

# Jason Philip Martina

Assistant Professor, Department of Biology  
Texas State University · San Marcos, TX 78666  
Tel: 512.245.0565 · Cell: 815.355.6814

[jpmartina@txstate.edu](mailto:jpmartina@txstate.edu) · <https://martinalab.weebly.com>

---

## Education

**Ph.D.** in Plant Biology and Ecology, Evolutionary Biology and Behavior, 2012  
Michigan State University, East Lansing, MI.

Co-Advised by Dr. Stephen K. Hamilton and Dr. Merritt R. Turetsky (University of Guelph)

**M.S.** in Biological Sciences, 2006

Northern Illinois University, DeKalb, IL.

Advised by Dr. Carl N. von Ende

**B.S.** in Biological Sciences (*magna cum laude*), 2004

Northern Illinois University, DeKalb, IL.

## Professional Experience

|                |   |
|----------------|---|
| 2019 – present | <b>Assistant Professor</b> , Department of Biology, Texas State University, San Marcos TX.  |
| 2016 – 2020    | <b>Adjunct Assistant Professor</b> , Department of Ecosystem Science and Management, Texas A&M University   |
| 2016 – 2019    | <b>Program Coordinator</b> , Ecology and Evolutionary Biology Doctoral Program and Applied Biodiversity Science Program, Texas A&M University                                       |
| 2015 – 2017    | <b>Visiting Scholar</b> , Department of Biology, Trinity University, TX.  |
| 2014 – 2016    | <b>Assistant Professor</b> of Biology, Department of Mathematics and Sciences, Our Lady of the Lake University, TX.   |
| 2012 – 2014    | <b>Postdoctoral Research Fellow</b> with Dr. Deborah Goldberg (Ecology and Evolutionary Biology) and Dr. William Currie (Natural Resources and Environment), University of Michigan |
| 2008 – 2011    | <b>Teaching Assistant</b> , Department of Plant Biology, Michigan State University  |
| 2007 – 2010    | <b>Science To Achieve Results (STAR) Fellow</b> , US EPA  |
| 2006 – 2008    | <b>Research Assistant</b> , Department of Plant Biology, Michigan State University  |
| 2004 – 2006    | <b>Teaching Assistant</b> , Department of Biological Sciences, Northern Illinois University   |
| 2004           | <b>Restoration Intern</b> , McHenry County Conservation District, McHenry, IL.  |

## Awards, Grants, and Fellowships

### Pending Proposals:

- Texas CPA Texas Endangered Species Management Research, “Enhancing habitat for avian species of concern on private lands through interdisciplinary assessment of the influence of prescribed fire on ecosystem services”, submitted December 2023. *Co-Principal Investigator*
- Texas CPA Texas Endangered Species Management Research, “Assessing the Effects of Restoration, Drought, and Recreation on Endangered Texas Wild-Rice in the San Marcos River”, submitted December 2023. *Co-Principal Investigator*

- NOAA Coastal Habitat Restoration and Resilience Grant, “Enhancing Saginaw Bay’s Coastal Resilience through Restoration of Wild Rice (Manoomin)”, submitted December 2023. *Co-Principal Investigator*
- NSF DISES, “Integrating ecosystem services and stakeholder preferences to improve outcomes on post-buyout land”, submitted November 2023. *Co-Principal Investigator*

Funded Proposals:

- TPWD Habitat and Angler Access Program, “Upper San Marcos River Aquatic Invasive Species Removal and Native Vegetation Repatriation”, \$50,000. 2024-2025. *Co-Principal Investigator*
- TXST Run to R1 Postdoctoral Catalyst Program, “Improving predictions of grassland carbon, water, and nutrient cycling using an individual-based modeling approach”. \$100,000. 2023-2025. *Principal Investigator*
- NASA OCEAN, “Integrating Systems Models and Remote Sensing to Explore Aquatic Ecosystem Vulnerability to Global Change in Lake Huron”. \$749,428. 2021-2024. *Principal Investigator*
- TPWD Aquatic Invasive Species Research Grant, “Using remote sensing to map *Arundo donax* populations in Native Fish Conservation Areas throughout Texas to better understand causal factors of invasion and set management priorities”. \$98,537. 2021-2023. *Principal Investigator*
- Texas Parks and Wildlife Traditional Section 6, “Habitat assessment, monitoring and landowner outreach for *Leavenworthia texana* and *Physaria pallida*”. \$99,292. 2021-2023. *Principal Investigator*
- NASA Interdisciplinary Research in Earth Science Program, “Quantifying How Global Change and Land Use Legacies Affect Ecosystem Processes at the Land Water Interface Across the Great Lakes Basin”. \$1,598,346. 2017-2021. *Co-Principal Investigator*
- EPA Great Lakes Restoration Initiative Program, “Implementing Adaptive Management and Monitoring for Restoration of Wetlands invaded by *Phragmites*.” \$648,799. 2016-2018. *Participant in cross-institutional collaborative team funded by this award.*
- Michigan Invasive Species Grant Program, “Comprehensive Invasive *Phragmites* Management Planning”. \$203,000. 2015-2018. *Co-Principal Investigator*
- University of Michigan Water Center Grant, “Assessing Ecosystem Services Provided by Restored Wetlands Under Current and Future Climate and Land-Use Scenarios”. \$50,000. 2013-2014.
- EPA STAR Fellowship, “Effects of Plant Diversity and Functional Identity on Ecosystem Nitrogen Retention and Removal in Great Lakes Wetlands”. \$110,000. 2007-2010.

Proposals not funded:

- DOE FAIR, “Improving predictions of grassland carbon, water, and nutrient cycling using an individual-based modeling approach”. Submitted April 2023. *Principal Investigator*
- NASA Terrestrial Ecology Program, “Biodiversity and Environmental Analysis of Great Lakes Ecosystems (BEAGLE)”. Submitted January 2022. *Co-Principal Investigator*
- Texas CPA Texas Endangered Species Management Research, “Quantifying recreation and drought perturbations on endangered species of the San Marcos River and expanding system resilience downstream with native submerged aquatic vegetation cover”, submitted November 2022. *Co-Principal Investigator*
- NASA Interdisciplinary Research in Earth Science Program, “Ecosystem function and resilience to changes in climate, water level, land use, and species invasion across the land-Great Lakes continuum”. Submitted November 2022. *Co-Principal Investigator*
- USDA CRP Climate Change Mitigation Assessment Initiative, “Exploring the climate change mitigation potential of Conservation Reserve Program grasslands by assessing the relationship

between vegetation communities and soil carbon sequestration”, submitted July 2021, *Co-Principal Investigator*

- NASA Carbon Cycle Science, “Understanding the Effects of Changes in Land Management, Climate, and Hydrology on Carbon Dynamics from Great Lakes Watersheds to Coastal Wetlands”, submitted December 2020, *Co-Principal Investigator*
- DOE Environmental System Science, “Simulating the Dynamic Effects of Perturbations on Ecosystem Function Along the US Great Lakes Terrestrial Aquatic Interface”, Submitted December 2020”, pre-application *Co-Principal Investigator*
- NSF EAGER SAI, “Optimizing Post-buyout Land Use to meet Stakeholder Needs though Ecological and Structural Infrastructure”, pre-application *Co-Principal Investigator*
- NASA Ocean Biology and Biogeochemistry, “Quantifying Great Lakes aquatic ecosystem vulnerability to climate change by integrating systems models and remote sensing”, submitted July 2020. *Co-Principal Investigator*
- National Science Foundation Division of Environmental Biology (DEB), “The physiological responses underlying grassland community and ecosystem responses to soil nitrogen”, submitted December 2019. *Co-Principal Investigator*
- Texas State University Research Enhancement Program, “Assessing soil carbon storage potential of Texas grasslands after 20 years of restoration”. *Principal Investigator*
- National Science Foundation Frontier Research in Earth Sciences (FRES), “Carbon Fluxes Down the Hydrologic Connectivity Cascade: Cross-scale Interactions of Water, Nutrients, and Plants in Freshwater Wetlands”, submitted February 2019
- Texas A&M University Tier One Program, “Creating and Integrating Sustainable Experiential Learning for Undergraduate and Graduate Students in Ecology and Evolutionary Biology”, submitted March 2017
- National Science Foundation Ecosystem Science Pre-Proposal, “Canopy structure and standing litter-NPP feedbacks governing invasion dynamics, lateral colonization, and C accumulation in herbaceous coastal wetlands”, submitted January 2015
- National Science Foundation MacroSystems Biology, “Carbon Fluxes Down the Hydrologic Connectivity Cascade: Cross-scale Interactions of Water, Nutrients, and Plants in Freshwater Wetlands”, submitted April 2014
  - **Note:** Top 4 proposal, rated “Outstanding”, recommended for funding, declined due to reallocation of funds

