Currie. What are the effects of management type (burning, herbiciding, mowing) and duration on the success of invasive cattail and C and N cycling? Oral presentation at Society of Wetland Scientists annual meeting, Corpus Christi, TX, 06/02/2016.
- Martina, J.P., **K.J. Elgersma**, Currie, W.S., and Goldberg, D.E. Evaluating the efficacy of management techniques (mowing, burning, and herbiciding) on the control of cattail (*Typha* spp.) across a gradient of nitrogen loading. Invited talk at Trinity University, San Antonio, TX, 11/14/2015.
- KJ Elgersma** (2015). Nitrogen inputs influence the effectiveness of fire, mowing, and herbicide as tools to control invasive *Typha X glauca* in wetlands. Society for Wetland Scientists North Central Chapter meeting, Lakeside Labs, Milford, IA, 10/15/2015.
- Currie, WS, LL Bourgeau-Chavez, **KJ Elgersma**, NHF French, DE Goldberg, S Hart, DW Hyndman, AD Kendall, SL Martin and JP Martina (2015). Nutrient-driven plant invasions in wetlands around the Michigan coastline: using satellite and field data to test a model linkage across scales. Ecological Society of America Annual Meeting, Baltimore, MD, 8/12/2015.
- Martina, JP, **KJ Elgersma**, WS Currie, and DE Goldberg (2015). Effectiveness of cattail (*Typha* spp.) management techniques (mowing, burning, and herbiciding) depends on exogenous nitrogen inputs. Ecological Society of America Annual Meeting, Baltimore, MD, 8/11/2015.
- Goldberg, DE, JP Martina, **KJ Elgersma**, and WS Currie. Community consequences of body size in clonal plants. 11th Annual Clonal Meeting. Trebon, Czech Republic. August 2015.
- Elgersma, KJ** (2015). Using Cyberinfrastructure to Enhance Understanding of Bioenergy Agroecosystems. Iowa EPSCoR All-Hands Meeting, Cedar Rapids, IA, 7/27/2015.
- Currie, WS, LL Bourgeau-Chavez, **KJ Elgersma**, NHF French, DE Goldberg, S Hart, DW Hyndman, AD Kendall, SL Martin and JP Martina. Modeling water levels, nutrient inflows, plant invasions and C storage in coastal Great Lakes wetlands. University of Michigan Biological Station Winter Research Meeting, Ann Arbor, MI, 2/20/2015.

