

## 1. Personal Information

### **Brian R. Maricle**

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## 2. Education

- 2006 Ph.D. in Botany, School of Biological Sciences, Washington State University  
Dissertation title: "The physiological ecology of salt marsh grasses: factors influencing flooding tolerance, salinity tolerance, and species zonation"  
Thesis committee: R.W. Lee (Chair), R.A. Black, and G.E. Edwards
- 2002 M.S. in Botany, School of Biological Sciences, Washington State University  
Thesis title: "Aerenchyma development and oxygen transport in the estuarine cordgrasses *Spartina alterniflora* and *S. anglica*"  
Thesis committee: R.W. Lee (Chair), M. Tegeder, V.R. Franceschi
- 2000 B.S., Biology Comprehensive Major, University of Nebraska at Kearney  
Thesis title: "How population density relates to body size in birds"  
Thesis advisors: C.J. Bicak and H.G. Nagel

## 3. Areas of Expertise

- My training is in plant physiology and plant ecology. I study effects of environmental stress on plants, especially drought, salinity, and flooding. I am interested in anatomical, physiological, and biochemical responses of plants to these conditions, and relating these properties to ecological questions.
- Responses of plants to flooding
  - Environmental factors influencing species zonation in estuaries and wetlands
  - Physiological, biochemical, and anatomical factors influencing flooding tolerance in plants
  - Effects of low oxygen levels on respiration and nitrogen assimilation in plants
  - Roles of flooding tolerance in the success of wetland invasive species
  - Biochemical effects of ethanol and how it relates to flooding tolerance
  - Biochemical effects of sulfide and how it relates to species zonation in salt marshes
  - Novel capabilities of plants beneficial to agriculture and phytoremediation
- Effects of environment on photosynthesis in plants
  - Effects of drought and salinity on stomatal conductance, photosynthesis, and transpiration
  - Physiological, biochemical, and anatomical factors influencing drought and salinity tolerance in plants
  - Roles of latent, sensible, and radiative heat exchange under changing environmental conditions
  - Physiological and biochemical responses to oxidative stress in plants
  - Carbon and hydrogen isotope discrimination in photosynthesis and transpiration
  - Effects of chilling on photosynthetic light harvesting, gas exchange, and carbon metabolism

## 4. Teaching Experience

### **Fort Hays State University**

BIOL 180 A Principles of Biology

Spring 2017

BIOL 235	Early Field Experience: Biology	Spring 2017
BIOL 250/250L	Botany	Spring 2017
BIOL 495/495L	Plant Physiology	Spring 2017
BIOL 607 A	Dendrology	Spring 2017
BIOL 180 A	Principles of Biology	Fall 2016
BIOL 180L	Principles of Biology Lab (3 sections)	Fall 2016
BIOL 235	Early Field Experience: Biology	Fall 2016
BIOL 250/250L	Botany	Fall 2016
BIOL 476 A	Internship in Biology	Fall 2016
BIOL 180 B	Principles of Biology	Spring 2016
BIOL 235	Early Field Experience: Biology	Spring 2016
BIOL 250/250L	Botany	Spring 2016
BIOL 330/330L	Plant Anatomy	Spring 2016
BIOL 870 A	Graduate Problems in Biology: Plant Evolution	Spring 2016
BIOL 180 A	Principles of Biology	Fall 2015
BIOL 180L	Principles of Biology Lab (3 sections)	Fall 2015
BIOL 235	Early Field Experience: Biology	Fall 2015
BIOL 250/250L	Botany	Fall 2015
BIOL 476 B	Apprenticeship in Biology	Fall 2015
BIOL 870 A	Graduate Problems in Biology: Plant Symbioses	Fall 2015
BIOL 180 B	Principles of Biology	Spring 2015
BIOL 235	Early Field Experience: Biology	Spring 2015
BIOL 250/250L	Botany	Spring 2015
BIOL 495/495L	Plant Physiology	Spring 2015
BIOL 100 C	Human Biology	Fall 2014
BIOL 180 A	Principles of Biology	Fall 2014
BIOL 180L	Principles of Biology Lab (3 sections)	Fall 2014
BIOL 235	Early Field Experience: Biology	Fall 2014
BIOL 250/250L	Botany	Fall 2014
BIOL 180 B	Principles of Biology	Spring 2014
BIOL 180L	Principles of Biology Lab (2 sections)	Spring 2014
BIOL 235	Early Field Experience: Biology	Spring 2014
BIOL 250/250L	Botany	Spring 2014
BIOL 330/330L	Plant Anatomy	Spring 2014
BIOL 180 A	Principles of Biology	Fall 2013
BIOL 180L	Principles of Biology Lab (2 sections)	Fall 2013

BIOL 235	Early Field Experience: Biology	Fall 2013
BIOL 250/250L	Botany	Fall 2013
BIOL 476 A	Apprenticeship in Biology	Fall 2013
BIOL 235	Early Field Experience: Biology	Spring 2013
BIOL 250/250L	Botany	Spring 2013
BIOL 495/495L	Plant Physiology	Spring 2013
BIOL 100 C	Human Biology	Fall 2012
BIOL 180 A	Principles of Biology	Fall 2012
BIOL 180L	Principles of Biology Lab (4 sections)	Fall 2012
BIOL 235	Early Field Experience: Biology	Fall 2012
BIOL 250/250L	Botany	Fall 2012
BIOL 476 A	Apprenticeship in Biology	Fall 2012
BIOL 235	Early Field Experience: Biology	Spring 2012
BIOL 250/250L	Botany	Spring 2012
BIOL 330/330L	Plant Anatomy	Spring 2012
BIOL 180 A	Principles of Biology	Fall 2011
BIOL 180L	Principles of Biology Lab (5 sections)	Fall 2011
BIOL 235	Early Field Experience: Biology	Fall 2011
BIOL 250/250L	Introductory Botany	Fall 2011
BIOL 476 A	Apprenticeship in Biology	Fall 2011
BIOL 607 A	Environmental Physiology	Fall 2011
BIOL 235	Early Field Experience: Biology	Spring 2011
BIOL 250/250L	Introductory Botany	Spring 2011
BIOL 495/495L	Plant Physiology	Spring 2011
BIOL 180 B	Principles of Biology	Fall 2010
BIOL 180L	Principles of Biology Lab (5 sections)	Fall 2010
BIOL 235	Early Field Experience: Biology	Fall 2010
BIOL 250/250L	Introductory Botany	Fall 2010
BIOL 476 A	Apprenticeship in Biology	Fall 2010
BIOL 235	Early Field Experience: Biology	Spring 2010
BIOL 250/250L	Introductory Botany	Spring 2010
BIOL 330/330L	Plant Anatomy	Spring 2010
BIOL 476 A	Apprenticeship in Biology	Spring 2010
BIOL 100 D	Human Biology	Fall 2009
BIOL 180L	Principles of Biology Lab (4 sections)	Fall 2009
BIOL 235	Early Field Experience: Biology	Fall 2009

BIOL 250/250L	Introductory Botany	Fall 2009
BIOL 476 A	Apprenticeship in Biology	Fall 2009
BIOL 607 A	Environmental Physiology	Fall 2009
BIOL 882	Readings in Biology: Advanced Plant Physiology	Fall 2009
BIOL 235	Early Field Experience: Biology	Spring 2009
BIOL 250/250L	Introductory Botany	Spring 2009
BIOL 476 A	Apprenticeship in Biology	Spring 2009
BIOL 495/495L	Plant Physiology	Spring 2009
BIOL 855	Graduate Seminar	Spring 2009
BIOL 882	Readings in Biology: Stable Isotope Uses and Applications	Spring 2009
BIOL 882	Readings in Biology: Advanced Plant Anatomy	Spring 2009
BIOL 100 D	Human Biology	Fall 2008
BIOL 180L	Principles of Biology Lab (3 sections)	Fall 2008
BIOL 235	Early Field Experience: Biology	Fall 2008
BIOL 250/250L	Introductory Botany	Fall 2008
BIOL 882	Readings in Biology: Stable Isotope Uses and Applications	Fall 2008
BIOL 100	Human Biology	Summer 2008
BIOL 235	Early Field Experience: Biology	Spring 2008
BIOL 250/250L	Introductory Botany	Spring 2008
BIOL 330/330L	Plant Anatomy	Spring 2008
BIOL 855	Graduate Seminar	Spring 2008
BIOL 100	Human Biology (2 sections)	Fall 2007
BIOL 180L	Principles of Biology Lab (3 sections)	Fall 2007
BIOL 250/250L	Introductory Botany	Fall 2007
BIOL 607 A	Posters and Presentations	Fall 2007
BIOL 100	Human Biology	Summer 2007
BIOL 495/495L	Plant Physiology	Spring 2007
BIOL 632	Dendrology	Spring 2007
BIOL 100 A	Human Biology	Fall 2006
BIOL 180L	Principles of Biology Lab (3 sections)	Fall 2006
BIOL 476 A	Apprenticeship in Biology	Fall 2006

### Washington State University

BIOL 372	General Ecology lab instructor	Spring 2006	supervisor R.N. Mack
BIOL 320	Plant Physiology lab instructor	Fall 2005	supervisors G.E. Edwards and M. Tegeeder
BIOL 352	Cell Physiology exam grader	Fall 2005	supervisor D.F. Moffett

BIOL 352	Cell Physiology website manager	Fall 2005	supervisor R.W. Lee
BIOL 298	Honors Biology lab instructor	Spring 2005	supervisors H.L. Hosick and B.J. Marshall
BIOL 251	Human Physiology lab instructor	Fall 2004	supervisor S.B. Moffett
BIOL 372	General Ecology lab instructor	Spring 2004	supervisor R.N. Mack
BIOL 320	Plant Physiology lab instructor	Fall 2002	supervisor G.E. Edwards
BIOL 352	Cell Physiology exam grader	Fall 2002	supervisor D.F. Moffett
BIOL 352	Cell Physiology website manager	Fall 2002	supervisor R.W. Lee
ZOOL 251	Human Physiology lab instructor	Spring 2002	supervisor P.A. Carter
BOT 320	Plant Physiology lab instructor	Fall 2001	supervisor G.E. Edwards
ZOOL 251	Human Physiology lab instructor	Spring 2001	supervisor P.A. Carter
ZOOL 251	Human Physiology lab instructor	Fall 2000	supervisor J.L. Lipar

5. **Date of Appointment to Fort Hays State University:** 18 August 2008 (with one year prior service)

6. **Prior Service at Other Institutions**

- 2012- Associate Professor, Fort Hays State University Department of Biological Sciences
- 2008-2012 Assistant Professor, Fort Hays State University Department of Biological Sciences
- 2006-2008 Instructor (non tenure track), Fort Hays State University Department of Biological Sciences
- 2000-2006 Teaching Assistant, Washington State University School of Biological Sciences
- 2003 Research Assistant, Washington State University School of Biological Sciences; supervisor R.W. Lee
- 2001-2002 Research Assistant, Padilla Bay National Estuarine Research Reserve, Washington State Department of Ecology; supervisors D.A. Bulthuis and S.R. Riggs
- 1998-1999 Laboratory Technician, University of Nebraska at Kearney Department of Chemistry; supervisor D. Kaufman
- 1998 Research Assistant, University of Nebraska at Kearney Department of Physics and Physical Sciences; supervisor J.L. Mena-Werth

7. **Departmental and Institutional Service**

a. **Graduate Students Mentored**

11. Gentry A. Holaday, M.S. student, FHSU Biology, 2016-
  - Thesis project:
  - 2016 B.S. in Geology, Emporia State University
10. Chelsea A. Hanson, M.S. student, FHSU Biology, 2016-
  - Thesis project:
  - 2016 B.S. in Biology, Fort Hays State University
9. Ifeoma S. Oraemesi, M.S. student, FHSU Biology, 2015-
  - Thesis project: Biodiesel production from microalgae
  - Fleharty Fellowship recipient, 2016-2017
  - 2010 B.S. in Biochemistry, Anambara State University, Nigeria
8. Tej Man Tamang, 2016 M.S. in Biology, Fort Hays State University

- Thesis: Determination of evolutionary history of big bluestem populations through chloroplast DNA analysis (thesis defended 7/7/2016)
  - Balthazor Fellowship recipient, 2015-2016
  - 2013 B.S. in Biotechnology, Purbanchal University, Nepal
7. Brendon C. McCampbell, M.S. student, FHSU Biology, 2014-
    - Thesis project: Characterization of biological soil crusts in the Great Plains prairie
    - Fleharty Fellowship recipient, 2015-2016
    - 2014 B.S. in Biology, Fort Hays State University
  6. Katelyn J. Lindsey, M.S. student, FHSU Biology, 2012-2013
    - Project: Effects of drought on stem anatomy of *Andropogon gerardii* ecotypes along a precipitation gradient in the Great Plains
    - 2007 B.S. in Animal Science and Agronomy, Kansas State University
  5. Karina M. Barrett, M.S. student, FHSU Biology, 2011-2012
    - Project: Effects of effects of nitrate and phosphate concentration on growth and performance of native and introduced aquatic and riparian plants in western Kansas
    - 2011 B.S. in Biology, Fort Hays State University
  4. Jacob T. Olsen, 2012 M.S. in Biology, Fort Hays State University
    - Thesis: Gas exchange and leaf anatomy of *Andropogon gerardii* ecotypes over a climatic gradient of the Great Plains (thesis defended 3/5/2012)
    - 2010 B.A. in Biology, University of Utah
    - Later went to work as a technician for the Bureau of Land Management
    - Later worked for U.S. Border Patrol
  3. Kristen A. Polacik, 2010 M.S. in Biology, Fort Hays State University
    - Thesis: Effects of flooding on photosynthesis and root respiration in saltcedar (*Tamarix ramosissima*), an invasive riparian shrub (thesis defended 11/11/2010)
    - 2010-2011 Outstanding Thesis award by FHSU Graduate School
    - 2008 B.S. in Biology, Marshall University
    - Later went to work as a technician for the U.S. Department of Agriculture
    - Later became a supervisor for the Sugar Cane Growers Cooperative in Florida
  2. Elizabeth F. Waring, 2010 M.S. in Biology, Fort Hays State University
    - Thesis: Flooding tolerance of native and nonnative grasses: variation in photosynthesis, transpiration, respiration, and carbon isotope discrimination (thesis defended 4/16/2010)
    - 2009-2010 Outstanding Thesis award by FHSU Graduate School
    - Fleharty Fellowship recipient, 2009-2010
    - 2007 B.S. in Biology, University of Wisconsin, Milwaukee
    - Later went into a Ph.D. program at Texas Tech University
  1. Shi He, M.S. student, FHSU Biology, 2007-2008
    - 2007 B.S. in Biology, Wuhan University
    - Project: Nitrate reductase activities in wetland grasses
    - Later went into a Ph.D. program at the University of Idaho