*Smaller grants and fellowships:*

- U.S. Department of Agriculture, “Constraints of the Recruitment of an Invasive C4 in a Native C4 Grassland”, \$7500. 2023-2024. *Principal Investigator*
- Texas State University Undergraduate Research Fellowship – Ryan Kridler (\$1000)
- College of Natural Science, MSU, Dissertation Completion Fellowship 2011 (\$6000)
- College of Natural Science, MSU, Dissertation Continuation Fellowship 2010 (\$6000)
- EEBB Travel Grant, MSU, 2007-2012 (Total awarded: \$2400)
- Paul Taylor Travel Grant, MSU, 2007-2011 (Total awarded: \$3875)
- Long-Term Ecological Research (LTER) Small Grant, 2010 (\$1500)
- MSU Graduate School Travel Grant 2008 and 2009 (Total awarded: \$500)
- Biogeochemistry Environmental Research Initiative Summer Fellowship, 2007 and 2008 (\$3000)
- Society of Wetland Scientists Research Grant, 2007 (\$1000)
- Kellogg Biological Station Visiting Graduate Fellowship, 2007 (\$2000)
- Northern Illinois University Fellowship, 2005-2006 (\$6000)

- McHenry County Conservation District Research Grant, 2006 (\$250)

Teaching and Mentorship:

- Certificate of Appreciation, 2022 Unity Graduation Celebration (TXST) – Sydney Scace
- Texas State University Teaching Award of Honor, 2020
- Department of Residence Life (MSU) Teaching Recognition, 2010

**Refereed Publications (\*co-first author, ^ denotes undergraduate student)**

Currie, W.S, L. Bourgeau-Chavez, K.J. Elgersma, P. Higman, **J.P. Martina**, S.J. Sharp and M. Vanderhaar. Wetland process modeling for adaptive management: Restoration of *Phragmites*-invaded coastal wetlands in the Great Lakes region. *Wetland Ecology and Management (Submitted)*

Li, W, E Borer, E Seabloom, C Stevens, CA Arnillas, I Barrio, L Biederman, K Bråthen, Y Buckley, M Bugalho, M Caldeira, J Catford, Q Chen, M Crawley, C D'Antonio, K Davies, C Dickman, I Donohue, M DuPre, A Ebeling, N Eisenhauer, A Eskelinen, N Hagenah, S Haider, Y Hautier, E Hersch-Green, K Jamiyansharav, A Jentsch-Beierkuhnlein, I Jónsdóttir, J Knops, L Laanisto, A Lkhagva, **JP Martina**, H Martinson, Y Niu, D Orr, P Peri, E Pos, S Power, Z Ren, A Risch, C Roscher, N Smith, M Spohn, P Tognetti, C Veen, R Virtanen, G Wardle, H Young, J Bakker. Species responses to nutrient addition, but not to herbivore exclusion, strengthen over time in global grasslands. *Ecology (Submitted)*

Plappert, J.L., Veech, J.A., **Martina, J.P.**, Giocomo, J.J. Canopy cover as a factor affecting habitat use by grassland-shrubland bird species in central Texas, USA. *Journal of Field Ornithology (In Review)*

Muthukrishnan, R., L. Sullivan, C. Arnillas, J. Bakker, E. Borer, Q. Chen, M. Caldeira, J. Catford, P. Daleo, K. Davies, C. Dickman, A. Ebeling, N. Eisenhauer, D. Gruner, N. Hagenah, S. Haider, WS Harpole, Y. Hautier, A. Jentsch, J. Knops, K. Komatsu, A. MacDougall, **J.P. Martina**, B. Melbourne, J. Moore, Y. Niu, T. Ohlert, P. Peri, E. Pos, S. Power, Z. Ren, A. Risch, C. Roscher, E. Seabloom, C. Stevens, M. Tedder, P. Tognetti, R. Virtanen, G. Wardle. Increased stochasticity at low latitudes: evidence for a latitudinal gradient in community assembly. *Nature (In Review)*

MacDougall, A, E Ellen, T Ohlert, Q Chen, O Carrol, C Bonner, E Seabloom, M Siewart, A Schweiger, E Borer, D Naidu, S Bagch, Y Hautier, P Wilfhart, K Larson, J Olofsson, E Cleland, R Muthukrishnan, L O'Halloran, J Alberti, TM Anderson, CA Arnillas, JD Bakker, IC Barr, L Biederman, EH Boughton, CM Bruschetti, Y Buckley, MN Bugalho, MW Cadotte, MC Caldeira, JA Catford, P Daleo, CR Dickman, I Donohue, K Elgersma, N Eisenhauer, A Eskelinen, C Estrada, PA Fay, Y Feng, DS Gruner, N Hagenah, S Haider, S Harpole, E Hersch-Green, A Jentsch, K Kirkman, JMH Knops, L Laanisto, LS Lannes, A Lkhagva, **JP Martina**, RL McCulley, R Mitchell, JL Moore, JW Morgan, TO Muraina, Y Niu, M Pärtel, PL Peri, SA Power, JN Price, SM Prober, Z Ren, AC Risch, N Smith, G Sonnier, RJ Standish, CJ Stevens, M Tedder, P Tognetti, GF Veen, R Virtanen, GM Wardle, L Waring, AA Wolf, L Yahdjian, C D'Antonio. Climate-related changes to grassland biomass since the 1980s. *Nature Ecology and Evolution (In Review)*

Herod, M. and **J.P. Martina**. 2023. Environmental factors influencing the growth and resource allocation of *Arundo donax*, a riparian invader. *Weed Research* 1-11

Spohn, M, S Bagchi, L Biederman, E Borer, KA Bråthen, M Bugalho, M Caldeira, J Catford, S Collins, N Eisenhauer, N Hagenah, S Haider, Y Hautier, J Knops, S Koerner, L Laanisto, Y Lekberg, **JP Martina**, H Martinson, R McCulley, P Peri, M Petr, S Power, A Risch, C Roscher, E Seabloom, C Stevens, GF Veen, R Virtanen, L Yahdjian. 2023. The positive effect of plant diversity on soil organic carbon depends on climate. *Nature Communications* 14(1):6624

Chen, Q, S Wang, E Borer, J Bakker, E Seabloom, WS Harpole, N Eisenhauer, Y Lekberg, Y Buckley, J Catford, C Roscher, I Donohue, S Power, P Daleo, A Ebeling, J Knops, **JP Martina**, A Eskelinen, J Morgan, A Risch, M Caldeira, M Bugalho, R Virtanen, I Barrio, Y Niu, A Jentsch, C Stevens, J Alberti, Y Hautier. 2023. Multidimensional responses of ecological stability to eutrophication in grasslands. *Nature Communications* 14(1):6375

Wilfahrt, P., E. Seabloom, J. Bakker, L. Biederman, M. Bugalho, M. Cadotte, M. Caldeira, J. Catford, Q. Chen, I. Donohue, A. Ebeling, N. Eisenhauer, S. Haider, R. Heckman, A. Jentsch, S. Koerner, K. Komatsu, R. Laungani, A. MacDougall, **J.P. Martina**, H. Martinson, J. Moore, Y. Niu, T. Ohlert, H. olde Venterink, P. Orr, P. Peri, E. Pos, J. Price, X. Raynaud, Z. Ren, C. Roscher, N. Smith, C. Stevens, L. Sullivan, M. Tedder, P. Tognetti, C. Veen, G. Wheeler, A. Young, H. Young, E. Borer. 2023. Nothing lasts forever: dominant species decline under rapid environmental change in global grasslands. *Journal of Ecology* 111:2472-2482

Garbowski, M., E. Boughton; A. Ebeling, P. Fay, Y. Hautier, H. Holz, A. Jentsch-Beierkuhnlein, S. Jurburg, E. Ladouceur, **J.P. Martina**, T. Ohlert, X. Raynaud, C. Roscher, G. Sonnier, P. Tognetti, L. Yahdjian, P. Wilfart, W.S. Harpole. 2023. Nutrient enrichment alters seasonal beta-diversity in global grasslands. *Journal of Ecology* 111:2134-2145

Rogan, J., M.R. Parker, Z.B. Hancock, A.D. Earl, E.K. Buchholtz, K. Chyn, **J.P. Martina**, L.A. Fitzgerald. 2023. Genetic and demographic consequences of range contraction patterns during biological annihilation. *Scientific Reports* 13:1691

Siciliano-Martina, L., **J.P. Martina**, Dohnalik, E., Vielleux, G. 2023. Factors influencing the timing and frequency of litters in captive fennec foxes (*Vulpes zerda*). *Animal Reproduction Science* 248 107182