- WS Currie, LL Bourgeau-Chavez, **KJ Elgersma**, NHF French, DE Goldberg, S Hart, DW Hyndman, AD Kendall, SL Martin and JP Martina (2014). Linking a large-watershed hydrogeochemical model to a wetland community-ecosystem model to estimate plant invasion risk in the coastal Great Lakes region, USA. Invited Presentation at the American Geophysical Union Annual Meeting, San Francisco, CA, 12/19/ 2014.
- Elgersma, K.J., M Myers, and M Sherrard (2014). Biofuels Research at the Cedar River Natural Resource Area. Iowa EPSCoR SEB Bioenergy Platform Site Review, Iowa City, IA, 10/16/2014.
- Elgersma, K.J.**, J.P. Martina, W.S. Currie and D.E. Goldberg (2014). Nitrogen loading in Great Lakes coastal wetlands affects N retention, plant community composition, and non-native invasion success. Ecological Society of America Meeting, Sacramento, CA, 8/13/2014.
- Martina, J.P., Currie, W.S., Goldberg, D.E. and **K.J. Elgersma** (2014). Physiological trait variation in plant invaders influences invasion success and C cycling across a hydrology and nitrogen gradient in a simulated wetland ecosystem. Ecological Society of America Meeting, Sacramento, CA, 8/13/2014.
- Martina, J.P., Currie, W.S., Goldberg, D.E. and **K.J. Elgersma** (2014). Investigating the major drivers of C storage in coastal wetlands using a simulation model: do plant invasions matter? Joint Aquatic Sciences Meeting, Portland, OR, 5/22/2014.
- Elgersma, K.J.**, Martina, J.P., W.S. Currie, D.E. Goldberg (2014). Effect of nutrients on invasive wetland plant establishment and competition between native and invasive plants. University of Michigan Biological Station Annual Winter Research Meeting, Ann Arbor, MI, 2/21/2014.
- Caplan, J.S., **K.J. Elgersma**, C.A. Faillace, P.S. Kourtev, K.A. Ross, S. Yu, J. Grabosky, & J.G. Ehrenfeld (2013). Changes in soil nutrients and microbial communities following understory shrub invasion by *Berberis thunbergii*. Ecological Society of America Annual Meeting Presentation.
- Martina, J.P., W.S. Currie, D.E. Goldberg, and **K.J. Elgersma** (2013). Interactive effects of invasion and hydrology influence C storage along a nitrogen gradient in a simulated clonal wetland ecosystem. Ecological Society of America Annual Meeting Presentation.
- Goldberg, D.E., **K.J. Elgersma**, W.S. Currie, and J.P. Martina (2012). Building an integrated program to understand wetland plant invasions. Society of Wetland Scientists North Central Regional Conference, September 28-30, 2012, Indiana Dunes National Lakeshore, IN.
- Elgersma, K.J.**, D.E. Goldberg, W.S. Currie, and J.P. Martina (2012). Construction and invasion of experimental wetland mesocosms with varying temperature and nutrient flows. University of Michigan Biological Station Annual Winter Meeting Presentation.
- Elgersma, K.J.**, and J.G. Ehrenfeld (2010). Density of plant invasion has linear and nonlinear impacts on the soil ecosystem. Ecological Society of America Annual Meeting Presentation.
- Elgersma, K.J.**, S. Yu, T. Vor, J.G. Ehrenfeld (2007). Long-term legacies and short-term changes in soil microbial community structure and function after Japanese barberry invasion. Ecological Society of America Annual Meeting Presentation.
- Yu, S., J.G. Ehrenfeld, T. Vor, **K.J. Elgersma** (2006). Plant-Soil Feedback Of Native And Invasive Plant Species Shifts Soil Microbial Community Composition And Function. Soil Science Society of America Annual Meeting Presentation.
- Yu, S., T. Vor, **K.J. Elgersma**, J.G. Ehrenfeld (2006). Differentiating effects of leaf litter and roots on shifts in soil microbial communities and enzyme activities beneath native and invasive plants. Ecological Society of America Annual Meeting Presentation.

- Kochsiek, A.E., J.M. Knops, **K.J. Elgersma**, K. Stoysich, T.J. Arkebauer, and K.G. Cassman (2005). Does increased crop productivity lead to increased carbon sequestration in agroecosystems? Ecological Society of America Annual Meeting Presentation.
- Elgersma, K** (2002). Seed Viability, Germination, and Seedling Establishment of *Yucca glauca*. Dordt College Biology Department Seminar.
- Elgersma, K.** (2001). The Phenological Effects of Carbon Dioxide, Nitrogen, and Biodiversity. 2001 Cedar Creek Annual Research Symposium.

Poster Presentations

- Samrin Shahnaz and **K Elgersma**. Soil Organic Carbon Accumulation in Restored Native Prairies Over Time. UNI Summer Undergraduate Research Program Poster, 7/30/ 2021.
- Cody Welcher, Destiny Magee and **K Elgersma**. Collecting Carbon: An Analysis of Soil Carbon in Conservation Reserve Program Fields and Agricultural Fields. UNI Summer Undergraduate Research Program Poster Session, 7/27/ 2016.
- Nicole Bishop & **KJ Elgersma**. Effects of Plant Diversity on Litter Decay Rates and Nitrogen Resorption in Switchgrass. National Conference of Undergraduate Research, Memphis TN, 4/7/2017.
- Libby Lash, A Wen, & **KJ Elgersma**. The Comparison of Bee Hotel Occupancy and Bee Diversity and Abundance in Different Biofuel Treatments. UNI Summer Undergraduate Research Program Poster Session, 7/29/ 2016.
- Nicole Bishop & **KJ Elgersma**. Effects of Plant Diversity on Litter Decay Rates and Nitrogen Resorption in Switchgrass. UNI Summer Undergraduate Research Program Poster Session, 7/29/ 2016.
- Ben Nettleton, A Ridgway, **KJ Elgersma**, and A Wen (2016). Comparing Bee Diversity and Abundance in Candidate Biomass Crops. National Conference for Undergraduate Research, Asheville, NC, 4/7/2016.
- Jordan Young and **K Elgersma** (2016). Effects of soil type and plant diversity on soil respiration and litter decomposition in a tallgrass prairie biofuel production system. University of Northern Iowa Graduate Student Symposium, 4/6/2016.
- Ben Nettleton, A Ridgway, **KJ Elgersma**, and A Wen (2016). Comparing Bee Diversity and Abundance in Candidate Biomass Crops. Research in the Capitol Annual Event, Des Moines, IA, 3/29/2016.
- Ridgway, A, **KJ Elgersma**, S Hendrix, M Myers, B Hokscho, and A Wen (2015). Density and diversity of bees in the Midwestern agricultural landscape: comparing vegetable and biofuel production to native remnant prairies. Ecological Society of America Annual Meeting, Baltimore, MD, 8/12/2015.
- Elgersma, KJ**, JP Martina, WS Currie, and DE Goldberg (2015). Native wetland plants provide biotic resistance against non-native cattail invasion in oligotrophic and eutrophic wetlands. Ecological Society of America Annual Meeting, Baltimore, MD, 8/10/2015.
- Young, J, J. Abernathy, and **KJ Elgersma** (2015). Above- and belowground biomass and soil respiration in a low-input perennial biofuel production system. Ecological Society of America Annual Meeting, Baltimore, MD, 8/10/2015.
- Laungani, R., M. Jaurez, T. Kuhfahl, & **K. Elgersma**. Biochar amendment of grassland soil may promote woody encroachment by Eastern Red Cedar (*Juniperus virginiana*). Ecological Society of America Annual Meeting, Baltimore, MD, 8/10/2015.
- Jensen, J, A Ridgway, A Wen, and **K Elgersma** (2015). Wild Bee Abundance and Diversity in Relation to Landscapes Surrounding Iowa Vegetable Farms. UNI Summer Undergraduate Research Program Poster Session, 7/31/ 2015.