**b. Undergraduate Students Mentored**

33. Taylor J. Kriss, 2016-present. Fort Hays State University Biology. Project: Stem anatomy of *Andropogon gerardii* ecotypes over a climatic gradient of the Great Plains
32. Jacob D. Lutgen, 2016. Kansas Academy of Math and Science. Project: Effects of triclosan on fatty acid synthesis in *Lemna minor*

31. Taffra J. Picking, 2016-present. Fort Hays State University Biology. Project:
30. Robert T. Knight, 2016. Fort Hays State University Biology. Project: Mapping trees on the FHSU campus for a virtual map of campus
29. Nicholas A. Varvel, 2015-present. Fort Hays State University Biology. Project: Stomatal size and distribution of *Andropogon gerardii* ecotypes over a climatic gradient of the Great Plains
28. Lia I. Boese, 2015-2016. Kansas Academy of Math and Science. Project: Effects of triclosan on fatty acid synthesis in *Lemna minor*
27. Naomi C. Quispe, 2015-present. Fort Hays State University Biology. Project: Effects of lactic acid on respiration enzymes in channel catfish
26. Madison S. Pittenger, 2015-present. Fort Hays State University Biology. Project: Herbivore preference among ecotypes of big bluestem, *Andropogon gerardii*
25. Leisha J. Sadler, 2015. Fort Hays State University Biology. Project: Stem anatomy of *Andropogon gerardii* ecotypes over a climatic gradient of the Great Plains
24. Wenkai Shu, 2015. Fort Hays State University, Kansas Academy of Math and Science. Project: Effects of lactic acid on lactate dehydrogenase activity in catfish
23. Adam D. Urban, 2014-present. Fort Hays State University Biology. Project: Effects of lactic acid on respiration enzymes in channel catfish
  - 2016-2107 K-INBRE “Star” Trainee
  - Accepted into University of Kansas Medical Center Scholars in Rural Health Program
22. Christina J. Hilt, 2013-2015. Fort Hays State University Biology. Project: Gas exchange, stomatal distribution, and stem anatomy of *Andropogon gerardii* ecotypes over a climatic gradient of the Great Plains
21. Sana Cheema, 2013-2014. Hays High School. Project: Effects of nitrate and phosphate concentration on inorganic nitrogen assimilation in the grasses *Phragmites* and *Phalaris*
20. Codie L. Webster, 2013-2014. Fort Hays State University, Kansas Academy of Math and Science. Project: Effects of water temperature on growth and metabolism of aquatic plants
  - Later went into Washburn University Law School
19. Amber K. Perdew, 2013-2014. Fort Hays State University, Kansas Academy of Math and Science. Project: Effects of water temperature on growth and metabolism of aquatic plants
18. Diedre L. Kramer, 2013-2015. Fort Hays State University Biology. Project: Inorganic nitrogen assimilation in ecotypes of big bluestem; Environmental and genetic influences on morphology of big bluestem ecotypes
17. Nicole M. Martin, 2012-2016. Fort Hays State University Biology. Project: Sulfide toxicity on cytochrome *c* oxidase activity of plants
  - 2015-2106 K-INBRE “Star” Trainee
  - Later went into University of Kansas Medical Center Doctor of Physical Therapy Program
16. Quentin C. Aker, 2012-2013. Fort Hays State University, Kansas Academy of Math and Science. Project: Physiological effects of drought on turfgrass species
15. Hayley L. Disney, 2012-2013. Fort Hays State University, Kansas Academy of Math and Science. Project: Physiological effects of drought on turfgrass species
14. Nyasha G. Maforo, 2012. Fort Hays State University, Kansas Academy of Math and Science. Project: The role of ethanol toxicity on flooding susceptibility in plants
  - Later went into UCLA Ph.D. Program in Medical Physics

13. Bliss M. Betzen, 2012-2013. Fort Hays State University, Kansas Academy of Math and Science. Project: Physiological effects of salinity on inland saltmarsh species
12. Taylor N. Biggs, 2012-2013. Fort Hays State University Biology. Projects: Effects of  $\text{NO}_3^-/\text{NH}_4^+$  nutrition on photosynthesis and nitrogen assimilation in *Phalaris arundinacea*; The role of ethanol toxicity on flooding susceptibility in plants
11. Cera M. Smart, 2012-2015. Fort Hays State University, Kansas Academy of Math and Science. Projects: Physiological effects of salinity on inland saltmarsh species; Inorganic nitrogen assimilation in ecotypes of big bluestem
10. Shaley J. White, 2011-2012. Fort Hays State University, Kansas Academy of Math and Science. Project: The role of ethanol toxicity on flooding susceptibility in plants
9. Alondra Meraz, 2011-2012. Fort Hays State University, Kansas Academy of Math and Science. Project: The role of ethanol toxicity on flooding susceptibility in plants
8. Keri L. Caudle, 2010-2014. Fort Hays State University Biology. Projects: Effects of oil spills on photosynthesis and respiration in coastal grasses; Gas exchange and water potential of *Andropogon gerardii* ecotypes over a climatic gradient of the Great Plains
  - 2011-2012 Outstanding Undergraduate Student, FHSU College of Health and Life Sciences
  - Botanical Society of America “Spotlight Member,” March to May of 2012
  - Later went to graduate school at Fort Hays State University
7. Rika Isomura, 2010. Fort Hays State University Biology. Project: Effects of soil water on respiration and photosynthesis in *Celosia* (Amaranthaceae)
6. Cali R. Parker, 2008-2009. Fort Hays State University Biology. Project: Mechanisms of chilling-tolerant  $\text{C}_4$  photosynthesis in marsh grasses
5. Jordan J. Brungardt, 2008-2010. Fort Hays State University Biology. Projects: Effects of oil well brine on surrounding plants; Factors influencing aerenchyma development in *Spartina* (Poaceae); Chemical influence on root hair curling in nodulating and non-nodulating legumes
  - Later went to work for a biotechnology company
  - Later earned an M.S. at Wichita State University
  - Later went to graduate school at Kansas State University
4. Aaron M. Pfeifer, 2007-2009. Fort Hays State University Biology. Projects: Effects of diet, drugs, and activity levels on  $\delta^{13}\text{C}$  of breath and hair of humans; Ascorbate concentrations and osmolalities in orange and apple juices
  - Later went into medical school at the University of Kansas Medical Center
3. Jeremiah J. Crosier, 2003-2004. Washington State University Biology. Project: Respiration enzyme activities in marsh plants in relation to flooding
  - Later went to work as a technician at a lab supply company
2. Brian C. Bussiere, 2000-2004. Washington State University Biology. Project: Ammonium assimilation in wetland plants
  - Later went into graduate school at the University of San Francisco
1. Toru Tzusaki, 2000-2001. Washington State University Biology. Project: Aerenchyma formation in *Spartina* roots
  - Later went into graduate school at the University of Southampton, UK

**c. Technicians Mentored**

1. Sam R. Zwenger, 2007. Fort Hays State University Biology. (2007 M.S. in Biology, Fort Hays State University) Project: Carbon, nitrogen, and hydrogen isotope ratios in creekside trees in western Kansas

**d. Graduate Teaching Assistants Supervised**

BIOL 180L, Principles of Biology lab: Elizabeth G. Bainbridge, Karina M. Barrett, Jessica J. Bitner, Brandon L. Calderon, Sarah A. Carrow, Jeffrey J. Carter, Jessica L. Casey, P. Allen Casey, Keri L. Caudle, Ian N. Cost, Carol D. Grover, Nina M. Haro, Clinton J. Helms, Allison R. Hullinger, Georgina Y. Jacquez, Brendon C. McCampbell, Frances A. Owen, Kristen A. Polacik, Zac L. Ripperger, Elizabeth M. Schumann, Jeffrey G. Sekavec, Katherine M. Talbott, Tej Man Tamang, Lloyd W. Towers III, Drew M. Zimmerman

BIOL 250L, Botany lab: Karina M. Barrett, Keri L. Caudle, Shi He, Jordan R. Hofmeier, Ashley A. Inslee, Georgina Y. Jacquez, Katelyn J. Lindsey, Brendon C. McCampbell, Kristen A. Polacik, Elizabeth F. Waring

BIOL 330L, Plant Anatomy lab: Shi He, Jacob T. Olsen, Kristen A. Polacik

**e. Undergraduate Apprentices Supervised**

BIOL 180L, Principles of Biology lab: Andrew S. Ables, Brea L. Campbell, Joanna L. Fay, Karli J. Henning, Mike D. Howell, Kaleb G. Moeller, Jennifer R. Pfannenstiel, Haley M. Piland, Madison S. Pittenger, Samantha K. Rohleder, Jenna B. Shepherd, Ashley M. Spaeny, Maniphone V. (Katrina) Thirakul, Julie M. Weber, Kiley A. Zabel

BIOL 250L, Botany lab: Jordan J. Brungardt, Robert “Andy” Calhoun, Christina J. Hilt, Diedre L. Kramer, Cera M. Smart

**f. Graduate Thesis Committees**

27. Rushna Munir. Ph.D. student, 2012-present, University of Western Australia. Major Advisors: Kadambot H.M. Siddique and Timothy D. Colmer. Thesis topic:
26. Anuja Paudyal. M.S. student, 2015-present, Fort Hays State University. Major Advisor: Eric T. Gillock. Thesis topic:
25. Keri L. Caudle. M.S. student, 2015-present, Fort Hays State University. Major Advisor: Eric T. Gillock. Thesis topic: Investigating a possible evolutionary relationship between an endogenous strain of Dahlia mosaic virus and members of Asteraceae, as well as plant anatomical resistance to aphid transmission
24. Gena C. Kearn. M.L.S. student, 2015-present, Fort Hays State University. Major Advisor: Amy J. Schmierbach. Project:
23. Kaitlin Moore. M.S. student, 2014-present, Fort Hays State University. Major Advisor: Eric T. Gillock. Thesis topic:
22. Angelica V. Sprague. M.S. student, 2014-present, Fort Hays State University. Major Advisor: Elmer J. Finck. Thesis topic: Identification and characterization of Northern Long-eared Bat (*Myotis septentrionalis*) hibernacula in Kansas
21. Brianna R. Watkins. 2015 M.S. in Biology, Fort Hays State University. Major Advisor: Yasuhiro Kobayashi. Project: Changes in expression of glucose transporters 1 and 2 in comparison to changes in nutrient intake and genetic selection
20. Samuel J. Smith. M.S. student, 2013-present, Fort Hays State University. Major Advisor: Eric T. Gillock. Thesis topic:
19. Jeffrey T. Seim. 2015 M.S. in Biology, Fort Hays State University. Major Advisor: William J. Stark. Thesis title: Population structure and habitat association of aquatic testudines in Quivira National Wildlife Refuge (thesis defended 11/17/2015)

18. Patrice M. Betz. 2015 M.S. in Biology, Fort Hays State University. Major Advisor: Robert B. Channell. Thesis title: Effects of environmental and anthropogenic factors on the range contraction of bird and mammal species (thesis defended 9/11/2015)
17. Taylor W. Rasmussen. 2016 M.S. in Biology, Fort Hays State University. Major Advisor: Elmer J. Finck. Project: Survey of small mammal populations in north-central Kansas
16. Samantha R. Pounds. 2016 M.S. in Biology, Fort Hays State University. Major Advisor: Elmer J. Finck. Thesis title: A comparison of small mammal communities among three habitats in western North Dakota (thesis defended 3/29/2016)
15. Scott A. Brack. 2014 M.S. in Biology, Fort Hays State University. Major Advisor: William J. Stark. Project: Diet of white perch
14. Brian M. Zinke. 2014 M.S. in Biology, Fort Hays State University. Major Advisor: Elmer J. Finck. Thesis title: Comparison of small mammal communities in ephemeral wetlands and wet meadows during drought (thesis defended 4/14/2014)
13. Jessica L. Casey. 2014 M.S. in Biology, Fort Hays State University. Major Advisor: Jordana J. LaFantasie. Thesis title: Timing and intensity of steer use on Old World bluestem (*Bothriochloa ischaemum*) and blue grama (*Bouteloua gracilis*) in southern mixed-grass prairie (thesis defended 4/11/2014)
12. Clinton J. Helms. 2014 M.S. in Biology, Fort Hays State University. Major Advisor: Jordana J. LaFantasie. Thesis title: Nest survival of grassland breeding birds in a southern mixed-grass prairie (thesis defended 3/27/2014)
11. Amanda E. Cheeseman. 2012 M.S. in Biology, Fort Hays State University. Major Advisor: Elmer J. Finck. Thesis title: Diet analysis of two Mephitidae species reflects population trends and landscape structure (thesis defended 11/27/2012)
10. Jeffrey G. Sekavec. 2013 M.S. in Biology, Fort Hays State University. Major Advisor: Eric T. Gillock. Project: Chlorhexidine resistance in *Streptococcus mutans*
9. William T. Moore. 2012 M.S. in Biology, Fort Hays State University. Major Advisor: Eric T. Gillock. Thesis title: Continual passage of *Staphylococcus epidermidis* in subinhibitory levels in the biocide triclosan results in a marked increase in the minimum inhibitory concentration, antibiotic resistance, and ethidium bromide resistance (thesis defended 7/5/2012)
8. Shingo Ishihara. 2010 M.S. in Biology, Fort Hays State University. Major Advisor: Eric T. Gillock. Thesis title: Genetic analysis of vancomycin-resistant Gram-positive cocci isolated from wild songbirds (thesis defended 9/24/2010)
7. Stephanie A. Kane. 2011 M.S. in Biology, Fort Hays State University. Major Advisor: Greg H. Farley. Thesis title: Breeding habitat structure and use by Kansas-occurring black rail (thesis defended 4/26/2011)
6. Lloyd W. Towers III. 2011 M.S. in Biology, Fort Hays State University. Major Advisor: Elmer J. Finck. Thesis title: Alarm-calling and response behaviors of the black-tailed prairie dog in Kansas (thesis defended 10/17/2011)
5. Jacob M. Carter. 2010 M.S. in Biology, Kansas State University. Major Advisor: Jesse B. Nippert. Thesis title: *Tamarix ramosissima* whole plant and leaf level physiological response to increasing salinity (thesis defended 7/14/2010)
4. Claudia M. Dasilva-Carvalho. 2009 M.S. in Biology, Fort Hays State University. Major Advisor: Eric T. Gillock. Thesis title: Isolation and characterization of halophilic bacteria from Quivira National Wildlife Refuge (thesis defended 4/16/2009)