Ladouceur, E., S.A. Blowes, J.M. Chase, A.T. Clark, M. Garbowski, J. Alberti, C.A. Arnillas, J.D. Bakker, I.C. Barrio, S. Bharath, E.T. Borer, L.A. Brudvig, M.W. Cadotte, Q. Chen, S.L. Collins, C.R. Dickman, I. Donohue, G. Du, A. Ebeling, N. Eisenhauer, P.A. Fay, N. Hagenah, Y. Hautier, A. Jentsch, I.S. Jónsdóttir, K. Komatsu, A. MacDougall, **J.P. Martina**, J.L. Moore, J.W. Morgan, P.L. Peri, S.A. Power, Z. Ren, A.C. Risch, C. Roscher, M.A. Schuchardt, E.W. Seabloom, C.J. Stevens, G.F. Veen, R. Virtanen, G.M. Wardle, P.A. Wilfahrt, W.S. Harpole. 2022. Linking changes in species composition and biomass in a globally distributed grassland experiment. *Ecology Letters* 25:2699-2712

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* <https://doi.org/10.1007/s10530-022-02881-9>

Carroll, O., E. Batzer, S. Bharath, E.T. Borer, S. Campana, E. Esch, Y. Hautier, T. Ohlert, E.W. Seabloom, P.B. Adler, J.D. Bakker, L. Biederman, M.N. Bugalho, M. Caldeira, Q. Chen, K. Davies, P.A. Fay, J.M.H. Knops, K. Komatsu, **J.P. Martina**, K.S. McCann, J.L. Moore, J.W. Morgan, T.O. Muraina, B. Osborne, A.C. Risch, C. Stevens, P.A. Wilfhart, L. Yahdjian, and A.S. MacDougall. 2022. Nutrient identity modifies the destabilizing effects of eutrophication in grasslands. *Ecology Letters* 25(4) 754-765

Yuan, Y., K.J. Elgersma, **J.P. Martina**, S. Sharp and W.S. Currie. 2021. Global warming potential driven by nitrogen inflow and hydroperiod in a model of Great Lakes coastal wetlands. *JGR – Biogeosciences* 126, e2021JG006242. <https://doi.org/10.1029/2021JG006242>

Novak, E.N., M. Bertelsen, R. Davis, D.M. Grobert, K.G. Lyons, **J.P. Martina**, M. McCaw, M. O'Toole, J.W. Veldman. 2021. Season of prescribed fire determines grassland restoration outcomes after fire exclusion and overgrazing. *Ecosphere* 12(9):e03730. 10.1002/ecs2.3730

Weinstein, C., L. Bourgeau-Chavez, S.L. Martin, W.S. Currie, K. Grantham, Q.F. Hamlin, D.W. Hyndman, K.P. Kowalski, **J.P. Martina**, D. Pearsall. 2021. Enhancing Great Lakes coastal ecosystems research by initiating engagement between scientists and decision-makers. *Journal of Great Lakes Research* 47: 1235-1240

Sharp, S.J., K.J. Elgersma, **Martina, J.P.** and W.S. Currie. 2021. Hydrologic flushing rates drive nitrogen cycling and plant invasion in a freshwater coastal wetland model. *Ecological Applications* 31(2):e02233. [10.1002/eap.2233](https://doi.org/10.1002/eap.2233)

Borer, E.T, W.S. Harpole, P.B. Adler, M.N. Bugalho, M.W. Cadotte, M.C. Caldeira, M.S. Campana, A. Carlos-Albert, C.R. Dickman, T.L. Dickson, I. Donohue, A. Eskelinen, P.A. Fay, J.L. Firn, P.B. Graff, D.S. Gruner, R.W. Heckman, A.M. Koltz, K.J. Komatsu, L.S. Lannes, A.S. MacDougall, **J.P. Martina**, J.L. Moore, B. Mortensen, R. Ochoa-Hueso, H. Olde Venterink, S.A. Power, J.N. Price, A.C. Risch, M. Sankaran, M. Schütz, J. Sitters, C.J. Stevens, R. Virtanen, P.A. Wilfahrt, E.W. Seabloom. 2020. Nutrients cause grassland biomass to outpace herbivory. *Nature Communications* 11, 6036. <https://doi.org/10.1038/s41467-020-19870-y>

\*Siciliano-Martina, L.M. and \***J.P. Martina**. 2020. Shifting barriers to the acceptance of evolution in an underrepresented student group. *International Journal of Science Education* 42: 2205-2223

Goldberg, D.E., E.E. Batzer, K.J. Elgersma, **J.P. Martina**, and J. Klimesova. 2020. Allocation to clonal growth: critical questions and protocols to answer them. *Perspectives in Plant Ecology, Evolution and Systematics* 43: 125511

Siciliano-Martina, L.M. and **J.P. Martina**. 2018. Stress and social behaviors of maternally-deprived captive giraffes (*Giraffa camelopardalis*). *Zoo Biology* 37: 80-89

^Batzer, E.E., **J.P. Martina**, K.J. Elgersma and 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: 1299-1311 DOI: <https://doi.org/10.1007/s11258-017-0769-z>

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: 229-243

Elgersma, K.J., **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: <https://doi.org/10.1525/elementa.147>

**Martina, J.P.**, Currie, W.S., Goldberg, D.E., and K.L. Elgersma. 2016. Nitrogen loading leads to increased carbon accretion in both invaded and uninvaded coastal wetlands. *Ecosphere* 7(9): e01459. 10.1002/ec2.1459

Elgersma, K.J., Wildova, R., **Martina, J.P.**, Currie, W.S. and D.E. Goldberg. 2015. Does clonal resource translocation relate to invasiveness of *Typha* taxa? Results from a common garden experiment. *Aquatic Botany* 126: 48-53

**Martina, J.P.**, Hamilton, S.K., Turetsky, M.R. and ^C.J. Phillippo. 2014. Organic matter stocks increase with degree of invasion in temperate inland wetlands. *Plant and Soil* 385: 107-123

Currie, W.S., Goldberg, D.E., **Martina, J.P.**, Wildova, R., Farrer, E., and K. Elgersma. 2014. Emergence of nutrient-cycling feedbacks related to plant size and invasion success in a wetland community-ecosystem model. *Ecological Modelling* 282: 69-82

**Martina, J.P.** and C.N. von Ende. 2013. Increased spatial dominance in high nitrogen, saturated soil due to clonal architecture plasticity of the invasive wetland plant, *Phalaris arundinacea*. *Plant Ecology* 214: 1443-1453

**Martina, J.P.** and C.N. von Ende. 2012. Highly plastic response in morphological and physiological traits to light, soil-N and moisture in the model invasive plant, *Phalaris arundinacea*. *Environmental and Experimental Botany* 82: 43-53.

Ball, B.A., Kominoski J.S., Adams, H.E., Jones, S.E., Kane, E.S., Loecke, T.D., Mahaney, W.M., **Martina, J.P.**, Prather, C.M., Robinson, T.M.P., and C.T. Solomon. 2010. Direct and terrestrial vegetation-mediated effects of environmental change on aquatic ecosystem processes. *Bioscience* 60: 590-601.

**Martina, J.P.** and C.N. von Ende. 2008. Correlation of soil nutrient characteristics and reed canarygrass (*Phalaris arundinacea*: Poaceae) abundance in northern Illinois, USA. *American Midland Naturalist* 160: 430-437.

### **Manuscripts in Preparation**

**Martina, J.P.**, R. Ramirez, K.J. Elgersma, S. Sharp, W.S. Currie, D.E. Goldberg. Propagule pressure and disturbance interact along a nitrogen gradient to influence invasion outcomes in a simulated wetland system. (*In Prep*)

Calvo, C., K.J. Elgersma, D.E. Goldberg, W.S. Currie, E. Batzer and **J.P. Martina**. Biotic resistance across a nutrient gradient in experimental coastal wetlands. (*In Prep*)

**Martina, J.P.**, K.J. Elgersma, W.S. Currie, and D.E. Goldberg. Can invasion be reversed by removing the main driver or has a regime shift occurred? A test case using a simulated wetland ecosystem. (*In Prep*)

**Martina, J.P.**, R. O'Connor, S.K. Hamilton and M.R. Turetsky. Litter diversity and interactive effects between litter and soil control decomposition and nitrogen transformation in invaded wetlands. (*In Prep*)

### **Thesis Publications**

Martina, J.P. 2012. Invasive plant species impacts on carbon and nitrogen cycling in inland Michigan wetlands. Dissertation, Michigan State University, East Lansing, MI.

Martina, J.P. 2006. Effects of soil nutrient characteristics, moisture, and light on the growth response and resource allocation of *Phalaris arundinacea*, an invasive wetland plant. Master's Thesis, Northern Illinois University, Dekalb IL.

### **Teaching Experience and Training**

**Participant** in The Prairie Project Education Cohort, 2021-2023

USDA funded project aimed to examine how pyric-herbivory and mixed-species grazing can support the sustainability of livestock production and ecosystem services in the Great Plains region. The education component trains regional educators to develop modules that introduce relevant science to their students through experiential learning and citizen science research.

**Certificate** in College Science Teaching, 2013

Postdoctoral Short-Course offered by the Rackham School of Graduate Studies and the Center for Research on Learning and Teaching  
University of Michigan, Ann Arbor, MI.