- Nettleton, B, A Ridgway, A Wen, and **K Elgersma** (2015). Comparing Bee Diversity and Abundance in Candidate Biomass Crops. UNI Summer Undergraduate Research Program Poster Session, 7/31/2015.
- Huebner, S, J Young, and **K Elgersma** (2015). Soil Respiration and Belowground Biomass in Restored Native Prairies. UNI Summer Undergraduate Research Program Poster Session, 7/31/2015.
- Ickes, P, and **KJ Elgersma** (2015). Best Management Methods to Combat the Spread of *Typha x glauca*, an Invasive Hybrid Cattail Species. National Conference for Undergraduate Research, Spokane, WA, 4/16/2015.
- Kuchera, H, and **KJ Elgersma** (2015). The Significance of a Significant P-Value: Does Sample Size Change P-Value Interpretation? National Conference for Undergraduate Research, Spokane, WA, 4/16/2015
- Ickes, P, and **KJ Elgersma** (2015). Best Management Methods to Combat the Spread of *Typha x glauca*, an Invasive Hybrid Cattail Species. Research in the Capitol, Des Moines, IA, 3/24/2015.
- Bourgeau-Chavez, L, ME Miller, M Battaglia, E Banda, S Endres, WS Currie, **KJ Elgersma**, NHF French, DE Goldberg, and D Hyndman (2014). Developing Remote Sensing Products for Monitoring and Modeling Great Lakes Coastal Wetland Vulnerability to Climate Change and Land Use. American Geophysical Union Annual Meeting, San Francisco, CA, 12/19/2014.
- Elgersma, K.J.**, Martina, J.P., W.S. Currie, D.E. Goldberg (2014). Assessing ecosystem services provided by restored wetlands under current and future land-use scenarios. University of Michigan Water Center annual meeting. Ann Arbor, MI, 6/25/2014.
- Batzer, E., Goldberg, D.E., Martina, J.P., and **K.J. Elgersma** (2014). Clonal reproduction within *Cyperaceae*: Allocation, translocation, and response to nutrient availability. Ecological Society of America Meeting, Sacramento, CA, 8/11/2014.
- Elgersma, K.J.**, J.P. Martina, W.S. Currie, and D.E. Goldberg (2013). Wetland responses to nutrient inputs: Community composition, nutrient retention, and invasion risk. Ecological Society of America Annual Meeting.
- Elgersma, K.J.**, R. Wildova, and D.E. Goldberg (2012). Does translocation influence growth or invasiveness of clonal cattail (*Typha*) taxa? A comparison of three co-occurring taxa. Society for Wetland Scientists North-Central Chapter Meeting.
- Elgersma, K.J.**, R. Wildova, and D.E. Goldberg (2012). Does translocation influence growth or invasiveness of clonal cattail (*Typha*) taxa? A comparison of three co-occurring taxa. Ecological Society of America Annual Meeting.
- Bourgeau-Chavez, L.L., M.E. Miller, L. Jenkins, N.H.F. French, D. Goldberg, **K. Elgersma**, D. Hydman, A.D. Kendall, and W. Currie (2011). Monitoring and modeling the vulnerability of coastal Great Lakes wetlands to climate change and land use. 2011 Carbon Cycle and Ecosystems Joint Science Workshop, Alexandria, VA.
- Bourgeau-Chavez, L.L., M.E. Miller, L. Jenkins, N.H.F. French, D. Goldberg, **K. Elgersma**, D. Hydman, A.D. Kendall, and W. Currie (2011). Monitoring and modeling the vulnerability of coastal Great Lakes wetlands to climate change and land use. 2011 H2O Objective Conference, Detroit, MI.
- Elgersma, K.J.**, and E.J. Green (2010). How often are ecologists wrong? Lindley's paradox in ecology. Ecological Society of America Annual Meeting Presentation.
- Elgersma, K.J.**, J.G. Ehrenfeld, S. Yu, T.Vor (2008). Plant-induced feedback loops between litter decomposition and soil microbial communities. Ecological Society of America Annual Meeting Poster Presentation.