3. Jason K. Black. 2014 M.S. in Biology, Fort Hays State University. Major Advisor: Elmer J. Finck. Thesis title: The human dimensions of waterfowl hunters at Cheyenne Bottoms Wildlife Area, Great Bend, Kansas (thesis defended 2/10/2014)
2. Christian N. Edwards. 2009 M.S. in Biology, Fort Hays State University. Major Advisor: Greg H. Farley. Thesis title: Snowy plover nest density and reproductive success at Great Salt Lake, Utah (thesis defended 4/23/2009)
1. P. Allen Casey. 2009 M.S. in Biology, Fort Hays State University. Major Advisor: Joseph R. Thomasson. Thesis title: Comparative studies of two small, freshwater wetlands in Ellis County, Kansas (thesis defended 3/30/2009)

**g. Professional Service**

Peer review for 114 manuscripts, proposals, and books since 2005, including the following:

*Acta Physiologiae Plantarum* (1 paper)  
*African Journal of Biotechnology* (1 paper)  
*American Journal of Botany* (6 papers)  
*American Journal of Plant Sciences* (1 paper)  
*Annals of Botany* (2 papers)  
*AoB PLANTS* (2 papers)  
*Aquatic Biology* (1 paper)  
*Aquatic Botany* (9 papers)  
*Aquatic Conservation: Marine and Freshwater Ecosystems* (1 paper)  
*Arid Land Research and Management* (1 paper)  
Benjamin Cummings Publishing, textbook review: *Human Biology* by Belk and Borden (3 chapters)  
*Biological Invasions* (1 paper)  
*Biological Sciences* (1 paper)  
*Ecosphere* (1 paper)  
*Environmental and Experimental Botany* (26 papers)  
*Environmental Pollution* (1 paper)  
*Environments* (2 papers)  
*Estuarine, Coastal and Shelf Science* (5 papers)  
*Flora* (1 paper)  
*Global Change Biology* (1 paper)  
*International Journal of Agriculture Sciences* (1 paper)  
*International Journal of Molecular Sciences* (1 paper)  
Jones and Bartlett Publishers, textbook review: *Botany*, 4th ed., by James Mauseth (book review)  
Jones and Bartlett Publishers, textbook review: *Botany*, 5th ed., by James Mauseth (book review)  
*Journal of Agricultural Science and Technology* (3 papers)  
*Journal of Coastal Research* (1 paper)  
*Journal of Plant Growth Regulation* (1 paper)  
*Journal of Plant Nutrition and Soil Science* (2 papers)  
*Journal of Plant Physiology* (3 papers)  
*Journal of the Torrey Botanical Society* (1 paper)  
*Limnology and Oceanography Methods* (1 paper)  
*Marine Ecology Progress Series* (4 papers)  
National Science Foundation, proposal review (1 proposal)  
*Photosynthesis Research* (2 papers)  
*Photosynthetica* (9 papers)  
*Plant Biology* (1 paper)  
*Plant Ecology* (2 papers)  
*PLoS ONE* (3 papers)  
*Scientific Reports* (1 paper)

*Sensors* (3 papers)

*Southwestern Naturalist* (1 paper)

*Toxics* (1 paper)

*Turkish Journal of Botany* (1 paper)

Wageningen University, Ph.D. proposal review (1 thesis proposal)

*Water, Air, and Soil Pollution* (1 paper)

W.H. Freeman Publishers, textbook review: *What is Life?* By Jay Phelan (1 chapter)

Wiley-Blackwell Publishers, textbook review: *The Molecular Life of Plants* by Jones, Ougham, Thomas, and Waaland (book review)

Officer in Professional Societies:

Past-President, Kansas Academy of Science, 2014

President, Kansas Academy of Science, 2013

President-Elect, Kansas Academy of Science, 2012

Vice President, Kansas Academy of Science, 2011

Session moderator:

Ecology/Organismal Biology session, Kansas Academy of Science annual meeting, April 2013

Plant Ecology session, Kansas Academy of Science annual meeting, March 2012

Judge for student presentations:

Judge for student oral and poster presentations (Physiology section), Botanical Society of America annual meeting, August 2016

Judge for student poster presentations, Kansas Academy of Science annual meeting, April 2016

Judge for student oral and poster presentations (Ecology section), Botanical Society of America annual meeting, July 2014

Judge for student oral presentations (Ecology section), Botanical Society of America annual meeting, July 2012

Judge for student poster presentations (Physiology section), Botanical Society of America annual meeting, July 2012

Judge for student oral and poster presentations (Ecology section), Botanical Society of America annual meeting, July 2011

Judge for student poster presentations, Kansas Academy of Science annual meeting, April 2011

Judge for student oral and poster presentations, Kansas Academy of Science annual meeting, April 2010

Judge for McCarley student grant proposals, Southwestern Association of Naturalists, March 2009

Judge for Wilks student presentation award at the Southwestern Association of Naturalists annual meeting, April 2008

Judge for Hubbs student poster award at the Southwestern Association of Naturalists annual meeting, April 2008

**h. Department and University Service**

**Fort Hays State University**

2016-2017 Co-Chair, Department Chair (i.e., "Chair by Committee")

2016 Judge for student poster presentations, FHSU Scholarship and Creative Activities Day

- 27 Feb 2016 Judge for student science projects, Kansas regional science fair
- 2015 Judge for student poster presentations, Kansas Academy of Mathematics and Science poster show
- 2014- Honors College Steering Committee
- Admissions Subcommittee, 2015-2016
  - Curriculum Subcommittee, 2014-2015
- 2014-2015 Academic Advising Committee
- 2013- Undergraduate Research Experience (URE) Steering Group
- 2014 Judge for student poster presentations, FHSU Scholarship and Creative Activities Day
- 14 Mar 2013 Faculty Panel: Undergraduate Research Experience Brown Bag Lunch
- 6 Sept 2012 Faculty Panel: Undergraduate Research Experience; FHSU Student Research Celebration
- 2010-2012 University Graduate Council
- 2009-2012 University Research Environment Committee
- 2007-2010 University Department/Program Review Committee

**College of Science, Technology, and Math, Fort Hays State University**

- 2015-2016 Search committee, Dean of FHSU College of Science, Technology, and Math
- 2015-2016 College of Science, Technology, and Math Tenure and Promotion Committee

**College of Health and Life Sciences, Fort Hays State University**

- 2014-2015 College of Health and Life Sciences Tenure and Promotion Committee
- 2009-2015 College of Health and Life Sciences Dean's Faculty Advisory Council
- 2008-2009 College of Health and Life Sciences Professional Science Master's Program Committee

**Department of Biological Sciences, Fort Hays State University**

Advising

- 2016-2017 Advisor for 4 graduate students and 39 undergraduate students
- 2015-2016 Advisor for 3 graduate students and 44 undergraduate students
- 2014-2015 Advisor for 2 graduate students and 33 undergraduate students
- 2013-2014 Advisor for 24 undergraduate students
- 2012-2013 Advisor for 2 graduate students and 11 undergraduate students
- 2011-2012 Advisor for 2 graduate students and 13 undergraduate students
- 2010-2011 Advisor for 2 graduate students and 5 undergraduate students
- 2009-2010 Advisor for 2 graduate students and 12 undergraduate students
- 2008-2009 Advisor for 2 graduate students and 10 undergraduate students
- 2007-2008 Advisor for 1 graduate student and 4 undergraduate students

Department of Biological Sciences Committees

- 2016- Tenure Committee (Chair, 2016-2017)
- 2014- Freshmen Advising Team

- 2014- Graduate Education Committee
- 2014- Grade Appeal Committee
- 2012-2014 Tenure Committee (Chair, 2013-2014)
- 2011-2014 Graduate Selection Committee
- 2010- Evaluation committee for graduate student fellowship applications
- 2010-2011 Professional Science Master's Program Committee
- 2008-2010 Graduate Studies Committee
- 2008-2009 Faculty Awards Committee
- 2008- Curriculum Committee (Chair, 2015-2016)
- 2007-2008 Biosciences Institute Development Committee
- 2007- Graduate Teaching Assistant Award Selection Committee
- 2007-2008 Cell Biology/Physiology Lab Development Committee

Faculty Search Committees

- 2015 Search committee, Administrative Assistant, FHSU Dept. of Biol. Sci.
- 2014 Search committee, Department Plant Technician, FHSU Dept. of Biol. Sci.
- 2013-2014 Chair, Search committee, Range Ecologist, FHSU Dept. of Biol. Sci.
- 2011-2012 Chair, Search committee, Lecturer, FHSU Dept. of Biol. Sci.
- 2010-2011 Chair, Search committee, Plant Taxonomist, FHSU Dept. of Biol. Sci.
- 2009-2010 Chair, Search committee, Animal Physiologist, FHSU Dept. of Biol. Sci.
- 2009 Search committee, Manager, Kansas Wetlands Education Center
- 2008-2009 Search committee, Environmental Microbiologist, FHSU Dept. of Biol. Sci.
- 2007 Search committee, Department Plant Technician, FHSU Dept. of Biol. Sci.

Graduate Student Comprehensive Oral Exam Committees

- 2015-2016 Graduate oral exam committees for 7 students
- 2014-2015 Graduate oral exam committees for 5 students
- 2013-2014 Graduate oral exam committees for 4 students
- 2012-2013 Graduate oral exam committees for 6 students
- 2011-2012 Graduate oral exam committees for 6 students
- 2010-2011 Graduate oral exam committees for 3 students
- 2009-2010 Graduate oral exam committees for 10 students
- 2008-2009 Graduate oral exam committees for 6 students
- 2007-2008 Graduate oral exam committees for 7 students
- 2006-2007 Graduate oral exam committees for 2 students

Student Recruitment

Department of Biological Sciences representative during FHSU Freshmen Pre-Enrollment Day  
(10 June 2016, 6 June 2016, 30 Apr 2016, 25 Apr 2016, 27 Apr 2015, 18 Apr 2015,  
28 Apr 2014, 26 Apr 2014, 29 Apr 2013, 20 Apr 2013, 4 June 2012, 28 Apr 2012,

30 Apr 2011, 16 Apr 2011, 14 June 2010, 3 May 2010, 17 Apr 2010, 4 May 2009, 25 Apr 2009, 10 June 2008)

Department of Biological Sciences representative during FHSU Transfer Pre-Enrollment Day (6 June 2016)

Department of Biological Sciences social for incoming freshmen (19 Aug 2016, 14 Aug 2015, 15 Aug 2014, 16 Aug 2013, 17 Aug 2012, 19 Aug 2011, 21 Aug 2009, 22 Aug 2008, 17 Aug 2007)

Department of Biological Sciences representative during Tiger Day recruitment (14 Nov 2015, 9 Nov 2013, 6 Nov 2010, 17 Oct 2009, 3 Nov 2007, 14 Oct 2006)

Department of Biological Sciences representative during Science Day (16 November 2015, 9 Nov 2009, 27 Oct 2008, 6 Nov 2006)

Department of Biological Sciences representative during KAMS Preview Day (1 Nov 2014, 10 Nov 2012)

Department of Biological Sciences representative during FHSU Hispanic College Institute Major and Career Resource Fair (23 June 2016)

Department of Biological Sciences representative during FHSU Majors and Graduate Programs Fair (12 Mar 2013, 13 Mar 2012, 1 Mar 2011, 9 Mar 2010)

Department of Biological Sciences representative during Tiger Mania recruitment (2 April 2008, 4 April 2007)

Greenhouse tour for high school biology students (18 Dec 2006)

#### Individual Meetings with Prospective Students

2016-2017 Met with 4 prospective students and 1 prospective graduate students individually

2015-2016 Met with 17 prospective students and 2 prospective graduate students individually

2014-2015 Met with 10 prospective students and 2 prospective graduate students individually

2013-2014 Met with 13 prospective students and 5 prospective graduate students individually

2012-2013 Met with 20 prospective students and 7 prospective graduate students individually

2011-2012 Met with 25 prospective students and 2 prospective graduate students individually

2010-2011 Met with 28 prospective students and 7 prospective graduate students individually

2009-2010 Met with 27 prospective students and 20 prospective graduate students individually