*Courses Taught:*

#### **Texas State University**

|   |             |
|---|-------------|
| Wetland Plant Ecology and Management (Lecture & Lab)          | 2020 – 2024 |
| Ecology and Management of Aquatic Macrophytes (Lecture & Lab) | 2020 – 2024 |
| Global Change Biology (Lecture)                               | 2020 – 2023 |
| Population and Conservation Seminar: Plant-Soil Feedbacks     | 2021        |

#### **Texas A&M University**

|   |             |
|---|-------------|
| Fundamentals of Environmental Decision Making (Lecture) | 2018        |
| First Year Graduate Seminar in EEB                      | 2016 - 2018 |

#### **Our Lady of the Lake University**

|                                       |             |
|---------------------------------------|-------------|
| Environmental Science (Lecture & Lab) | 2015 - 2016 |
| Vascular Plants (Lecture & Lab)       | 2014 - 2016 |
| Introduction to Evolution (Online)    | 2015 - 2016 |
| Aquatic Biology (Lecture & Lab)       | 2015        |
| General Ecology (Lecture & Lab)       | 2014 - 2015 |

#### **University of Michigan**

|  |             |
|--|-------------|
| Practice Teaching Facilitator, CRLT Teaching Orientation | 2013 – 2014 |
|--|-------------|

#### **Michigan State University (Teaching Assistant)**

|                                 |             |
|---------------------------------|-------------|
| Tropical Biology (Lecture)      | 2011        |
| Organisms and Populations (Lab) | 2010 - 2011 |



|                                    |      |
|------------------------------------|------|
| Experiments in Plant Biology (Lab) | 2010 |
| General Plant Biology (Lab)        | 2009 |
| General Ecology (Lecture & Lab)    | 2008 |

**Northern Illinois University (Teaching Assistant)**

|                               |             |
|-------------------------------|-------------|
| Fundamentals of Biology (Lab) | 2004 - 2006 |
|-------------------------------|-------------|

**Guest Lectures**

- BIO 3460 Aquatic Biology, Fall 2019, 2020, Title: Plant adaptations to wetland environments. Texas State University.
- BIO 4400 Plants Important for Wildlife, Fall 2019, Title: Causes and impacts of plant invasions. Texas State University
- WFSC 628 Wetland Ecology and Pollution, Fall 2017, Title: The quest for control: adaptive management of invasive species in wetlands. Texas A&M University
- RENH 205 Introduction to Ecology, Fall 2017, Lecture Title: Ecological principles in conservation and management. Texas A&M University
- NRE 509 Ecology: Science of Context and Interaction, Fall 2013, Lecture Title: N<sub>r</sub> and the N cascade. University of Michigan
- NRE 501 Biofuels and Sustainability, Winter 2013, Lecture Title: Biofuels and invasive plant species. University of Michigan
- FW 417 Wetland Ecology and Management, Fall 2007-2013, Lecture Title: Invasive plant species in wetlands. Michigan State University
- ZOL 485 Tropical Biology, Fall 2011, Lecture Title: Decomposition: mechanisms and global patterns. Michigan State University
- ZOL 897 Ecosystem Ecology and Global Change, Spring 2011, Discussion of the rise and fall of the phosphorus paradigm in limnology. Michigan State University
- PLB 105 Plant Biology, Spring 2009, Lecture Title: Humans and the environment. Michigan State University

**Invited Seminars**

- Conservation and management of wetlands in a changing world. Department of Fisheries and Wildlife. Michigan State University, East Lansing, MI. May 2023
- Studying global change in wetlands and grasslands. Environmental Science and Sustainability Seminar Series. Department of Mathematics and Sciences. Our Lady of the Lake University, San Antonio, TX. November 2021
- Using experimental and modeling approaches to reconcile the past, present, and future of wetland plant invasions. Department of Biology Seminar Series. Texas State University, San Marcos, TX. January 2019
- Merging remote sensing, modeling, and field data to understand and manage plant invasions in Great Lakes coastal wetlands. Seminar Series cohosted by the Ecology and Evolutionary Biology and Applied Biodiversity Science Programs. Texas A&M University, College Station, TX. October 2016
- Plant invasion in coastal Great Lakes wetlands: Merging satellite, modeling, and field data to understand causes and consequences. Department of Biology Sciences Seminar Series. Trinity University, San Antonio, TX. October 2015

Invasive plants in wetlands: using an experimental and modeling framework to understand causes and consequences. Department of Biological Sciences Seminar Series. Northern Illinois University, DeKalb, IL. April 2014

Invasive plants in wetlands: using an experimental and modeling framework to understand causes and consequences. Conservation Ecology Seminar Series. University of Michigan, Ann Arbor, MI. February 2014

The effects of organic pollutants in urban lakes. Department of Mathematics and Sciences. Our Lady of the Lake University, San Antonio, TX. January 2014

Biodiversity: definition, benefits, and threats. Department of Biology Seminar. Angelo State University, San Angelo, TX. January 2014

Understanding causes and consequences of plant invasion in coastal wetlands. Department of Biology Seminar. Angelo State University, San Angelo, TX. January 2014

Invasive species effects on biogeochemical cycling in temperate wetlands. Plant Ecology Discussion Group. University of Michigan, Ann Arbor, MI. Spring 2011.

### **First-Author Conference Presentations (\*denotes an invited talk)**

**Martina, J.P.**, R. Ramirez, K.L. Elgersma, D.E. Goldberg, S. Sharp and W.S. Currie. The role of propagule pressure, biotic resistance, and nutrient loading on invasion dynamics in freshwater coastal wetlands. Ecological Society of America Annual Meeting, Portland, OR. August 2023. (*poster*)

**Martina, J.P.** and S.T.S. Dixon. 2023. Effects of Woody Encroachment on Native Bird Diversity: A Prairie Project Teaching Module. Resources for Ecology Education – Fair and Share (REEFS). Ecological Society of America Annual Meeting, Portland, OR. August 2023. (*oral presentation*)

**Martina, J.P.** Integrating Systems Models and Remote Sensing to Explore Aquatic Ecosystems Vulnerability to Global Change in Lake Huron. NASA MUREP OCEAN PI Meeting. Virtual. April 2022. (*oral presentation*)

**Martina, J.P.**, K.L. Elgersma, D.E. Goldberg, S.J. Sharp, W.S. Currie. Tipping the tipping point: After a regime shift to invader dominance can management or high water levels push a wetland plant community back to a pre-invaded state? Society for Ecological Restoration. Virtual. June 2021. (*oral presentation*)

**Martina, J.P.**, K.J. Elgersma, D.E. Goldberg, S.J. Sharp, W.S. Currie. Tipping the tipping point: After a regime shift to invader dominance can management or high water levels push a wetland plant community back to a pre-invaded state? American Geophysical Union Fall Meeting. Virtual. December 2020. (*eLightning Poster*)

\***Martina, J.P.**, K.L. Elgersma, W.S. Currie, D.E. Goldberg. Can invasion be reversed by removing the main driver or has a regime shift occurred? A test case using a simulated wetland ecosystem. Texas Aquatic Plant Management Society Annual Conference. Bryan, TX. November 2019. (*oral presentation*)

**Martina, J.P.**, K.L. Elgersma, W.S. Currie, D.E. Goldberg. Can invasion be reversed by removing the main driver or has a regime shift occurred? A test case using a simulated wetland ecosystem. Texas Chapter of the Society of Ecological Restoration. Galveston, TX. November 2019. (*oral presentation*)

**Martina, J.P.**, R. Ramirez, K.L. Elgersma, S. Sharp, W.S. Currie, D.E. Goldberg. Propagule pressure and clonal branching architecture interact along a nitrogen gradient to influence invasion outcomes in a simulated wetland system. Annual Meeting of the Ecological Society of America. Louisville, KY. August 2019. (*oral presentation*)

**Martina, J.P.**, K.L. Elgersma, W.S. Currie, D.E. Goldberg. Can invasion be reversed by removing the main driver or has a regime shift occurred? A test case using a simulated wetland ecosystem. Annual Meeting of the Ecological Society of America. New Orleans, LA. August 2018. (*oral presentation*)

**Martina, J.P.**, K.L. Elgersma, W.S. Currie, D.E. Goldberg. What are the effects of management duration and type (burning, herbiciding, mowing) on the success of invasive cattail and C and N cycling? Society of Wetland Scientists Annual Meeting. Corpus Christi, TX. May-June 2016. (*oral presentation*)

**Martina, J.P.**, K.L. Elgersma, W.S. Currie, D.E. Goldberg. Evaluating the efficacy of management techniques (mowing, burning, and herbiciding) on the control of cattail (*Typha* spp.) across a gradient of nitrogen loading. Texas Chapter of the Society of Ecological Restoration. San Antonio, TX. November 2015. (*oral presentation*)