- Yu, S., J.G. Ehrenfeld, T. Vor, **K.J. Elgersma** (2006). Plant-soil feedback of native and invasive plant species shifts soil microbial community composition and function. Soil Science Society of America Annual Meeting Poster Presentation.
- Elgersma, K.J.**, T. Vor, S. Yu, and J.G. Ehrenfeld (2006). Plant invasion alters seasonal dynamics of the soil microbial community. Fourth Annual Meeting of the Neobiota Working Group.
- Elgersma, K;** and JG Ehrenfeld (2006). Japanese barberry, an exotic invasive shrub, facilitates native tree seedling growth. Ecological Society of America Annual Meeting Poster Presentation.
- Yu, S; **Elgersma, K;** Vor, T.; and JG Ehrenfeld (2006). Soil microbial community and enzyme activities response to leaf litter decomposition of native and invasive plants. Ecological Society of America Northeast Regional Meeting Poster Presentation.
- Elgersma, K;** and JG Ehrenfeld (2005). Rooting patterns of Japanese Barberry (*Berberis thunbergii*) and a co-occurring native tree. Invasive Plant Atlas of New England Summit Poster Presentation.
- Elgersma, K;** Bardhan, S; Kochsiek, A; and J Knops (2004). Bt and non-Bt corn varieties do not differ in tissue content or litter decomposition rate. Ecological Society of America Annual Meeting Poster Presentation.
- Kochsiek, A; Knops, J; **Elgersma, K;** and S Bardhan (2003). Litter quality and decomposition in irrigated versus dryland corn agroecosystems. Ecological Society of America Annual Meeting Poster Presentation.

EDITORIAL BOARDS

Frontiers in Ecology & Evolution (2024-present)

Ecosphere (2011-2016)

Plant and Soil (2011-2016)

AD HOC REVIEWS:

Journals

Agrosystems, Geosciences & Environment; Applied Soil Ecology; Biogeochemistry; Biological Conservation; Biological Invasions; Ecological Applications; Ecological Restoration; Ecology; Ecosphere; Forest Science; Journal of Ecology; Journal of Great Lakes Research; Journal of Physics and Chemistry of the Earth; Oecologia; Perspectives in Plant Ecology, Evolution and Systematics; Plant & Soil; Plant Ecology; Rangeland Ecology & Management; Restoration Ecology; Scientific Reports; Urban Forestry & Urban Greening; Wetlands

Granting Agencies

National Science Foundation (2012, 2015), COST (European Cooperation in the field of Scientific and Technical Research) (2014), Czech Science Foundation (2014), Michigan Sea Grant (2015) NASA Iowa Space Grant Consortium Scholarship Program (2016), Center for Global & Regional Environmental Research (2020)

SELECTED UNIVERSITY SERVICE

2013-2023: University Biological Preserves Committee

2019-present: UNI Biology Curriculum Committee

2020-present: Senator, UNI Faculty Senate
2023-2024: Vice Chair, UNI Faculty Senate