2008-2009 Met with 27 prospective students and 7 prospective graduate students individually

2007-2008 Met with 19 prospective students and 21 prospective graduate students individually

2006-2007 Met with 3 prospective students and 9 prospective graduate students individually

#### Student Recognition Programs

2016 Beloit, KS (25 Jan 2016)

2015 Beloit, KS (26 Jan 2015)

2014 Phillipsburg, KS (27 Jan 2014)

2013 Phillipsburg, KS (28 Jan 2013)

2012 Phillipsburg, KS (26 Jan 2012)

2011 Beloit, KS (24 Jan 2011)

- 2010 Great Bend, KS (25 Jan 2010)
- 2009 Phillipsburg, KS (29 Jan 2009)
- 2008 Great Bend, KS (4 Feb 2008)
- 2007 Holdrege, NE (5 Feb 2007)

Participation in Mock Interviews for Student Practice

- 2015-2016 Mock interviews for 5 students
- 2014-2015 Mock interview for 1 student

Sponsor of Student Organizations

- 2014- Faculty Sponsor: Pre-Physical Therapy Club, FHSU Dept. of Biological Sciences
- 2013- Faculty Sponsor: FHSU Student Chapter of the Botanical Society of America
- 2006-2009 Faculty Sponsor: Biology Club, FHSU Dept. of Biological Sciences

FHSU Foundation Phonathon

“Tiger Call” phonathon, FHSU Foundation (15 Oct 2007, 16 Oct 2006)

Department Representative, Kansas Core Outcomes Group (18 September 2015)

Department Representative, Biology reunion during FHSU Homecoming

**Washington State University**

- 2005-2006 Faculty search committee, Plant Cell Biologist, WSU School of Biological Sciences

**8. Scholarly Submissions, Publications, and Papers Presented**

**a. Peer-Reviewed Publications** (asterisks\* denote undergraduate authors; daggers† indicate graduate student authors)

- 29. **Maricle, B.R.**, K.L. Caudle\*, and P.B. Adler. 2015. Influence of water availability on photosynthesis, water potential, leaf  $\delta^{13}\text{C}$ , and phenology in dominant  $\text{C}_4$  grasses in Kansas, USA. *Transactions of the Kansas Academy of Science* 118:173-193
- 28. Mendola, M.L.†, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. 2015. The role of ecotypic variation and the environment on biomass and nitrogen in a dominant prairie grass. *Ecology* 96:2433-2445
- 27. Johnson, L.C., J.T. Olsen†, H.M. Tetreault†, A. DeLaCruz\*, J. Bryant\*, T.J. Morgan, M. Knapp, N.M. Bello, S.G. Baer, and **B.R. Maricle**. 2015. Intraspecific variation of a dominant grass and local adaptation in reciprocal garden communities along a U.S. Great Plains precipitation gradient: Implications for response to grassland restoration with climate change. *Evolutionary Applications* 8:705-723
- 26. Caudle, K.L.\* and **B.R. Maricle**. 2015. Physiological and ecological effects of spilled oil on inland salt marsh communities: a mesocosm study. *Wetlands* 35:501-507
- 25. Martin, N.M.\* and **B.R. Maricle**. 2015. Species-specific enzymatic tolerance of sulfide toxicity in plant roots. *Plant Physiology and Biochemistry* 88:36-41
- 24. Gray, M.M.†, P. St. Amand, N.M. Bello, M. Galliard\*, M. Knapp, K.A. Garrett, T.J. Morgan, S.G. Baer, **B.R. Maricle**, E.D. Akhunov, and L.C. Johnson. 2014. Ecotypes of an ecologically dominant prairie grass (*Andropogon gerardii*) exhibit genetic divergence across the U.S. Midwest grasslands' environmental gradient. *Molecular Ecology* 23:6011-6028
- 23. Caudle, K.L.\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. 2014. A comparison of seasonal foliar chlorophyll change among ecotypes and cultivars of *Andropogon gerardii* (Poaceae) by using non-destructive and destructive methods. *Photosynthetica* 52:511-518

22. **Maricle, B.R.**, S.J. White\*, A. Meraz\*, N.G. Maforo\*, T.N. Biggs\*, N.M. Martin\*, and K.L. Caudle\*. 2014. Effect of ethanol toxicity on enzyme activity in anaerobic respiration in plants. *Transactions of the Kansas Academy of Science* 117:237-244
21. Caudle, K.L.\* and **B.R. Maricle**. 2014. Physiological relationship between oil tolerance and flooding tolerance in marsh plants. *Environmental and Experimental Botany* 107:7-14
20. Olsen, J.T.†, K.L. Caudle\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. 2013. Environmental and genetic variation in leaf anatomy among populations of *Andropogon gerardii* (Poaceae) along a precipitation gradient. *American Journal of Botany* 100:1957-1968
19. Waring, E.F.† and **B.R. Maricle**. 2012. Stomatal conductance correlates with flooding tolerance in *Phragmites australis* and *Sorghum halepense*. *Transactions of the Kansas Academy of Science* 115:161-166
18. Polacik, K.A.† and **B.R. Maricle**. 2013. Effects of flooding on photosynthesis and root respiration in saltcedar (*Tamarix ramosissima*), an invasive riparian shrub. *Environmental and Experimental Botany* 89:19-27
17. Caudle, K.L.\* and **B.R. Maricle**. 2012. Effects of flooding on photosynthesis, chlorophyll fluorescence, and oxygen stress in plants of varying flooding tolerance. *Transactions of the Kansas Academy of Science* 115:5-18 [**most downloaded paper for this journal in 2014**]
16. Waring, E.F.† and **B.R. Maricle**. 2012. Photosynthetic variation and carbon isotope discrimination in invasive wetland grasses in response to flooding. *Environmental and Experimental Botany* 77:77-86
15. **Maricle, B.R.** and P.B. Adler. 2011. Effects of precipitation on photosynthesis and water potential in *Andropogon gerardii* and *Schizachyrium scoparium* in a southern mixed grass prairie. *Environmental and Experimental Botany* 72:223-231
14. **Maricle, B.R.**, S.R. Zwenger†, and R.W. Lee. 2011. Carbon, nitrogen, and hydrogen isotope ratios in creekside trees in western Kansas. *Environmental and Experimental Botany* 71:1-9
13. **Maricle, B.R.** and R.W. Lee. 2010. Mechanisms of sulfide and anoxia tolerance in salt marsh grasses in relation to elevational zonation. pp. 47-53 *in*: Ayres, D.R., D.W. Kerr, S.D. Ericson, and P.R. Olofson, Eds. *Proceedings of the Third International Conference on Invasive Spartina*, 2004 Nov. 8-10, San Francisco, CA, USA. San Francisco Estuary Invasive *Spartina* Project of the California State Coastal Conservancy, Oakland, CA
12. **Maricle, B.R.**, O. Kiirats, R.W. Lee, and G.E. Edwards. 2010. Effects of salinity on photosynthesis in C<sub>4</sub> estuarine grasses. pp. 55-58 *in*: Ayres, D.R., D.W. Kerr, S.D. Ericson, and P.R. Olofson, Eds. *Proceedings of the Third International Conference on Invasive Spartina*, 2004 Nov. 8-10, San Francisco, CA, USA. San Francisco Estuary Invasive *Spartina* Project of the California State Coastal Conservancy, Oakland, CA
11. **Maricle, B.R.** 2010. Changes in chlorophyll content and antioxidant capacity during dark to light transitions in etiolated seedlings: Comparisons of species and units of enzyme activity. *Transactions of the Kansas Academy of Science* 113:177-190
10. Pfeifer, A.M.\* , R.W. Lee, and **B.R. Maricle**. 2010. Effects of diet, drugs, and activity levels on δ<sup>13</sup>C of breath and hair of humans. *Transactions of the Kansas Academy of Science* 113:91-102
9. **Maricle, B.R.**, N.K. Koteyeva, E.V. Voznesenskaya, J.R. Thomasson, and G.E. Edwards. 2009. Diversity in leaf anatomy, and stomatal distribution and conductance, between salt marsh and freshwater species in the C<sub>4</sub> genus *Spartina* (Poaceae). *New Phytologist* 184:216-233
8. **Maricle, B.R.** and A.M. Pfeifer\*. 2009. Ascorbate concentrations and osmolalities in orange and apple juices. *Transactions of the Kansas Academy of Science* 112:77-86

7. **Maricle, B.R.**, R.W. Lee, C.E. Hellquist, O. Kiirats, and G.E. Edwards. 2007. Effects of salinity on chlorophyll fluorescence and CO<sub>2</sub> fixation in C<sub>4</sub> estuarine grasses. *Photosynthetica* 45:433-440
  6. **Maricle, B.R.**, D.R. Cobos, and C.S. Campbell. 2007. Biophysical and morphological leaf adaptations to drought and salinity in salt marsh grasses. *Environmental and Experimental Botany* 60:458-467
  5. **Maricle, B.R.** and R.W. Lee. 2007. Root respiration and oxygen flux in salt marsh grasses from different elevational zones. *Marine Biology* 151:413-423
  4. **Maricle, B.R.**, J.J. Crosier\*, B.C. Bussiere\*, and R.W. Lee. 2006. Respiratory enzyme activities correlate with anoxia tolerance in salt marsh grasses. *Journal of Experimental Marine Biology and Ecology* 337:30-37
  3. Kroemer, J., C. Kirkpatrick, **B. Maricle**, R. Gawrych, M.D. Mosher, and D. Kaufman. 2006. Reike zinc as a reducing agent for common organic functional groups. *Tetrahedron Letters* 47:6339-6341
  2. **Maricle, B.R.** and R.W. Lee. 2006. Effects of environmental salinity on carbon isotope discrimination and stomatal conductance in *Spartina* grasses. *Marine Ecology Progress Series* 313:305-310
  1. **Maricle, B.R.** and R.W. Lee. 2002. Aerenchyma development and oxygen transport in the estuarine cordgrasses *Spartina alterniflora* and *S. anglica*. *Aquatic Botany* 74:109-120
- b. Other Publications** (asterisks\* denote undergraduate authors; daggers† indicate graduate student authors)
10. Packauskas, R.J., Y. Kobayashi, M.J. Greer, and **B.R. Maricle**, with contributions from K.R. Hickman, E.T. Gillock, and P.A. Casey†. 2016. Principles of Biology Laboratory Manual. FHSU Print Shop, revised July 2016
  9. **Maricle, B.R.** 2016. General Botany BIOL 250/250L Laboratory Manual. FHSU Print Shop, revised May 2016
  8. Franceschi, V.R. and **B.R. Maricle**. 2016. Plant Anatomy BIOL 330/330L Laboratory Manual. FHSU Print Shop, revised May 2016
  7. Edwards, G.E., M. Tegeder, and **B.R. Maricle**. 2015. BIOL 495 – Plant Physiology Laboratory Manual. FHSU Print Shop, revised May 2015
  6. Olsen, J.T.†, R.K. Goad†, M.L. Mendola†, H.M. Tetreault†, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. 2012. Gas exchange and leaf anatomy of big bluestem populations and sand bluestem across a precipitation gradient. *Kansas Native Plant Society Spring Newsletter*, April 2012, pp. 5-8
  5. **Maricle, B.R.** Plant biologists investigate leaf anatomy. *Research Matters: The Newsletter of Research and Creative Activity at Fort Hays State University*, Spring 2010
  4. Polacik, K.A.† and **B.R. Maricle**. 2009. Response to flooding in invasive saltcedar (*Tamarix ramosissima*). *Grassland Heritage Foundation Newsletter*, December 2009, pp. 4-5
  3. **Maricle, B.R.** 2008. How to approach phone interviews. *American Society of Plant Biologists (ASPB) News* 35:7-8
  2. **Maricle, B.R.** and R.W. Lee. 2003. The effect of mowing on oxygen transport in *Spartina anglica* (Poaceae). Padilla Bay National Estuarine Research Reserve Technical Report No. 27. Padilla Bay National Estuarine Research Reserve, Mount Vernon, Washington, 26 pp
  1. **Maricle, B.R.** and J.L. Mena-Werth. 1999. The determination of circumstellar material around stars observed with the International Ultraviolet Explorer Satellite using asymmetries in the singly

ionized magnesium h and k lines. Proceedings of the Thirteenth Annual National Conference of Undergraduate Research, Volume V (Physical Sciences):1285-1288

**c. Manuscripts in Review** (asterisks\* denote undergraduate authors; daggers† indicate graduate student authors)

1. Goad, R.K.†, S.G. Baer, L.C. Johnson, **B.R. Maricle**, D.J. Gibson, and M. Knapp. Patterns of aboveground net primary productivity in communities established with different ecotypes of dominant grasses across an environmental gradient. Manuscript in review: *Oikos*