**Martina, J.P.**, K.L. Elgersma, W.S. Currie, D.E. Goldberg. Effectiveness of cattail (*Typha* spp.) management techniques (mowing, burning, and herbiciding) depends on exogenous nitrogen inputs. Annual Meeting of the Ecological Society of America. Baltimore, MD. August 2015. (*oral presentation*)

**Martina, J.P.**, W.S. Currie, D.E. Goldberg, K.L. Elgersma. Physiological trait variation in plant invaders influences invasion success and C cycling across a nitrogen gradient in a simulated wetland ecosystem. Annual Meeting of the Ecological Society of America. Sacramento, CA. August 2014. (*oral presentation*)

\***Martina, J.P.**, W.S. Currie, D.E. Goldberg, K.L. Elgersma. Investigating the major drivers of C storage in coastal wetlands using a simulation model: Do plant invasions matter? Joint Aquatic Sciences Meeting. Portland, OR. May 2014. (*oral presentation*)

**Martina, J.P.**, W.S. Currie, D.E. Goldberg, K.L. Elgersma. Interactive effects of invasion and hydrology influence C storage along a nitrogen gradient in a simulated clonal wetland ecosystem. 98<sup>th</sup> Annual Meeting of the Ecological Society of America. Minneapolis, MN. August 2013. (*oral presentation*)

**Martina, J.P.**, W.S. Currie, D.E. Goldberg. The interaction between litter and N loading determines invader success and N retention in a simulated clonal wetland ecosystem. American Geophysical Union Fall Meeting. San Francisco, CA. December 2012. (*oral presentation*)

**Martina, J.P.**, W.S. Currie, D.E. Goldberg. The interaction between litter, N loading, and allocation requirement determines invader success in a simulated clonal wetland ecosystem. Society of Wetland Scientists North Central Chapter Meeting. Indiana Dunes National Lakeshore, IN. September 2012. (*oral presentation*)

**Martina, J.P.**, S.K. Hamilton and M.R. Turetsky. Effects of aboveground biomass and litter on biogeochemical cycling in stands of the invasive wetland plant, *Phragmites australis*. 97<sup>th</sup> Annual Meeting of the Ecological Society of America. Portland, OR. August 2012. (*oral presentation*)

**Martina, J.P.**, M.R. Turetsky and S.K. Hamilton. Invasive plants in wetlands: Effects of litter and soil conditioning on decomposition and N transformation rates. 96<sup>th</sup> Annual Meeting of the Ecological Society of America. Austin, TX. August 2011. (*oral presentation*)

**Martina, J.P.** Dominant species effects on C and N cycling in temperate wetlands. Kellogg Biological Station Brown Bag Series. Hickory Corners, MI. Fall 2010. (*oral presentation*)

**Martina, J.P.**, C.J. Phillip, S.K. Hamilton and M.R. Turetsky. Dominant species effects on carbon and nitrogen cycling in temperate wetlands. 95<sup>th</sup> Annual Meeting of the Ecological Society of America. Pittsburgh, PA. August 2010. (*oral presentation*)

**Martina, J.P.**, C.J. Phillip, S.R. Rubin and M.R. Turetsky. Consequences of plant invasion on carbon and nitrogen transformation and storage in temperate wetlands. 94<sup>th</sup> Annual Meeting of the Ecological Society of America. Albuquerque, NM. August 2009. (*poster*)

**Martina, J.P.**, C.J. Phillip, S.R. Rubin and M.R. Turetsky. Consequences of plant invasion on carbon and nitrogen transformation and storage in temperate wetlands. Great Lakes Regional Biogeochemistry Symposium. KBS. May 2009. (*poster*)

**Martina, J.P.** Consequences of plant invasion on nitrogen transformations and C and N storage in Michigan Wetlands. Kellogg Biological Station Brown Bag Series. Hickory Corners, MI. Spring 2009. (*oral presentation*)

**Martina, J.P.** and C.N. von Ende. Effects of light, soil-N, and moisture on the biomass and resource allocation of *Phalaris arundinacea*. 93<sup>rd</sup> Annual Meeting of the Ecological Society of America. Milwaukee. August 2008. (*poster*)

**Martina, J.P.**, C.J. Phillip and M.R. Turetsky. Organic matter accumulation and quality in Michigan wetlands: consequences of plant diversity and biological invasion. Society of Wetland Scientists. Washington, D.C. May 2008. (*poster*)

**Martina, J.P.** and C.N. von Ende. Effects of light, soil-N, and moisture on the biomass and resource allocation of *Phalaris arundinacea*. Botany and Plant Biology 2007 Joint Congress, Chicago, IL. July 2007. (*poster*)

**Martina, J.P.** and C.N. von Ende. Effects of light, soil-N, and moisture on the biomass and resource allocation of *Phalaris arundinacea*. Invasive Species Research Symposium. Michigan State University, East Lansing, Michigan. May 2006. (*poster*)

**Martina, J.P.** and C.N. von Ende. Light, nitrogen, and moisture effects of biomass allocation in reed canarygrass (*Phalaris arundinacea*). Phi Sigma Research Symposium. Northern Illinois University, Dekalb, IL. May 2004. (*poster*)

**Co-Authored Presentations (*Bold indicates presenter, \* denotes invited talk, ^ denotes student*)**

**^Chaudhary, T.**, Rowley, D., Fay, P., Veldman, J., Martina, J.P. Disturbance and nutrient addition reduce aboveground biomass resistance in a mesic grassland. Ecological Society of America Annual Meeting, Portland, OR. August 2023. (*poster*).

**Chen, Q.**, et al. Multidimensional responses of ecological stability to eutrophication in grasslands. Ecological Society of America Annual Meeting, Portland, OR. August 2023. (*oral presentation*)

**Calvo C.**, K. Elgersma, D.E. Goldberg, W.S. Currie, J.P. Martina. Biotic resistance across a nutrient gradient in experimental coastal wetlands. Ecological Society of America Annual Meeting, Portland, OR. August 2023. (*oral presentation*)

**Rowley, D.W.**, P.A. Fay, W.E. Rogers, K.C. Flynn, T. Chaudhary, M.L. Treadwell, J.W. Veldman, J.P. Martina. Coupling remote sensing data with ground surveys of grassland communities following experimental nutrient deposition and disturbance. Ecological Society of America Annual Meeting, Portland, OR. August 2023. (*oral presentation*)

**Calvo, C.**, 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. NASA Carbon Cycle and Ecosystems, Joint Science Workshop. College Park, Maryland. May 2023. (*poster and oral presentation*)

**^Chaudhary, T.**, Rowley, D., Fay, P., Veldman, J., Martina, J.P. Grassland aboveground productivity in response to nutrient addition and soil disturbances shows resistance depending on the season. TXST Graduate Student Research Conference, San Marcos, TX. April 2023 (*poster*).

**^Chaudhary, T.**, Rowley, D., Fay, P., Veldman, J., Martina, J.P. Resistance of grassland community productivity to nutrient addition and soil disturbance depends on season. TXST STEM Conference, San Marcos, TX. March 2023 (*poster*).

**^Martinez, A.D.**, J.P. Martina, C. Calvo. Using a Simulation Model to Test the Competitive Dominance of Two Invasive Wetland Species. TXST STEM Conference. San Marcos, TX. March 2023. (*poster*)

**^Fogel, B.**, P. Williamson, A. Castellanos, J.P. Martina. Analyzing the Effects of Climate Change on the Distributions of an Endangered Plant in East Texas Using Ecological Niche Modeling. TXST STEM Conference. San Marcos, TX. March 2023 (*poster*).

**^Vaquera, T.**, **^Villarreal, R.**, Calvo, C., Martina, J.P. Impact of Rising Temperatures and Increasing Nitrogen Input on Invasive *Phragmites australis* in Coastal Wetlands. TXST STEM Conference. San Marcos, TX., March 2023 (*poster*).

^**DeMent, J.**, J. Jensen, M. McGarrity, J.P. Martina. Remote Sensing of *Arundo donax* in Native Fish Conservation Areas of Texas. TXST STEM Symposium. San Marcos, TX. March 2023. (*poster*)

^**DeMent, J.**, J. Jensen, M. McGarrity, J.P. Martina. Remote Sensing of *Arundo donax* in Native Fish Conservation Areas of Central Texas. TXST Biology Student Symposium. San Marcos, TX. February 2023. (*poster*)

^**Fogel, B.**, P. Williamson, A. Castellanos, J.P. Martina. Using Ecological Niche Modeling to Predict Distributions and Effects of Climate Change on Two Endangered Plant Species. TXST Biology Student Symposium. San Marcos, TX. February 2023 (*poster*).

^**Foulkes, T.A.**, J.W. Veldman, J.P. Martina. Assessing soil carbon storage in Texas grasslands after 20 years of restoration. TXST Biology Student Colloquium. San Marcos, TX. February 2023 (*poster*)

^**Chaudhary, T.**, Rowley, D., Fay, P., Veldman, J., Martina, J.P. Resistance of grassland community productivity to nutrient addition and soil disturbance depends on season. Texas State University, Department of Biology Colloquium, San Marcos, TX. February 2023 (*oral presentation*).