UNDERGRADUATE RESEARCH STUDENTS

Samrin Shahnaz (2021-2), Pryce Johnson (2020), Anissa Forero (2018), Chanelle Murtha (2018), Cody Welcher (2018), Katia Alford (2017), Elizabeth Lash (2016), Nicole Bishop (2016), Sarah Huebner (2015), Jarrett Jensen (2015), Ben Nettleton (2015), Peter Ickes (2014-15), Hallie Kuchera (2014), Diane Ihimbazwe (2014), Gabriel Jones (2013), Jerry Tyrrell (2013), Evan Batzer (2012-2013), Kristen Kiluk (2011), Justin Tsu (2010-2011), Hannah Reses (2010-2011), Sahar Haghighat (MS, 2010), Katie Tarsiewicz (2007), Kai Li Tan (2007), Sharon Wittes (2005-6), Dimitry Gershenson (2005), Inbal Lavotschkin (2005)

THESIS COMMITTEES

Committee Chair

Gretchen Steffensmeier (M.S., in progress, anticipated defense spring 2024).
Joshua Mixdorf (M.S., 11/17/2020) Enhancing Soil Carbon Sequestration through Grassland Restoration of Former Row Crop Fields at Irvine Prairie.
Anna Shapiro (M.S., 7/25/2022) Understanding morphological responses of *Typha* (cattail) species to nutrient pollution.
MJ Lashbrook (M.S., 10/29/2021) Community diversity influences selection on nutrient resorption in *Panicum virgatum*.
Destiny Magee (M.S., 4/16/2020) Carbon sequestration and weedy invasion in CRP fields.
Clarissa Ruiz (M.S., 6/15/2018) The effects of nutrient resorption, photosynthetic rate, and leaf longevity on the success of *Typha X glauca*.
*Awarded 1st Place, Outstanding Masters Thesis Award
Andrew Ridgway (M.S., 5/3/2016) Effect of Biofuel and Vegetable production on Native Bee Abundance and Species Richness.
Jordan Young (M.S., 3/9/2016) Effects of soil type and plant diversity on soil respiration and litter decomposition in a tallgrass prairie biofuel production system.

Committee Member

Tristan Murphy (M.S., 4/10/2023) Assessment of Conservation Reserve Program Enhancements at Contract Renewal: Impact on Monarch Butterfly Habitat.
Jeremy Abels (M.S., 4/18/2022) Quantifying Genomic Diversity and Growth in Iowa Bluegill.
Rachel McDonnell (M.S., 11/29/2021) 24 & More: Using Genomics To Improve Walleye Stocking in Iowa.
Alec Glidden (M.S., 4/5/2021) Seed mix design and first-year management influences ecological outcomes in prairie reconstruction.
Kate Madsen (M.S., 4/2/2020) Productivity and community composition change in prairie biomass feedstocks.
Christina Boeck-Crew (M.S., 6/11/2019) The effect of cold stratification and perigynia removal on the germination of three tallgrass prairie *Carex* species.
Jessica Riebkes (M.S., 3/8/2016) Effects of Predator Satiation on Seed Predation in New Roadside Prairie Plantings.

Jessica Abernathy (M.S., 4/9/2015) The Utility of High-diversity Prairie Mixtures as Bioenergy Feedstocks.

SELECTED PROFESSIONAL DEVELOPMENT AND VOLUNTEER SERVICES

2018 Scientific Consultant, Highlights Magazine

2018 Panelist, Ethical Issues in Quantitative Research, UNI Center for Academic Ethics

2012-2015 Instructor, Bayesian Hierarchical Modeling Workshop, ESA annual meeting

2013 Teaching Certification Program, Center for Research on Learning and Teaching, University of Michigan

2008 Mentor, Rutgers CHASER Early Graduate Student Mentoring Program

2008 Rutgers Ecology & Evolution Faculty Search Committee

2007 Panelist, Rutgers CHASER Mentoring Program workshop (invited lecture)

2007 Panelist, Rutgers CHASER workshop; “Applying for external funding: insights for graduate students” (invited lecture)

2006-2007 Rutgers Environmental Council Graduate Student Representative

2006-2008 Rutgers Ecology & Evolution Graduate Program elected Student Representative

2006 Panelist, Rutgers CHASER Workshop on External Funding Applications (invited lecture)

2006 Rutgers Advocacy Group for the American Competitiveness Initiative; Washington, D.C.

2005-2009 Coordinator, Run for the Woods 5K race and fundraiser

2005-2006 Rutgers Ecology & Evolution Graduate Program elected Student Representative