**d. Abstracts Published** (asterisks\* denote undergraduate authors; daggers† indicate graduate student authors)

54. Varvel, N.A.\*, C.J. Hilt\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. 2016. Genetic and environmental influences on stomates of big bluestem (*Andropogon gerardii*) ecotypes. Transactions of the Kansas Academy of Science 119:265
53. Urban, A.D.\*, Y. Kobayashi, and **B.R. Maricle**. 2016. Effect of lactic acid on enzymes of respiration in catfish tissue. Transactions of the Kansas Academy of Science 119:265
52. Tamang, T.M.†, J. Alsdurf†, L.C. Johnson, S.G. Baer, and **Maricle, B.R.** 2016. Determination of evolutionary history of big bluestem ecotypes through chloroplast DNA analysis. Transactions of the Kansas Academy of Science 119:262
51. Pittenger, M.S.\*, K.L. Caudle†, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. 2016. Herbivory preferences among ecotypes of big bluestem (*Andropogon gerardii*). Transactions of the Kansas Academy of Science 119:258
50. McCampbell, B.C.† and **B.R. Maricle**. 2016. Organismal composition and photosynthetic traits of biological soil crusts in prairie ecosystems of the Great Plains. Transactions of the Kansas Academy of Science 119:255-256
49. Martin, N.M.\*, Y. Kobayashi, and **B.R. Maricle**. 2016. Species-specific enzymatic tolerance of sulfide toxicity in plant roots and comparative susceptibility between plant and catfish tissue. Transactions of the Kansas Academy of Science 119:254
48. Lutgen, J.D.\*, L.I. Boese\*, and **B.R. Maricle**. 2016. Effect of triclosan concentration on growth of *Lemna minor*. Transactions of the Kansas Academy of Science 119:253
47. Kramer, D.L.\*, K.L. Caudle†, C.J. Hilt\*, N.M. Martin\*, A.D. Urban\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. 2016. Morphological differences in ecotypes of big bluestem (*Andropogon gerardii*) grown in common gardens across a precipitation gradient. Transactions of the Kansas Academy of Science 119:252
46. Caudle, K.L.†, C.J. Hilt\*, C.M. Smart\*, A.D. Urban\*, D.L. Kramer\*, N.M. Martin\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. 2016. Does environment or genetics influence leaf level physiology? Measuring photosynthetic rates of native big bluestem (*Andropogon gerardii*) grown in common gardens across a precipitation gradient. Transactions of the Kansas Academy of Science 119:243-244
45. Urban, A.D.\*, Y. Kobayashi, and **B.R. Maricle**. 2015. Effects of lactic acid on anaerobic respiration in channel catfish (*Ictalurus punctatus*) liver. Transactions of the Kansas Academy of Science 118:158
44. Smart, C.M.\*, D.L. Kramer\*, K.L. Caudle\*, C.J. Hilt\*, A.D. Urban\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. 2015. Chlorophyll content in big bluestem (*Andropogon gerardii*) ecotypes across a precipitation gradient. Transactions of the Kansas Academy of Science 118:156

43. Smart, C.M.\*, B.M. Betzen\*, K.L. Caudle\*, and **B.R. Maricle**. 2015. Physiological salinity tolerance in native and non-native salt marsh species in Kansas. *Transactions of the Kansas Academy of Science* 118:155
42. Martin, N.M.\*, Y. Kobayashi, and **B.R. Maricle**. 2015. Species-specific enzymatic tolerance of sulfide toxicity in plant roots and comparative susceptibility between plant and catfish tissue. *Transactions of the Kansas Academy of Science* 118:148
41. Kramer, D.L.\*, K.L. Caudle\*, C.J. Hilt\*, N.M. Martin\*, A.D. Urban\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. 2015. Morphological differences in ecotypes of big bluestem (*Andropogon gerardii*) grown in common gardens across a precipitation gradient. *Transactions of the Kansas Academy of Science* 118:146-147
40. Hilt, C.J.\*, K.L. Caudle\*, W. Shu\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. 2015. Stomate densities on leaves of *Andropogon gerardii* ecotypes across a precipitation gradient. *Transactions of the Kansas Academy of Science* 118:143
39. Caudle, K.L.\*, C.J. Hilt\*, C.M. Smart\*, A.D. Urban\*, D.L. Kramer\*, N.M. Martin\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. 2015. Does environment or genetics influence leaf level physiology? Measuring photosynthetic rates of native big bluestem (*Andropogon gerardii*) grown in common gardens across a precipitation gradient. *Transactions of the Kansas Academy of Science* 118:137
38. Smart, C.M.\*, D.L. Kramer\*, K.L. Caudle\*, C.J. Hilt\*, S.G. Cheema\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. 2014. Nitrate reductase activities in big bluestem (*Andropogon gerardii*) ecotypes. *Transactions of the Kansas Academy of Science* 117:136
37. Martin, N.M.\* and **B.R. Maricle**. 2014. Effect of sulfide toxicity on enzymes of respiration in plant roots. *Transactions of the Kansas Academy of Science* 117:129
36. Kramer, D.L.\*, K.L. Caudle\*, C.M. Smart\*, C.J. Hilt\*, S.G. Cheema\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. 2014. Glutamine synthetase activities in big bluestem (*Andropogon gerardii*) ecotypes from common garden sites across the U.S. Great Plains. *Transactions of the Kansas Academy of Science* 117:128
35. Honig, A.D.\*, M. Rehm\*, **B.R. Maricle**, and Y. Kobayashi. 2014. The effects of motor oil pollution on green algal chlorophyll concentrations. *Transactions of the Kansas Academy of Science* 117:123
34. Hilt, C.J.\* and **B.R. Maricle**. 2014. Physiological responses of grasses to drought and flooding treatments. *Transactions of the Kansas Academy of Science* 117:121
33. Galliard, M.\*, L. Johnson, S. Sabates\*, H. Tetreault<sup>†</sup>, A. DeLaCruz\*, J. Bryant\*, T.J. Morgan, M. Knapp, N.M. Bello, S.G. Baer, D. Gibson, L. Wilson<sup>†</sup>, K.L. Caudle\*, and **B.R. Maricle**. 2014. Adaptive potential and trait variation of a widespread grass *Andropogon gerardii* across Great Plains climate gradient: Implications for climate change. *Transactions of the Kansas Academy of Science* 117:117-118
32. Cheema, S.G.\*, K.L. Caudle\*, and **B.R. Maricle**. 2014. Effects of nitrate and phosphate concentrations on inorganic nitrogen assimilation in the grasses *Pascopyrum smithii*, *Phalaris arundinacea*, and *Phragmites australis*. *Transactions of the Kansas Academy of Science* 117:111
31. Caudle, K.L.\*, C.M. Smart\*, C.J. Hilt\*, and **B.R. Maricle**. 2014. The role of root aerenchyma in oil tolerance of wetland plants. *Transactions of the Kansas Academy of Science* 117:111
30. Caudle, K.L.\*, C.J. Hilt\*, C.M. Smart\*, D.L. Kramer\*, S.G. Cheema\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. 2014. Pigment variation among ecotypes of big bluestem (*Andropogon gerardii*) across a precipitation gradient. *Transactions of the Kansas Academy of Science* 117:110

29. **Maricle, B.R.**, M.M. Gray<sup>†</sup>, J. Bryant<sup>†</sup>, A. Jensen\*, A. de la Cruz<sup>†</sup>, K.L. Caudle\*, J.T. Olsen<sup>†</sup>, S.G. Baer, M. Knapp, and L.C. Johnson. 2014. A possible mechanism for increased performance of a xeric adapted big bluestem (*Andropogon gerardii*) ecotype: Nitrogen and chlorophyll content of leaves in reciprocal gardens across the Great Plains. p. 106 in: Glaser, A., ed. *America's Grasslands Conference: The Future of Grasslands in a Changing Landscape. Proceedings of the 2nd Biennial Conference on the Conservation of America's Grasslands*. 2013 Aug. 12-14, Manhattan, KS. Washington, DC and Manhattan, KS: National Wildlife Federation and Kansas State University
28. Caudle, K.L.\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. 2014. Influence of precipitation on trichome densities in big bluestem (*Andropogon gerardii*) ecotypes in Great Plains reciprocal gardens. pp. 105-106 in: Glaser, A., ed. *America's Grasslands Conference: The Future of Grasslands in a Changing Landscape. Proceedings of the 2nd Biennial Conference on the Conservation of America's Grasslands*. 2013 Aug. 12-14, Manhattan, KS. Washington, DC and Manhattan, KS: National Wildlife Federation and Kansas State University
27. Caudle, K.L.\*, K.J. Lindsey<sup>†</sup>, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. 2014. Effects of extreme drought on photosynthesis and water potential of *Andropogon gerardii* (big bluestem) ecotypes in common gardens across Kansas. pp. 102-103 in: Glaser, A., ed. *America's Grasslands Conference: The Future of Grasslands in a Changing Landscape. Proceedings of the 2nd Biennial Conference on the Conservation of America's Grasslands*. 2013 Aug. 12-14, Manhattan, KS. Washington, DC and Manhattan, KS: National Wildlife Federation and Kansas State University
26. Johnson, L, P. M. Gray<sup>†</sup>, St. Amand, H. Tetreault<sup>†</sup>, K. Garrett, E. Akhunov, N. Bello, T. Morgan, S.G. Baer, and **B.R. Maricle**. 2014. Ecotypic variation in drought tolerance and genetic diversity of the ecologically dominant grass big bluestem (*Andropogon gerardii*) across the Great Plains precipitation gradient: Implications for climate change and restoration. pp. 96-97 in: Glaser, A., ed. *America's Grasslands Conference: The Future of Grasslands in a Changing Landscape. Proceedings of the 2nd Biennial Conference on the Conservation of America's Grasslands*. 2013 Aug. 12-14, Manhattan, KS. Washington, DC and Manhattan, KS: National Wildlife Federation and Kansas State University
25. Martin, N.M.\* and **B.R. Maricle**. 2013. Effect of sulfide toxicity on root cytochrome *c* oxidase activity in plants. *Transactions of the Kansas Academy of Science* 116:79
24. **Maricle, B.R.**, K.L. Caudle\*, K.J. Lindsey<sup>†</sup>, S.G. Baer, and L.C. Johnson. 2013. Effects of extreme drought on photosynthesis and water potential of *Andropogon gerardii* (big bluestem) ecotypes in common gardens across Kansas. *Transactions of the Kansas Academy of Science* 116:79
23. Disney, H.L.\*, Q.C. Aker\*, and **B.R. Maricle**. 2013. Effects of drought on Kansas turf grasses. *Transactions of the Kansas Academy of Science* 116:72
22. Caudle, K.L.\* and **B.R. Maricle**. 2013. Ecophysiological responses of salt marsh plant communities to spilled oil in experimental mesocosms. *Transactions of the Kansas Academy of Science* 116:69
21. Caudle, K.L.\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. 2013. Influence of precipitation on trichome densities in big bluestem (*Andropogon gerardii*) ecotypes grown in reciprocal gardens. *Transactions of the Kansas Academy of Science* 116:68-69
20. Caudle, K.L.\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. 2013. Non-destructive vs. destructive methods of measuring leaf chlorophyll content in *Andropogon gerardii* ecotypes. *Transactions of the Kansas Academy of Science* 116:68
19. Bryant, J.<sup>†</sup>, A. Jensen\*, A. de la Cruz<sup>†</sup>, K.L. Caudle\*, **B.R. Maricle**, S.G. Baer, and L.C. Johnson. 2013. A possible mechanism for increased performance of a xeric adapted big bluestem (*Andropogon gerardii*) ecotype: Nitrogen and chlorophyll content of leaves in reciprocal gardens across the Great Plains. *Transactions of the Kansas Academy of Science* 116:67-68

18. Biggs, T.N.\*, S.J. White\*, A. Meraz\*, N.G. Maforo\*, and **B.R. Maricle**. 2013. Effect of ethanol toxicity on enzyme activity in anaerobic respiration in plants. Transactions of the Kansas Academy of Science 116:66-67
17. Betzen, B.M.\*, C.M. Smart\*, K.L. Caudle\*, and **B.R. Maricle**. 2013. Effects of salinity on photosynthesis and water potential in native and non-native salt marsh species. Transactions of the Kansas Academy of Science 116:66
16. White, S.J.\*, A. Meraz\*, N.G. Maforo\*, and **B.R. Maricle**. 2012. Effect of ethanol toxicity on enzymes of respiration and carbon metabolism in plants. Transactions of the Kansas Academy of Science 115:79-80
15. Olsen, J.T.†, R.K. Goad†, M.L. Mendola\*, H.M. Tetreault†, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. 2012. Gas exchange of *Andropogon gerardii* (big bluestem) ecotypes across a climatic gradient of the Great Plains. Transactions of the Kansas Academy of Science 115:68
14. Caudle, K.L.\*, C.M. Smart\*, B.M. Betzen\*, and **B.R. Maricle**. 2012. Effects of salinity on plant water potential in native and introduced salt marsh species. Transactions of the Kansas Academy of Science 115:54
13. Caudle, K.L.\*, P.B. Adler, and **B.R. Maricle**. 2012. Physiological and ecological responses of Kansas grasses to water availability. Transactions of the Kansas Academy of Science 115:53-54
12. Caudle, K.L.\* and **B.R. Maricle**. 2012. Effects of flooding on photosynthesis and root oxygen stress in plants of different flooding tolerance. Transactions of the Kansas Academy of Science 115:53
11. Caudle, K.L.\* and **B.R. Maricle**. 2012. Influence of spilled oil on respiration and photosynthesis in coastal marsh species. Transactions of the Kansas Academy of Science 115:52
10. Biggs, T.N.\* and **B.R. Maricle**. 2012. Effects of nitrogen source and wind on photosynthesis and nitrate reductase activity in reed canarygrass. Transactions of the Kansas Academy of Science 115:51-52
9. Barrett, K.M.† and **B.R. Maricle**. 2012. Effects of nitrate and phosphate concentration on photosynthesis and nitrate assimilation in *Phalaris arundinacea* and *Phragmites australis*. Transactions of the Kansas Academy of Science 115:50
8. Caudle, K.L.\* and **B.R. Maricle**. 2011. Effects of oil deposition on respiration and photosynthesis in coastal native and introduced wetland grasses. Transactions of the Kansas Academy of Science 114:151-152
7. Olsen, J.T.†, H.M. Tetreault†, R.K. Goad†, M.L. Mendola\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. 2011. Variation of photosynthesis in big bluestem and sand bluestem reciprocally planted across a precipitation gradient. Transactions of the Kansas Academy of Science 114:170
6. Polacik, K.A.† and **B.R. Maricle**. 2010. Effects of flooding and soil type on photosynthesis in saltcedar (*Tamarix ramosissima*), an invasive riparian shrub. Transactions of the Kansas Academy of Science 113:133
5. Waring, E.F.† and **B.R. Maricle**. 2010. Mechanisms of chilling tolerance in C<sub>4</sub> plants. Transactions of the Kansas Academy of Science 113:140
4. Pfeifer, A.M.\*, R.W. Lee, and **B.R. Maricle**. 2009. Effects of diet, drugs, and activity levels on δ<sup>13</sup>C of breath and hair of humans. Transactions of the Kansas Academy of Science 112:150
3. Polacik, K.A.† and **B.R. Maricle**. 2009. Response to flooding in invasive saltcedar (*Tamarix*). Transactions of the Kansas Academy of Science 112:150