**Rowley, D.W.**, P.A. Fay, K.C. Flynn, J.P. Martina, M.L. Treadwell, W.E. Rogers. Mapping Grassland Plant Communities Subjected to Nutrient Influx and Disturbance using UAV Remote Sensing and Machine Learning. Society for Range Management Annual Meeting, February 12-16, 2023, Boise, ID.

**Rowley, D.W.**, P.A. Fay, K.C. Flynn, J.P. Martina, M.L. Treadwell, W.E. Rogers. Grassland Community Dynamics Are Altered Within the Same Growing Season Following Nutrient Addition and Disturbance. Society for Range Management Annual Meeting, February 12-16, 2023, Boise, ID.

^**DeMent, J.**, J. Jensen, M. McGarrity, J.P. Martina. Remote Sensing of the Invasive *Arundo donax* in Native Fish Conservation Areas of Central Texas. Texas Aquatic Plant Management Society Annual Conference, November 7-8, 2022, San Marcos, TX. (*Oral Presentation*)

^**DeMent, J.**, J. Jensen, M. McGarrity, J.P. Martina. Remote Sensing of the Invasive *Arundo donax* in Native Fish Conservation Areas of Central Texas. Texas Society for Ecological Restoration Annual Conference, November 17-19, 2022, Austin, TX. (*Poster*)

**Rowley, D.W.**, P.A. Fay, K.C. Flynn, J.P. Martina, M.L. Treadwell, W.E. Rogers. UAV Remote Sensing Can Detect Changes in Grassland Plant Communities Subjected to Environmental Degradation. Texas Society for Ecological Restoration Annual Conference, November 17-19, 2022, Austin, TX. (*Winner, Best Graduate Student Poster*)

^**Amaya, J.**, ^**Horan, E.**, Elgersma, K., Currie, B., Martina, J. Determining native plant recolonization success after invasive plant management using a simulation model. Texas Society for Ecological Restoration Annual Conference, November 17-19<sup>th</sup>, 2022, Austin, Texas. (*Poster*)

^**Fogel, B.**, Williamson, P., Castellanos, A., and Martina, J. P. Using ecological niche modeling to predict distributions of two endangered plant species, *Leavenworthia texana* and *Physaria pallida*. Texas Society for Ecological Restoration Annual Conference, November 17-19, 2022, Austin, TX. (Poster)

^**Chaudhary, T.**, Rowley, D., Fay, P., Veldman, J., Martina, J.P. Inter-annual and seasonal variation in grassland community, structure, and productivity following nutrient addition and disturbance. Texas Society of Ecological Restoration Annual Conference, Nov 17-19, 2022, Austin, Texas. (Poster)

^**Foulkes, T.A.**, J.W. Veldman, J.P. Martina. Assessing soil carbon storage in Texas grasslands after 20 years of restoration. Texas Society for Ecological Restoration Annual Conference, November 17-19, 2022, Austin, TX. (Poster)

**Rowley, D.W.**, P.A. Fay, K.C. Flynn, J.P. Martina, M.L. Treadwell, W.E. Rogers. Grassland Community Dynamics Are Altered Within the Same Growing Season Following Nutrient Addition and Disturbance. Texas Section Society for Range Management, October 19-21, 2022, Denton, TX.

**Rowley, D.W.**, P.A. Fay, K.C. Flynn, J.P. Martina, M.L. Treadwell, W.E. Rogers. Grassland Community Dynamics Are Altered Within the Same Growing Season Following Nutrient Addition and Disturbance. Texas A&M University, Ecology and Conservation Biology Fall 2022 Spotlight Seminar Series, College Station, TX.

**Rowley, D.W.** P.A. Fay, K.C. Flynn, J.P. Martina, M.L. Treadwell, W.E. Rogers. Immediate Changes to Grassland Community After Nutrient Addition and Disturbance. 2022 Great Plains Fire Summit & Patch Burn Grazing Conference, North Platte, NE. August 23-25, 2022. (Poster)

**Rowley, D.W.**, P.A. Fay, K.C. Flynn, J.P. Martina, M.L. Treadwell, W.E. Rogers. Immediate Changes to Grassland Community After Nutrient Addition and Disturbance. 2022 ECCB Open House, Texas A&M University, College Station, TX. August 22, 2022. (Poster)

**Ladouceur, E.**, S.A. Blowes, J.M. Chase, A.T. Clark, M. Garbowski, J. Alberti, C.A. Arnillas, J.D. Bakker, I.C. Barrio, S. Bharath, E.T. Borer, L.A. Brudvig, M.W. Cadotte, Q. Chen, S.L. Collins, C.R. Dickman, I. Donohue, G. Du, A. Ebeling, N. Eisenhauer, P.A. Fay, N. Hagenah, Y. Hautier, A. Jentsch, I.S. Jónsdóttir, K. Komatsu, A. MacDougall, J.P. Martina, J.L. Moore, J.W. Morgan, P.L. Peri, S.A. Power, Z. Ren, A.C. Risch, C. Roscher, M.A. Schuchardt, E.W. Seabloom, C.J. Stevens, G.F. Veen, R. Virtanen, G.M. Wardle, P.A. Wilfahrt, W.S. Harpole. Linking changes in species composition and biomass in a globally distributed grassland experiment. International Association of Vegetation Science (IAVS). Special session on 'Ecological stability, from vegetation science to ecosystem process', Madrid, Spain, & given at Frontiers in Experimental Research Conference at UFZ, in Leipzig, Germany. July 2022.

**Sharp, S.J.**, K.J. Elgersma, J.P. Martina, Y. 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. American Geophysical Union Fall Meeting. Virtual. December 2020. (eLightning Poster)

^**Yuan Y**, S.J. Sharp, J.P. Martina, K.J. Elgersma, W.S. Currie. Modeling the effects of nitrogen and hydroperiod on greenhouse gas emissions in Great Lakes coastal wetlands. American Geophysical Union Fall Meeting. Virtual. December 2020. (Poster)

**Kendall, A.D.**, 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, L. Wan. Connecting landscape-applied nutrients to widespread coastal wetland invasion across the Laurentian Great Lakes. American Geophysical Union Fall Meeting. Virtual. December 2020. (*eLightning Poster*)

**Sharp, S.J.**, ^Y. Yuan, A. Kendall, K.J. Elgersma, S. Martin, L. Wan, J.P. Martina, and W.S. Currie. Mapping watershed nitrogen removal in emergent wetlands of the Great Lakes. The Stewardship Network Conference. East Lansing, MI. January 2020. (*poster*)

**Currie, W.S.**, K.J. Elgersma, J.P. Martina, S.J. Sharp and ^Y. Yuan. Modeling nutrient cycling and retention in wetlands as a simultaneous driver and outcome of ecosystem self-organization. American Geophysical Union Fall Conference, San Francisco, CA. December 2019. (*poster*)

**Sharp, S.J.**, K.J. Elgersma, J.P. Martina, D.E. Goldberg, W.S. Currie. Disentangling interactions of *Phragmites* invasion, hydrology and nutrient loading helps predict N-removal in freshwater coastal wetlands. Annual Meeting of the Ecological Society of America. Louisville, KY. August 2019. (*oral presentation*)

**Currie, W.S.**, K.J. Elgersma, J.P. Martina, S. Sharp, D.E. Goldberg. Plant functional traits, community composition, and environmental conditions combine to produce ecosystem-level N cycling dynamics in an individual-based model of wetlands. Annual Meeting of the Ecological Society of America. Louisville, KY. August 2019. (*oral presentation*)

**^Yuan, Y.**, S. Sharp, J.P. Martina, K.J. Elgersma, W.S. Currie. Hydroperiod and water levels effects on GHG exchanges in Great Lakes coastal wetlands. Annual Meeting of the Ecological Society of America. Louisville, KY. August 2019. (*poster*)

**Bourgeau-Chavez, L.L.**, W.S. Currie, K.J. Elgersma, D.E. Goldberg, D.W. Hyndman, J.P. Martina. Human and environmental effects on Great Lakes coastal ecosystems. NASA Land Cover Land Use Change Program. Rockville, MD. May 2019. (*poster*)

**Sharp, S.**, K.J. Elgersma, J.P. Martina, W.S. Currie, D.E. Goldberg. Hydrologic drivers of N-removal and *Phragmites* invasion of Great Lakes coastal wetlands. The Stewardship Network: Restoring Native Ecosystems Conference. East Lansing, MI. January 2019. (*oral presentation*)

**^Jameson, E.**, K.J. Elgersma, J.P. Martina, D.E. Goldberg. More invasive cattails allocate less to sexual reproduction and are less plastic over nutrient gradients. Annual Meeting of the Ecological Society of America. New Orleans, LA. August 2018. (*poster presentation*)