2. Waring, E.F.<sup>†</sup> and **B.R. Maricle**. 2009. Effects of flooding on light harvesting and CO<sub>2</sub> fixation in native and nonnative wetland grasses of central Kansas. *Transactions of the Kansas Academy of Science* 112:157
1. **Maricle, B.**, R. Gawrych, and D. Kaufman. 1999. Rieke zinc as a possible reducing agent for common organic functional groups. *Program and Proceedings of the Nebraska Academy of Sciences* 119:101

**e. Guest Lectures/Demonstrations**

10. **Maricle, B.R.** “Forests.” Guest demonstrations for the EPA “Environmental Educators Day” workshop for elementary, middle school, and high school teachers, Sternberg Museum of Natural History, Fort Hays State University, Hays, KS, August 2011
9. **Maricle, B.R.** “Measurement of Photosynthesis.” Guest demonstration for the Crop Physiology class (AGRI 425), Fort Hays State University, Hays, KS, April 2011
8. **Maricle, B.R.** “Light energy and photosynthesis.” Guest lecture for FHSU “Energizing Middle School Science and Social Studies” workshop for middle school teachers (PHYS 603 E), Fort Hays State University, Hays, KS, July 2010
7. **Maricle, B.R.** “Measurement of Photosynthesis.” Guest demonstration for the Crop Physiology class (AGRI 425), Fort Hays State University, Hays, KS, May 2010
6. **Maricle, B.R.** “Designing research posters.” Tutorial given to FHSU faculty, Fort Hays State University, Hays, KS, Feb 2008
5. **Maricle, B.R.** “Macroclimate” and “Microclimate.” Guest lectures for the General Ecology class (BIOL 372), Washington State University, Pullman, WA, January 2006
4. **Maricle, B.R.** “Photosynthetic Light Harvesting” and “Alternative Respiration Strategies.” Guest lectures for the Cell Physiology class (BIOL 352), Washington State University, Pullman, WA, September 2005
3. **Maricle, B.R.** and S.M. Peyer. “Near shore environments.” Guest lecture for the Ecology class (FOR 221), University of Idaho, Moscow, ID, May 2002
2. **Maricle, B.R.** “Cardiovascular System: Blood and Blood Pressure.” Guest lecture for the Human Physiology class (ZOOL 251), Washington State University, Pullman, WA, April 2002
1. **Maricle, B.R.** “Respiratory System: Mechanics.” Guest lecture for the Human Physiology class (ZOOL 251), Washington State University, Pullman, WA, April 2001

**f. Invited Presentations** (asterisks\* denote undergraduate authors; daggers<sup>†</sup> indicate graduate student authors)

23. **Maricle, B.R.** Evolutionary adaptation of grasses in response to flooding, salinity, sulfide, drought, and spilled oil: Themes from coastal marshes and the mixed-grass prairie. Invited presentation at the Kansas State University Seminar Series in Ecology and Evolutionary Biology, Manhattan, KS, September 2016
22. Gailliart, M.<sup>†</sup>, J. Poland, P. St. Amand, N. Bello, T. Morgan, M. Knapp, S. Baer, D. Gibson, **B. Maricle**, and L. Johnson. Adaptive ecotypic variation and genetic divergence of a widespread grass *Andropogon gerardii* across the Great Plains’ climate gradient. Presented at the Ecological Genomics Symposium, Manhattan, KS, November 2015
21. Johnson, L.C., M. Gailliart<sup>†</sup>, P. St. Amand, S.J. Brown, J. Poland, N. Bello, S. Baer, and **B.R. Maricle**. Adaptive genetic differentiation and local adaptation of dominant prairie grass *Andropogon gerardii* along the precipitation gradient of the Midwest: Implications for climate

- change. Presented at the International Switchgrass Genomics Meeting, Knoxville, TN, October 2015
20. Johnson, L.C., M. Gray<sup>†</sup>, P. St. Amand, M. Gailliar<sup>†</sup>, J. Alsdurf<sup>†</sup>, S.J. Brown, J. Poland, A. Smith, K. Garrett, E. Akhunov, N. Bello, T. Morgan, H. Tetreault, S. Baer, and **B. Maricle**. Genetic differentiation and local adaptation of dominant prairie grass *Andropogon gerardii* along the climate gradient of the U.S. Midwest: Implications for climate change. Invited presentation at the symposium, “Evolutionary responses to climate change,” at the Ecological Society of America annual meeting, Baltimore, MD, August 2015
  19. Johnson, L.C., M. Gray<sup>†</sup>, P. St. Amand, M. Gailliar<sup>\*</sup>, S.J. Brown, J. Poland, K. Garrett, E. Akhunov, N. Bello, T. Morgan, S. Baer, and **B.R. Maricle**. Genetic differentiation, transcriptome variation, and local adaptation of dominant prairie grass *Andropogon gerardii* along the precipitation gradient of the U.S. Midwest: Implications for climate change. Invited presentation at the Adaptation Genomics Satellite Meeting of Society for Molecular Biology and Evolution, Montpellier, France, May 2015
  18. Johnson, L.C., M. Gray<sup>†</sup>, P. St. Amand, M. Gailliar<sup>\*</sup>, S.J. Brown, J. Poland, K. Garrett, E. Akhunov, N. Bello, T. Morgan, S. Baer, and **B.R. Maricle**. Genetic differentiation, transcriptome variation, and local adaptation of dominant prairie grass *Andropogon gerardii* along the precipitation gradient of the U.S. Midwest: Implications for climate change. Invited presentation at the Plant Animal Genome Meeting, Conservation and Population Genomics Workshop, San Diego, CA, January 2015
  17. Johnson, L.C., M. Gray<sup>†</sup>, P. St. Amand, M. Gailliar<sup>\*</sup>, S.J. Brown, J. Poland, K. Garrett, E. Akhunov, N. Bello, T. Morgan, S. Baer, and **B.R. Maricle**. Linking ecology and genomics: Phenotypic differentiation, genetic diversity, and transcriptome variation of an ecologically dominant prairie grass *Andropogon gerardii* along the Great Plains’ climate gradient. Invited presentation at Argonne National Laboratory, Chicago, IL, February 2014
  16. Johnson, L.C., M. Gray<sup>†</sup>, P. St. Amand, M. Gailliar<sup>\*</sup>, S.J. Brown, J. Poland, K. Garrett, E. Akhunov, N. Bello, T. Morgan, S. Baer, and **B.R. Maricle**. Linking ecology and genomics: Phenotypic differentiation, genetic diversity, and transcriptome variation of an ecologically dominant prairie grass *Andropogon gerardii* along the Great Plains’ climate gradient. Invited seminar at the Department of Ecology and Evolutionary Biology, University of Chicago, November 2013
  15. Johnson, L.C., M. Gray<sup>†</sup>, P. St. Amand, M. Gailliar<sup>\*</sup>, S.J. Brown, J. Poland, K. Garrett, E. Akhunov, N. Bello, T. Morgan, S. Baer, and **B.R. Maricle**. Linking ecology and genomics: Phenotypic differentiation, genetic diversity, and transcriptome variation of an ecologically dominant prairie grass *Andropogon gerardii* along the Great Plains’ climate gradient. Invited seminar at the Department of Biological Engineering, Northwestern University, November 2013
  14. Baer, S.G., **B.R. Maricle**, N. Bello, K.L. Caudle<sup>\*</sup>, M. Gailliar<sup>\*</sup>, D.J. Gibson, M. Gray<sup>†</sup>, R.K. Goad<sup>†</sup>, E. McCrea<sup>\*</sup>, M.L. Mendola<sup>†</sup>, J.T. Olsen<sup>†</sup>, S. Sabates<sup>\*</sup>, H. Tetreault<sup>†</sup>, L. Wilson<sup>†</sup>, and L.C. Johnson. Discerning the presence and ecological consequence of ecotypic variation: A dilemma for restoration. Invited presentation at the symposium, “Changing prairies: science and practice in grassland restoration and reconstruction,” at the 5th World Conference of Ecological Restoration, Madison, WI, October 2013
  13. Johnson, L., S.G. Baer, **B.R. Maricle**, M. Gray<sup>†</sup>, H. Tetreault<sup>†</sup>, N. Bello, S. Brown, T. Morgan, J. Shelton<sup>†</sup>, and S. Chellapilla. Ecotypic variation in drought tolerance and genetic diversity of the ecologically dominant grass big bluestem (*Andropogon gerardii*) across the Great Plains precipitation gradient: Implications for climate change and restoration. Presented at the Switchgrass II meeting, Madison, WI, September 2013
  12. Johnson, L., M. Gray<sup>†</sup>, H. Tetreault<sup>†</sup>, K. Garrett, E. Akhunov, P. St. Amand, N. Bello, J. Bryant<sup>\*</sup>, N. An<sup>†</sup>, **B.R. Maricle**, J. Olsen<sup>†</sup>, S.G. Baer, R.K. Goad<sup>†</sup>, A. De La Cruz<sup>†</sup>, T. Morgan, and M. Knapp.

Ecotypic variation in drought tolerance and genetic diversity of the ecologically dominant grass big bluestem (*Andropogon gerardii*) across the Great Plains precipitation gradient: Implications for climate change and restoration. Presented at America's Grasslands meeting, Manhattan, KS, August 2013

11. Johnson, L.C., M. Gray<sup>†</sup>, P. St. Amand, M. Gailliart\*, S.J. Brown, J. Poland, K. Garrett, E. Akhunov, N. Bello, T. Morgan, S. Baer, and **B.R. Maricle**. Phenotypic and genetic variation in an ecologically dominant grass *Andropogon gerardii* along the Great Plains' precipitation gradient: A reciprocal garden approach. Presented at the Ecological Genomics Symposium, Kansas City, MO, October 2012
  10. Johnson, L.C., M. Gray<sup>†</sup>, P. St. Amand, M. Gailliart\*, S.J. Brown, J. Poland, K. Garrett, E. Akhunov, N. Bello, T. Morgan, S. Baer, and **B.R. Maricle**. Phenotypic and genetic variation in an ecologically dominant grass *Andropogon gerardii* along the Great Plains' precipitation gradient: A reciprocal garden approach. Presented at the Switchgrass Workshop, Nobel Foundation, Ardmore, OK, April 2012
  9. Johnson, L.C., S.G. Baer, and **B.R. Maricle**. Ecotypic and genetic variation in a dominant prairie grass: Implications for grassland conservation in a changing climate. Invited presentation at the European Science Federation ConGenOmics Network Programme, Seville, Spain, February 2012
  8. **Maricle, B.R.** How do flooding, salinity, and drought influence plants? Themes from coastal marshes and the mixed-grass prairie. Invited presentation at the Wichita State University Seminar Series in Biological Sciences, Wichita, KS, November 2011
  7. **Maricle, B.R.** Environmental influences on salt marsh grasses: the roles of waterlogging, salinity, and sulfide. Invited presentation at the Kansas State University Seminar Series in Ecology and Evolutionary Biology, Manhattan, KS, October 2008
  6. **Maricle, B.R.** Wetland vegetation. Invited seminar presented at the Cheyenne Bottoms Wetlanders Festival, Hoisington, KS, April 2007
  5. **Maricle, B.R.** Environmental regulation of species zonation in salt marshes: the roles of flooding, salinity, and sulfide. Invited seminar at Loras College, Dubuque, IA, February 2007
  4. **Maricle, B.R.** The physiological ecology of salt marsh grasses: factors influencing flooding tolerance, salinity tolerance, and species zonation. Invited seminar at the University of St. Thomas, St. Paul, MN, March 2006
  3. **Maricle, B.R.** and R.W. Lee. Respiration and oxygen transport in saltmarsh grasses in relation to elevational zonation. Invited for presentation in the "Environmental Physiology" Minisymposium at the American Society of Plant Biologists Annual Meeting, Seattle, WA, July 2005
  2. **Maricle, B.R.** and R.W. Lee. Oxygen transport through aerenchyma in *Spartina* (Poaceae). Invited for presentation in the "Structure and Function of Wetland Plants" Symposium at the Botanical Society of America Annual Meeting, Mobile, AL, July 2003
  1. Lee, R. W. and **B.R. Maricle**. Why are *Spartina* grasses so successful? Adaptations to anoxia and hydrogen sulfide. Invited presentation at the *Spartina* Mini Conference, Long Beach, WA, June 2001
- g. Contributed Oral Presentations** (asterisks\* denote undergraduate authors; daggers<sup>†</sup> indicate graduate student authors)
59. Johnson, L.C., M. Gailliart<sup>†</sup>, N.M. Bello, J. Poland, P. St. Amand, M. Knapp, **B.R. Maricle**, S.G. Baer, and D. Gibson. Adaptive ecotypic variation and genetic divergence of an ecologically dominant prairie grass across the Great Plains' precipitation gradient. Presented at the Botanical Society of America Annual Meeting, Savannah, GA, August 2016

58. Martin, N.M.\* and **B.R. Maricle**. Species-specific enzymatic tolerance of sulfide toxicity in plant roots. Presented at the Botanical Society of America Annual Meeting, Savannah, GA, August 2016
57. Caudle, K.L.†, C.J. Hilt\*, C.M. Smart\*, A.D. Urban\*, D.L. Kramer\*, N.M. Martin\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Does environment or genetics influence leaf level physiology? Measuring photosynthetic rates of native big bluestem (*Andropogon gerardii*) grown in common gardens across a precipitation gradient. Presented at the Botanical Society of America Annual Meeting, Savannah, GA, August 2016 [**Li-Cor Prize for best student presentation in the Physiological section**]
56. Galliard, M.†, P. St. Amand, J. Poland, N.M. Bello, M. Knapp, S.G. Baer, D. Gibson, **B.R. Maricle**, and L. Johnson. Adaptive ecotypic variation and genetic divergence of a widespread grass, big bluestem, across a Great Plains' climate gradient. Presented at the American Genetic Association Local Adaptation Symposium, Asilomar, CA, July 2016
55. McCampbell, B.C.† and **B.R. Maricle**. Organismal composition and photosynthetic traits of biological soil crusts in prairie ecosystems of the Great Plains. Presented at the Kansas Academy of Science Annual Meeting, McPherson, KS, April 2016
54. Caudle, K.L.†, C.J. Hilt\*, C.M. Smart\*, A.D. Urban\*, D.L. Kramer\*, N.M. Martin\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. 2015. Does environment or genetics influence leaf level physiology? Measuring photosynthetic rates of native big bluestem (*Andropogon gerardii*) grown in common gardens across a precipitation gradient. Presented at the Kansas Academy of Science Annual Meeting, McPherson, KS, April 2016 [**3rd place oral presentation by a graduate student**]
53. Martin, N.M.\*, Y. Kobayashi, and **B.R. Maricle**. Species-specific enzymatic tolerance of sulfide toxicity in plant roots and comparative susceptibility between plant and catfish tissue. Presented at the Kansas Academy of Science Annual Meeting, McPherson, KS, April 2016
52. Johnson, L.C., M.M. Gray†, P. St. Amand, M. Galliard†, J. Alsdurf†, S.J. Brown, J. Poland, A.B. Smith, K.A. Garrett, E. Akhunov, A. Akhunova, N.M. Bello, H. Tetreault, S.G. Baer, and **B.R. Maricle**. Genetic differentiation and local adaptation of dominant grass along the climate gradient of the Midwest: Implications for climate change. Presented at the Ecological Society of America Annual Meeting, Baltimore, MD, August 2015
51. Galliard, M.†, P. St. Amand, J. Poland, N.M. Bello, S. Sabates\*, H. Tetreault†, A. DeLaCruz\*, J. Bryant\*, T.J. Morgan, M. Knapp, S.G. Baer, D. Gibson, L. Wilson†, **B.R. Maricle**, and L. Johnson. Adaptive trait variation and genetic divergence of a widespread grass *Andropogon gerardii* across a Great Plains' climate gradient. Presented at the Evolution Meeting, Guaruja, Brazil, June 2015
50. Galliard, M.\*, P. St. Amand, J. Poland, N.M. Bello, S. Sabates\*, H. Tetreault†, A. DeLaCruz\*, J. Bryant\*, T.J. Morgan, M. Knapp, S.G. Baer, D. Gibson, L. Wilson†, **B.R. Maricle**, and L. Johnson. Adaptive trait variation and genetic divergence of a widespread grass *Andropogon gerardii* across a Great Plains' climate gradient. Presented at the Midwest Section of the American Society of Plant Biologists Annual Meeting, St. Louis, MO, March 2015
49. Johnson, L.C., M.M. Gray†, P. St. Amand, M. Galliard\*, S. Brown, K. Garrett, E. Akhunov, N. Bello, T. Morgan, S.G. Baer, and **B.R. Maricle**. Genetic differentiation, transcriptome variation, and local adaptation of dominant prairie grass *Andropogon gerardii* along the climate gradient of the U.S. Midwest: Implications for climate change and restoration. Presented at the International Plant and Animal Genome XIII Conference, San Diego, CA, January 2015
48. **Maricle, B.R.**, K.L. Caudle\*, J.T. Olsen†, J. Bryant†, A. de la Cruz†, A. Jensen\*, S.G. Baer, N.M. Bello, and L.C. Johnson. A possible mechanism for increased performance of a xeric adapted big bluestem (*Andropogon gerardii*) ecotype: Photosynthesis, nitrogen, and chlorophyll concentration

- of leaves in reciprocal gardens across the Great Plains. Presented at the Botanical Society of America Annual Meeting, Boise, ID, July 2014
47. Galliard, M.\* , L. Johnson, S. Sabates\*, H. Tetreault†, A. DeLaCruz\*, J. Bryant\*, T.J. Morgan, M. Knapp, N.M. Bello, S.G. Baer, D. Gibson, L. Wilson†, K.L. Caudle\*, and **B.R. Maricle**. Adaptive potential and trait variation of a widespread grass *Andropogon gerardii* across Great Plains climate gradient: Implications for climate change. Presented at the Botanical Society of America Annual Meeting, Boise, ID, July 2014
  46. Caudle, K.L.\* , C.M. Smart\*, C.J. Hilt\*, and **B.R. Maricle**. The role of root aerenchyma in oil tolerance of wetland plants. Presented at the Botanical Society of America Annual Meeting, Boise, ID, July 2014
  45. Galliard, M.\* , L. Johnson, N.M. Bello, S.G. Baer, **B.R. Maricle**, D. Gibson, H. Tetreault†, and S. Sabates\*. Adaptive potential and trait variation of a widespread grass *Andropogon gerardii* across a Great Plains climate gradient: Implications for climate change. Presented at the Evolution 2014 Conference, Raleigh, NC, June 2014
  44. Galliard, M.\* , L. Johnson, S. Sabates\*, H. Tetreault†, A. DeLaCruz\*, J. Bryant\*, T.J. Morgan, M. Knapp, N.M. Bello, S.G. Baer, D. Gibson, L. Wilson†, K.L. Caudle\*, and **B.R. Maricle**. Adaptive potential and trait variation of a widespread grass *Andropogon gerardii* across a Great Plains climate gradient: Implications for climate change. Presented at the Kansas Academy of Science Annual Meeting, Emporia, KS, April 2014
  43. Caudle, K.L.\* , C.M. Smart\*, C.J. Hilt\*, and **B.R. Maricle**. The role of root aerenchyma in oil tolerance of wetland plants. Presented at the Kansas Academy of Science Annual Meeting, Emporia, KS, April 2014 [**1st place oral presentation by an undergraduate student**]
  42. Johnson, L, M. Gray†, H. Tetreault†, K. Garrett, E. Akhunov, P. St. Amand, N. Bello, J. Bryant, N. An, **B.R. Maricle**, J. Olsen†, S.G. Baer, R.K. Goad†, A. De La Cruz\*, T. Morgan, and M. Knapp. Ecotypic variation in drought tolerance and genetic diversity of the ecologically dominant grass big bluestem (*Andropogon gerardii*) across the Great Plains precipitation gradient: Implications for climate change and restoration. Presented at America's Grasslands meeting, Manhattan, KS, August 2013
  41. Johnson, L, S.G. Baer, **B.R. Maricle**, M. Gray†, H. Tetreault†, N. Bello, S. Brown, T. Morgan, J. Shelton†, and S. Chellapilla. Genetic differentiation, transcriptome variation, and local adaptation of an ecologically dominant prairie grass *Andropogon gerardii* (big bluestem) occurring along the climate gradient in Midwest U.S. grasslands. Presented at the Evolution 2013 Meeting, Snowbird, UT, June 2013
  40. Caudle, K.L.\* and **B.R. Maricle**. Ecophysiological responses of salt marsh plant communities to spilled oil in experimental mesocosms. Presented at the Kansas Academy of Science Annual Meeting, Overland Park, KS, April 2013 [**3rd place oral presentation by an undergraduate student**]
  39. **Maricle, B.R.**, K.L. Caudle\*, K.J. Lindsey†, S.G. Baer, and L.C. Johnson. Effects of extreme drought on photosynthesis and water potential of *Andropogon gerardii* (big bluestem) ecotypes in common gardens across Kansas. Presented at the Kansas Academy of Science Annual Meeting, Overland Park, KS, April 2013
  38. Johnson, L, M. Gray†, H. Tetreault†, K. Garrett, E. Akhunov, P. St. Amand, N. Bello, J. Bryant\*, N. An†, **B.R. Maricle**, J. Olsen†, S.G. Baer, R.K. Goad†, A. De La Cruz†, T. Morgan, and M. Knapp. Ecotypic variation in drought tolerance and genetic diversity of the ecologically dominant grass big bluestem (*Andropogon gerardii*) across the Great Plains precipitation gradient. Presented at the Ecological Society of America Annual Meeting, Portland, OR, August 2012
  37. Gray, M.†, P. St Amand, H. Tetreault†, S. Baer, **B. Maricle**, T. Morgan, R. Goad†, J. Olsen†, and L. Johnson. Ecotypic variation in drought tolerance and genetic diversity of an ecologically

- dominant grass big bluestem (*Andropogon gerardii*) across the Great Plains precipitation gradient. Presented at the Ecological Society of America Annual Meeting, Portland, OR, August 2012
36. Caudle, K.L.\* and **B.R. Maricle**. Physiological responses of coastal marsh species to spilled oil. Presented at the Botanical Society of America Annual Meeting, Columbus, OH, July 2012
  35. Olsen, J.T.†, R.K. Goad†, M.L. Mendola\*, H.M. Tetreault†, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Photosynthetic gas exchange of big bluestem (*Andropogon gerardii*) ecotypes across a precipitation gradient of the Great Plains. Presented at the Botanical Society of America Annual Meeting, Columbus, OH, July 2012
  34. Caudle, K.L.\*, P.B. Adler, and **B.R. Maricle**. Influence of water availability on photosynthesis, water potential, and phenology in Kansas grasses. Presented at the Botanical Society of America Annual Meeting, Columbus, OH, July 2012
  33. Barrett, K.M.† and **B.R. Maricle**. Effects of nitrate and phosphate concentration on photosynthesis and nitrate assimilation in *Phalaris arundinacea* and *Phragmites australis*. Presented at the Kansas Academy of Science Annual Meeting, Wichita, KS, March 2012
  32. Caudle, K.L.\*, P.B. Adler, and **B.R. Maricle**. Physiological and ecological responses of Kansas grasses to water availability. Presented at the Kansas Academy of Science Annual Meeting, Wichita, KS, March 2012
  31. Olsen, J.T.†, R.K. Goad†, M.L. Mendola\*, H.M. Tetreault†, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Gas exchange of *Andropogon gerardii* (big bluestem) ecotypes across a climatic gradient of the Great Plains. Presented at the Kansas Academy of Science Annual Meeting, Wichita, KS, March 2012
  30. Caudle, K.L.\* and **B.R. Maricle**. Influence of spilled oil on respiration and photosynthesis in coastal marsh species. Presented at the Kansas Academy of Science Annual Meeting, Wichita, KS, March 2012
  29. Caudle, K.L.\* L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Influence of precipitation on trichome density in five *Andropogon gerardii* ecotypes. Presented at the Big Bluestem Consortium Annual Meeting, Manhattan, KS, March 2012
  28. Olsen, J.T.†, H.M. Tetreault†, R.K. Goad†, L.C. Johnson, S.G. Baer, M.L. Mendola\*, and **B.R. Maricle**. Gas exchange and leaf anatomy of *Andropogon gerardii* ecotypes across a climatic gradient of the Great Plains. Presented at the Big Bluestem Consortium Annual Meeting, Manhattan, KS, March 2012
  27. Caudle, K.L.\* and **B.R. Maricle**. Responses of respiration and photosynthesis to spilled oil in coastal wetland grasses. Presented at the Botanical Society of America Annual Meeting, St. Louis, MO, July 2011
  26. Olsen, J.T.†, H.M. Tetreault†, R.K. Goad†, M.L. Mendola\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Photosynthetic variation of big bluestem and sand bluestem influenced by ecotype and precipitation. Presented at the Botanical Society of America Annual Meeting, St. Louis, MO, July 2011
  25. Caudle, K.L.\* and **B.R. Maricle**. Effects of oil deposition on respiration and photosynthesis in coastal native and introduced wetland grasses. Presented at the Kansas Academy of Science Annual Meeting, Baldwin City, KS, April 2011 [**2nd place oral presentation by an undergraduate student**]
  24. Olsen, J.T.†, H.M. Tetreault†, R.K. Goad†, M.L. Mendola\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Variation of photosynthesis in big bluestem and sand bluestem reciprocally planted across a precipitation gradient. Presented at the Kansas Academy of Science Annual Meeting, Baldwin City, KS, April 2011