**Goldberg, D.E.**, E. Batzer, J.P. Martina, K.L. Elgersma. Allocation to clonal growth: approaches and questions. 12<sup>th</sup> Clonal Plant Symposium. Brunswick, ME. July 2018. (*oral presentation*)

**Currie, W.S., J.P. Martina** and K.J. Elgersma. The Mondrian model: Introduction of an interactive web-based tool for Great Lakes coastal wetland management and restoration. Presented to the United States Geological Survey. Michigan Tech Research Institute, MI. June 2018. (*oral presentation*)

**Currie, W.S.**, K.J. Elgersma, J.P. Martina, and L.L. Borgeau-Chavez. The Mondrian model: a tool to develop an adaptive management framework to restore invaded wetlands. The Stewardship Network: Restoring Native Ecosystems Conference. East Lansing, MI. January 2018. (*oral presentation*)



**Currie, W.S.**, K.J. Elgersma, J.P. Martina, and L.L. Borgeau-Chavez. The Mondrian model: a tool to develop an adaptive management framework to restore invaded wetlands. International Association of Great Lakes Researchers (IAGLR). Detroit, MI. May 2017. (*oral presentation*)

^**Coulter, S.**, J. Hall and J.P. Martina. Deep sea ocean oil degradation: varying nutrient levels in efforts to increase anaerobic oil degradation rates. OLLU McNair Scholars and Student Research Symposium. San Antonio, TX. April 2017. (*oral presentation*)

^**Ramirez, R.** and J.P. Martina. Investigating the effects of propagule pressure and biotic resistance on the invasion success of *Typha x glauca* across a nitrogen gradient using a simulation model. Society of Wetland Scientists Annual Meeting. Corpus Christi, TX. May-June 2016. (*poster*)

^**Ramirez, R.** and J.P. Martina. Investigating the effects of propagule pressure and biotic resistance on the invasion success of *Typha x glauca* across a nitrogen gradient using a simulation model. OLLU McNair Scholars and Student Research Symposium. San Antonio, TX. April 2016. (*oral presentation*)

**Currie, W.S.**, L.L. Borgeau-Chavez, K.J. Elgersma, N.H.F. French, D.E. Goldberg, S.K. Hart, D.W. Hyndman, A.D. Kendall, S.L. Martin, J.P. Martina. Nutrient-driven plant invasions in wetlands around the Michigan coastline: Using satellite and field data to test model linkage across scales. Annual Meeting of the Ecological Society of America. Baltimore, MD. August 2015. (*oral presentation*)

**Elgersma, K.J.**, Martina, J.P., Currie, W.S. and D.E. Goldberg. Native wetland plants provide biotic resistance against non-native cattail invasion in oligotrophic and eutrophic wetlands. Annual Meeting of the Ecological Society of America. Baltimore, MD. August 2015. (*poster*)

Elgersma, K.J., Martina, J.P., **Currie, W.S.** and D.E. Goldberg. Assessing ecosystem services provided by restored wetlands under current and future land-use scenarios. UM Water Center Annual Meeting, Ann Arbor, MI. July 2015. (*poster*)

**Currie, W.S.**, L.L. Borgeau-Chavez, K.J. Elgersma, N.H.F. French, D.E. Goldberg, S. Hart, D.W. Hyndman, A.D. Kendall, S.L. Martin, J.P. 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. February 2015. (*oral presentation*)

\***Currie, W.S.**, L.L. Borgeau-Chavez, K.J. Elgersma, N.H.F. French, D.E. Goldberg, S. Hart, D.W. Hyndman, A.D. Kendall, S.L. Martin, J.P. Martina. Linking a large-watershed hydrogeochemical model to a wetland community-ecosystem model to estimate plant invasion risk in the coastal Great Lakes region, USA. American Geophysical Union Fall Meeting. San Francisco, CA. December 2014. (*oral presentation*)

**Elgersma, K.L.**, J.P. Martina, W.S. Currie, D.E. Goldberg. Nitrogen loading in Great Lakes coastal wetlands affects N retention, plant community composition, and non-native invasion success. Annual Meeting of the Ecological Society of America. Sacramento, CA. August 2014. (*oral presentation*)

^**Batzer, E.E.**, D.E. Goldberg, J.P. Martina, K.J. Elgersma. Clonal reproduction within Cyperaceae: Allocation, translocation, and response to nutrient availability. Annual Meeting of the Ecological Society of America. Sacramento, CA. August 2014. (*poster*)

**Elgersma, K.L., J.P. Martina, W.S. Currie, D.E. Goldberg.** Assessing ecosystem services provided by restored wetlands under current and future climate and land-use scenarios. University of Michigan Water Center Annual Meeting, Ann Arbor, MI. June 2014. (*poster*)

**Elgersma, K.L., J.P. Martina, W.S. Currie, D.E. Goldberg.** Effect of nutrients on invasive wetland plant establishment and competition between native and invasive plants. 3<sup>rd</sup> Annual Winter Research Meeting, U of M Biological Station, Ann Arbor, MI. February 2014. (*oral presentation*)

**Elgersma, K.L., J.P. Martina, W.S. Currie, D.E. Goldberg.** Wetland responses to nutrient inputs: community composition, nutrient retention, and invasion risk. 98<sup>th</sup> Annual Meeting of the Ecological Society of America. Minneapolis, MN. August 2013. (*poster*)

**Currie, W.S., D.E. Goldberg, J.P. Martina.** Exploring interwoven cause and effect in nutrient cycling, plant size, and invasion success in a wetland community-ecosystem model. Society of Wetland Scientists North Central Chapter Meeting. Indiana Dunes National Lakeshore, IN. September 2012. (*oral presentation*)

**\*Goldberg, D.E., K.J. Elgersma, W.S. Currie, J.P. Martina.** Building an integrated program to understand wetland plant invasions. Society of Wetland Scientists North Central Chapter Meeting. Indiana Dunes National Lakeshore, IN. September 2012. (*oral presentation*)

**von Ende, C.N. and J.P. Martina.** Highly plastic response in morphological and physiological traits to light, soil-N and moisture in the model invasive plant, *Phalaris arundinacea*. Wisconsin Wetland Association's 17<sup>th</sup> Annual Wetland Conference. Lake Geneva, WI. February 2012. (*poster*)

### **Webinars and Other Online Products**

Martina, J.P., Currie, W.S., and K.J. Elgersma. A primer on the user-friendly Mondrian model for wetland ecology and invasive species management. Hosted by the Great Lakes *Phragmites* Collaborative. July 2018. <https://www.greatlakesphragmites.net/resources/webinars/>

*Phragmites* Management Look-Up Table: A Tool for *Phragmites* Adaptive Management Strategies. Developed by the Mondrian Team. <https://sites.google.com/uni.edu/phragmiteslookuptable>

### **Mentoring and Supervising Experience**

#### *Postdoctoral Scholars*

Taofeek Muraina, Ph.D. (2024 – present)  
Clementina Calvo, Ph.D. (2022 – present)

#### *Graduate Students Currently Advised*

Tilak Chaudhary (Ph.D. Student)  
Alyssa Haram (Ph.D. Student)  
Sabina Prajapati (Ph.D. Student)  
Jenna DeMent (Ph.D. Student)  
Sabrina Sanders (M.S. Student, thesis)  
June Shaukat (M.S. Student, thesis)  
Christopher Riggins (M.S. Student, thesis)

### *Past Graduate Students Advised*

- Jenna DeMent (M.S. Student, thesis) – Defended Fall 2023  
Thesis title: *Mapping and Estimating Expansion Rates of Arundo donax in Native Fish Conservation Areas in Central Texas*
- Traci Foulkes (M.S. Student, thesis) – Graduated Fall 2023  
Thesis Title: *Assessing the Soil Carbon Storage Potential of Texas Grasslands After 20 Years of Restoration*
- Brianna Fogel (M.S. Student, thesis) – Graduated Spring 2023  
Thesis Title: *Using Ecological Niche Modeling to Predict Distributions and Effects of Climate Change on Two Endangered Plant Species, Leavenworthia texana and Physaria pallida*
- Megan Herod (M.S. Student, thesis) – Graduated Fall 2022  
Thesis Title: *Environmental Factors Influencing the Spread and Successful Invasion of Arundo donax in Central Texas*
- Anthony Omofoma (M.S. Student, non-thesis) – Graduated Fall 2021

### *Graduate Student Thesis Committee Member*

Bria Marty (Ph.D. Student, Texas A&M – Corpus Christi)  
Cassidy Regan (M.S. Student)  
Emma Clow (M.S. Student)  
Silas Jenkins (M.S. Student)  
Owen Moorhead (M.S. Student)  
Natalie Villafranca (M.S. Student) – Graduated Spring 2023  
Emily Lorkovic (M.S. Student) – Graduated Spring 2023  
Shelby Conway (M.S. Student) – Graduated Spring 2022  
Joseph Plappert (M.S. Student) – Graduated Fall 2021  
Michael McClellan (M.S. Student, non-thesis) – Graduated Fall 2021

### *Undergraduate Research Project Advisor (TXST-BIO 4299)*

Emily Horan (graduated Fall 2022)  
Sydney Scace (graduated Spring 2022)  
Alex Badgwell (graduated Spring 2021)  
Ryan Kridler (graduated Fall 2021)

### *Honors College Thesis Reader or Honors Course Credit*

Autumn Wysocki (Second Thesis Reader, Fall 2022)  
J'Lynn Washington (Global Change Biology, Fall 2022)

### *Coastal Ecohydrology Training Undergraduate Program (CETUP) trainees (project funded by NASA)*

2023 Cohort: Ava Miller, Annali Hohertz, Anabel Martinez, Emily Vanderworth, Victoria Ramirez, Chevy De La Serna  
2022 Cohort: Andrew Martinez, Emily Horan, Jessica Amaya, Rebecca Villarreal, Trinity Vaquera, Daniel Carlton

### *Current Texas State University Undergraduate Students*

Yovani Valdes, Eros Baua

### *Past Texas State University Undergraduate Students*

Andrew Martinez (2021-2023)

Courtney Velasquez (2022-2023)  
Claudia Smith (2022-2023)  
Emily Horan (2021-2023)  
Sydney Scace (2021-2022)  
Ryan Kridler (2020-2022)  
Alex Badgwell (2020-2022)  
James Caulfield (2020-2021)  
Sabrina Sanders (2020-2021)  
Claudia Arias (2020)  
David Molnar (2019-2020)  
Jair G-Aviles (CoSE Undergraduate Research Program, 2020)

*Texas A&M University*

Research Assistants (November 2017 – August 2019). I supervised four undergraduates, Grace Vielleux, Ryan Doner, Michael Behrendt, and Aaron Banks, in modelling management scenarios associated with Great Lakes coastal wetlands research.

*Our Lady of the Lake University*

Undergraduate Capstone Project (May 2015 - May 2017). I mentored three senior undergraduates (Ramiro Ramirez (2015), Danielle Herrera (2015), and Sydney Coulter (2016)) in independent research on invasive plant ecology and oil degradation by microbes.

Independent Study Mentorship Program at John Jay High School (August 2015-May 2016). I mentored Carter Guffey (Senior, JJHS) in independent research using a greenhouse study to examine the effects of crop plant biodiversity on ecosystem function.

Honors Capstone Thesis (January – May 2016). I was the faculty advisor for Valarie Villarreal's senior honors thesis, titled "The Unknown Future of the Banana".

*University of Michigan*

Full-time and Part-time Research Assistants (May 2012 – August 2014). I supervised Derek Ager, Evan Batzer, Hannah Reses, Jerry Tyrell, and Paige Meyers in field and lab techniques associated with Great Lakes coastal wetlands research (postdoctoral research).

*Michigan State University*

Undergraduate Field and Lab Assistants (May 2010 – January 2012). I supervised Matt Chansler, Matt Kolp, and Claire Taylor (undergraduates, Plant Biology) in field and lab techniques associated with inland wetlands research (dissertation project).

Undergraduate Field and Lab Assistant (May 2009-May 2010). I mentored Ryan O'Connor (undergraduate, Zoology) in independent research and lab and field techniques.

Undergraduate Senior Project (August 2007-May 2009). I mentored two senior undergraduates (Colin Phillippo and Spencer Rubin) in the Department of Plant Biology in independent research in both field and laboratory techniques leading to the completion of their senior projects.

Program for Undergraduate Research in the Life Sciences (PURL) (August 2007-May 2008). I mentored seven undergraduates who rotated through the Turetsky lab (MSU) in wetland biogeochemistry techniques, as well as basics in scientific methodology and inquiry.

## **Graduate Student Achievements**

Tilak Chaudhary, TXST Doctoral Retention Scholarship, 2023-2024

Tilak Chaudhary, 1<sup>st</sup> Place – graduate student poster, TXST STEM Conference, Spring 2023

Brianna Fogel, USFWS Directorate Fellow Program, 11-week internship, Summer 2022

Brianna Fogel, 2<sup>nd</sup> Place, Three Minute Thesis (3MT) Competition, Texas State University, Fall 2022

Jenna DeMent, David Allen Bass Scholarship, Texas Aquatic Plant Management Society, 2022

## **University Service**

Biology Chair Search Committee, Department of Biology, TXST, 2023-2024

Promotion for NTL Faculty Committee, Department of Biology, TXST, 2023-2024

Greenhouse Committee, Department of Biology, TXST, 2021-present

Strategic Planning Committee – Department of Biology, TXST, 2021-2023

Faculty reviewer for the Undergraduate Research Fellowship program, TXST, 2019-2022

Environment and Sustainability Committee, Faculty Senate Committee, TXST, 2021-2022

Graduate College's Outstanding Thesis Award Committee in the Life Sciences, TXST, 2021

Women in Science and Engineering (WiSE) poster judge, TXST, 2020

Faculty advisor for *Ecology and Evolutionary Biology Independent Student Organization*, a TAMU graduate student organization, 2017 - 2019

Faculty advisor for *Earth Club*, an OLLU student organization, 2015-2016

Honors Faculty Council, Our Lady of the Lake University, 2014-2016

Panelist, Professional Development Series: Exploring Academic Publishing, OLLU, February 10, 2015

Graduate Student Organization (Plant Biology) Treasurer, MSU, 2009-2012

Dean's Student Advisory Council Plant Biology Representative, MSU, 2008-2009

Graduate Student Organization (Plant Biology) President, MSU, 2007- 2008

Biogeochemistry Environmental Research Initiative (BERI) Coordinator, MSU, 2007-2008

## **Major Research and University Coordinating Activities**

### *Texas State University*

DRAGNet, Site PI, USDA-ARS, Temple, TX 2020-present

Nutrient Network, Site PI, USDA-ARS, Temple, TX 2019-present

### *Texas A&M University*

EEB Core Modules (EEBL 601-608) 2017 – 2019

Open Source for Open Science Workshop 2016 – 2019

EEB Recruiting Weekend 2016 – 2019

EEB and ABS Seminar Series 2016 – 2019

Darwin Day 2016 – 2019

4<sup>th</sup> Southeast Texas Evolutionary Genetics and Genomics Symposium 2019

## **Professional Service and Membership**

### *Committees*

Member, Edwards Aquifer Habitat Conservation Plan, Science Committee, 2022 – Present

Alternate, Westside Creeks Restoration Oversight Committee, San Antonio River Authority, 2014-2016

### *Journal Editorial Contribution*

Editorial Board Member, *Scientific Reports*, published by Nature Portfolio, 2022 – Present

Manuscript Reviewer for *Wetland Ecology and Management*, *Oecologia*, *Brazilian Journal of Botany*, *Communications Biology*, *Freshwater Biology*, *Science of the Total Environment*, *Plant Ecology*, *Ecology and Evolution*, *Ecological Applications*, *Biogeochemistry*, *Scientific Reports*, *PLOS ONE*, *New Phytologist*, *Ecosphere*, *Chemistry and Ecology*, *Geoderma*, *Aquatic Sciences*, *Weed Research*, *Flora*, *Soil Science Society of America Journal*, *Ecological Engineering*, *Restoration Ecology*

#### *Grant Review*

Proposal Review Panel Participant for NASA Carbon Monitoring System Panel – 2023  
External Proposal Reviewer for the French National Research Agency (ANR) “Terre vivante”– 2021  
Proposal Review Panel Participant for DOE Environmental System Science – 2021  
External Proposal Reviewer for Graduate Women in Science Fellowships – 2018, 2019  
External Proposal Reviewer for NSF Division of Environmental Biology – Ecosystems 2017  
External Proposal Reviewer for Maryland Sea Grant College Program 2015

#### *Conference symposia/sessions organized*

- American Geophysical Union 2020 Annual Conference Session titled: Understanding impacts of climate, land use, and hydrologic linkages from the land to the shore on coastal ecology
- Society of Wetland Scientists 2016 Annual Conference Symposium titled: Ecosystem management impacts on biogeochemical cycling in wetlands

#### *Reports*

Reviewer for the Species Status Assessment Report for Texas golden glade cress (*Leavenworthia texana*). U.S. Fish & Wildlife Service. 2022

#### *Memberships*

Society of Wetland Scientists (Member)  
Served as Chair of the Biogeochemistry Section from 2014-2017  
Society for Ecological Restoration (Member)  
Ecological Society of America (Member)  
American Geophysical Union (Member)

Sigma Xi (Full member)  
Phi Kappa Phi (graduate, MSU Chapter)  
Golden Key International Honour Society (graduate, MSU Chapter)  
Golden Key International Honour Society (undergraduate, NIU Chapter)