23. Olsen, J.T.<sup>†</sup>, H.M. Tetrault<sup>†</sup>, R.K. Goad<sup>†</sup>, L.C. Johnson, S.G. Baer, M.L. Mendola\*, and **B.R. Maricle**. Effects of ecotype and precipitation on photosynthesis in big bluestem. Presented at the Big Bluestem Consortium Annual Meeting, Manhattan, KS, February 2011
22. Waring, E.F.<sup>†</sup> and **B.R. Maricle**. Photosynthetic variation and carbon isotope discrimination in response to flooding in native and invasive grasses of central Kansas. Presented at the Society of Wetland Scientists Annual Meeting, Salt Lake City, UT, June 2010 [**honorable mention oral presentation by a graduate student**]
21. Polacik, K.A.<sup>†</sup> and **B.R. Maricle**. Effects of flooding on photosynthesis in saltcedar (*Tamarix ramosissima*), an invasive riparian shrub. Presented at the Southwestern Association of Naturalists Annual Meeting, Junction, TX, April 2010
20. Waring, E.F.<sup>†</sup> and **B.R. Maricle**. Changes in photosynthesis caused by flooding in native and nonnative wetland grasses of Central Kansas. Presented at the Southwestern Association of Naturalists Annual Meeting, Junction, TX, April 2010
19. Polacik, K.A.<sup>†</sup> and **B.R. Maricle**. Effects of flooding and soil type on photosynthesis in saltcedar (*Tamarix ramosissima*), an invasive riparian shrub. Presented at the Kansas Academy of Science Annual Meeting, Hays, KS, April 2010
18. Waring, E.F.<sup>†</sup> and **B.R. Maricle**. Mechanisms of chilling tolerance in C<sub>4</sub> plants. Presented at the Kansas Academy of Science Annual Meeting, Hays, KS, April 2010 [**3rd place oral presentation by a graduate student**]
17. Polacik, K.A.<sup>†</sup> and **B.R. Maricle**. Response to flooding in invasive saltcedar (*Tamarix*). Presented at the Weed Science Society of America Annual Meeting, Denver, CO, February 2010
16. Waring, E.F.<sup>†</sup> and **B.R. Maricle**. Effects of flooding on photosynthesis and respiration in native and invasive wetland grasses of central Kansas. Presented at the Weed Science Society of America Annual Meeting, Denver, CO, February 2010
15. **Maricle, B.R.**, S.R. Zwenger<sup>†</sup>, A.M. Pfeifer\*, and R.W. Lee. Effects of creek drying on shallow- and deep-rooted trees in western Kansas. Presented at the Ecological Society of America Annual Meeting, Milwaukee, WI, August 2008
14. **Maricle, B.R.** Biophysical and morphological leaf adaptations to drought and salinity in salt marsh grasses. Presented at the Ecological Society of America Annual Meeting, San Jose, CA, August 2007
13. **Maricle, B.R.** The physiological ecology of salt marsh grasses: factors influencing flooding tolerance, salinity tolerance, and species zonation. FHSU seminar series, Hays, KS, October 2006
12. **Maricle, B.R.** The physiological ecology of salt marsh grasses: factors influencing flooding tolerance, salinity tolerance, and species zonation. WSU exit seminar, Pullman, WA, April 2006
11. **Maricle, B.R.** and R.W. Lee. Oxygen transport and physiological mechanisms influencing zonation in salt marsh grasses. Presented at the Third International Conference on Invasive *Spartina*, San Francisco, CA, November 2004
10. **Maricle, B.R.**, O. Kiirats, G.E. Edwards, and R.W. Lee. Effects of salinity on carbon isotope discrimination and photosynthesis in C<sub>4</sub> estuarine grasses. Presented at the Ecological Society of America Annual Meeting, Portland, OR, August 2004
9. **Maricle, B.R.**, J.J. Crosier\*, B.C. Bussiere\*, and R.W. Lee. Potential for marsh plants to oxygenate sediments and enhance bioremediation of pollutants. Presented at the Society of Wetland Scientists Annual Meeting, Seattle, WA, July 2004
8. Lee, R.W. and **B.R. Maricle**. Oxygen transport and adaptations to flooding in estuarine cordgrasses. Presented at the EPA Joint Program in Phytoremediation PI Meeting, Washington, DC, January 2004

7. Lee, R.W. and **B.R. Maricle**. Oxygenation of sediments by *Spartina* marsh grasses: Potential facilitation of pollutant degradation. Presented at the U.S. EPA International Applied Phytotechnologies Conference, Chicago, IL, March 2003
  6. **Maricle, B.R.** What makes a successful estuarine invader? Comparative hypoxia- and salt-stress physiology of introduced *Spartina* and native *Distichlis* grasses. Presented at “Eco-Evo Lunch,” WSU School of Biological Sciences informal departmental seminar, January 2003
  5. **Maricle, B.R.** and R.W. Lee. Physiological mechanisms of hypoxia tolerance in invasive *Spartina* cordgrass: The significance of aerenchyma development and oxygen transport. Presented at the American Society of Limnology and Oceanography Annual Meeting, Victoria, BC, June 2002
  4. **Maricle, B.R.** and R.W. Lee. Aerenchyma development and oxygen transport in the estuarine cordgrasses *Spartina alterniflora* and *S. anglica*. Presented at the International Conference on Aquatic Invasive Species, Alexandria, VA, February 2002
  3. **Maricle, B.R.** Aerenchyma development and oxygen transport in the estuarine cordgrasses *Spartina alterniflora* and *S. anglica*. Presented at “Eco-Evo Lunch,” WSU School of Biological Sciences informal departmental seminar, October 2001
  2. **Maricle, B.R.** How population density relates to body size in birds. Undergraduate thesis defense, Kearney, NE, July 1999
  1. **Maricle, B.R.**, R. Gawrych, and D. Kaufman. Rieck Zinc as a possible reducing agent for common organic functional groups. Presented at the Nebraska Academy of Sciences, Lincoln, NE, April 1999
- h. Poster Presentations** (asterisks\* denote undergraduate authors; daggers† indicate graduate student authors)
128. Johnson, L., M. Galliard†, J. Alsdurf†, S. Baer, **B.R. Maricle**, and D.C. Hartnett. Linking evolution and ecosystem processes: Testing for rapid evolution in dominant grasses in response to grazing. Presented at the Ecological Society of America Annual Meeting, Fort Lauderdale, FL, August 2016
  127. Galliard, M.†, L. Johnson, **B.R. Maricle**, S.G. Baer, and N.M. Bello. Adaptive ecotypic variation and genetic divergence of a widespread grass big bluestem across a Great Plains’ climate gradient. Presented at the Ecological Society of America Annual Meeting, Fort Lauderdale, FL, August 2016
  126. Varvel, N.A.\*, C.J. Hilt\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Genetic and environmental influences on stomates of big bluestem (*Andropogon gerardii*) ecotypes. Presented at the Botanical Society of America Annual Meeting, Savannah, GA, August 2016
  125. Pittenger, M.S.\*, K.L. Caudle†, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Herbivory preferences among ecotypes of big bluestem (*Andropogon gerardii*). Presented at the Botanical Society of America Annual Meeting, Savannah, GA, August 2016
  124. McCampbell, B.C.† and **B.R. Maricle**. Organismal composition and photosynthetic traits of biological soil crusts in prairie ecosystems of the Great Plains. Presented at Fort Hays State University’s John Heinrichs Scholarship and Creative Activities Day, Hays, KS, April 2016 [**2nd place poster by a graduate student**]
  123. Tamang, T.M.†, J. Alsdurf†, L.C. Johnson, S.G. Baer, and **Maricle, B.R.** Determination of evolutionary history of big bluestem ecotypes through chloroplast DNA analysis. Presented at Fort Hays State University’s John Heinrichs Scholarship and Creative Activities Day, Hays, KS, April 2016

122. Boese, L.I.\* , J.D. Lutgen\*, and **B.R. Maricle**. Effect of triclosan concentration on growth of *Lemna minor*. Presented at Fort Hays State University's John Heinrichs Scholarship and Creative Activities Day, Hays, KS, April 2016
121. Pittenger, M.S.\* , K.L. Caudle† , S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Herbivory preferences among ecotypes of big bluestem (*Andropogon gerardii*). Presented at Fort Hays State University's John Heinrichs Scholarship and Creative Activities Day, Hays, KS, April 2016
120. Martin, N.M.\* , Y. Kobayashi, and **B.R. Maricle**. Effect of sulfide toxicity on cytochrome *c* oxidase in liver and muscle tissue of fish species. Presented at Fort Hays State University's John Heinrichs Scholarship and Creative Activities Day, Hays, KS, April 2016 [**2nd place poster by an undergraduate student**]
119. Varvel, N.A.\* , C.J. Hilt\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Genetic and environmental influences on stomates of big bluestem (*Andropogon gerardii*) ecotypes. Presented at the Kansas Academy of Science Annual Meeting, McPherson, KS, April 2016 [**2nd place poster by an undergraduate student**]
118. Pittenger, M.S.\* , K.L. Caudle† , S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Herbivory preferences among ecotypes of big bluestem (*Andropogon gerardii*). Presented at the Kansas Academy of Science Annual Meeting, McPherson, KS, April 2016
117. Tamang, T.M.† , J. Alsdurf† , L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Determination of evolutionary history of big bluestem ecotypes through chloroplast DNA analysis. Presented at the Kansas Academy of Science Annual Meeting, McPherson, KS, April 2016 [**2nd place poster by a graduate student**]
116. Kramer, D.L.\* , K.L. Caudle† , C.J. Hilt\*, N.M. Martin\*, A.D. Urban\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Morphological differences in ecotypes of big bluestem (*Andropogon gerardii*) grown in common gardens across a precipitation gradient. Presented at the Kansas Academy of Science Annual Meeting, McPherson, KS, April 2016
115. Urban, A.D.\* , Y. Kobayashi, and **B.R. Maricle**. Effect of lactic acid on enzymes of respiration in catfish tissue. Presented at the Kansas Academy of Science Annual Meeting, McPherson, KS, April 2016
114. Lutgen, J.D.\* , L.I. Boese\*, and **B.R. Maricle**. Effect of triclosan concentration on physiology of *Lemna minor*. Presented at the Kansas Academy of Science Annual Meeting, McPherson, KS, April 2016
113. Martin, N.M.\* , Y. Kobayashi, and **B.R. Maricle**. Effect of sulfide toxicity on cytochrome *c* oxidase in liver and muscle tissue of fish species. Presented at the World Aquaculture Society meeting, Las Vegas, NV, February 2016
112. Boese, L.I.\* and **B.R. Maricle**. Effect of Triclosan concentration on growth rate of *Lemna minor*. Presented at the Kansas Undergraduate Research Day at the Capitol, Topeka, KS, February 2016
111. McCampbell, B.C.† and **B.R. Maricle**. Organismal composition and photosynthetic traits of biological soil crusts in prairie ecosystems of the Great Plains. Presented at the Capitol Graduate Research Summit, Topeka, KS, February 2016
110. Urban, A.D.\* , Y. Kobayashi, and **B.R. Maricle**. Effect of lactic acid on enzymes of respiration in catfish tissue. Presented at the Kansas IDeA Network of Biomedical Research Excellence (K-INBRE) Annual Symposium, Overland Park, KS, January 2016
109. Martin, N.M.\* , Y. Kobayashi, and **B.R. Maricle**. Effect of sulfide toxicity on cytochrome *c* oxidase in liver and muscle tissue of fish species. Presented at the Kansas IDeA Network of Biomedical Research Excellence (K-INBRE) Annual Symposium, Overland Park, KS, January 2016

108. Alsdurf, J.<sup>†</sup>, L. Johnson, A. Smith, N. Bello, M. Knapp, P. St. Amand, M. Gray<sup>†</sup>, M. Galliard<sup>†</sup>, J. Poland, S. Baer, and **B.R. Maricle**. Genetic differentiation and local adaptation of dominant prairie grass *Andropogon gerardii* along the climate gradient of the US Midwest: Modeling shifts in distribution of ecotypes with climate change. Presented at the Ecological Genomics Symposium, Manhattan, KS, November 2015
107. Galliard, M.<sup>†</sup>, J. Poland, P. St. Amand, N.M. Bello, T.J. Morgan, M. Knapp, S.G. Baer, D. Gibson, **B.R. Maricle**, and L. Johnson. Adaptive ecotypic variation and genetic divergence of a widespread grass *Andropogon gerardii* across the Great Plains' climate gradient. Presented at the Ecological Genomics Symposium, Manhattan, KS, November 2015
106. Parrish, O., A. McChesney, M. Galliard<sup>†</sup>, S. Baer, N. Bello, K. Caudle\*, **B. Maricle**, E. McCrea\*, S. Sabates\*, D. Gibson, L. Wilson<sup>†</sup>, and L. Johnson. Reproductive trait variation in big bluestem (*Andropogon gerardii*) ecotypes across the Great Plains: a multi-year reciprocal garden study. Presented at the Ecological Genomics Symposium, Manhattan, KS, November 2015
105. Alsdurf, J.<sup>†</sup>, L. Johnson, A. Smith, N. Bello, M. Knapp, P. St. Amand, M. Gray<sup>†</sup>, M. Galliard<sup>†</sup>, J. Poland, S. Baer, and **B.R. Maricle**. Genetic differentiation and local adaptation of dominant prairie grass *Andropogon gerardii* along the climate gradient of the US Midwest: Modeling shifts in distribution of ecotypes with climate change. Presented at the Sigma Xi National Meeting, Kansas City, MO, October 2015
104. Galliard, M.<sup>†</sup>, J. Poland, P. St. Amand, N.M. Bello, T.J. Morgan, M. Knapp, S.G. Baer, D. Gibson, **B.R. Maricle**, and L. Johnson. Adaptive ecotypic variation and genetic divergence of a widespread grass *Andropogon gerardii* across the Great Plains' climate gradient. Presented at the Sigma Xi National Meeting, Kansas City, MO, October 2015
103. Parrish, O., A. McChesney, M. Galliard<sup>†</sup>, S. Baer, N. Bello, K. Caudle\*, **B. Maricle**, E. McCrea\*, S. Sabates\*, D. Gibson, L. Wilson<sup>†</sup>, and L. Johnson. Reproductive trait variation in big bluestem (*Andropogon gerardii*) ecotypes across the Great Plains: a multi-year reciprocal garden study. Presented at the Sigma Xi National Meeting, Kansas City, MO, October 2015
102. Alsdurf, J.<sup>†</sup>, L. Johnson, A. Smith, N. Bello, M. Knapp, P. St. Amand, M. Gray<sup>†</sup>, M. Galliard<sup>†</sup>, J. Poland, S. Baer, and **B.R. Maricle**. Genetic differentiation and local adaptation of dominant prairie grass *Andropogon gerardii* along the climate gradient of the US Midwest: Modeling shifts in distribution of ecotypes with climate change. Presented at America's Grassland Conference, Fort Collins, CO, September 2015
101. Galliard, M.<sup>†</sup>, P. St. Amand, J. Poland, N.M. Bello, S. Sabates\*, H. Tetreault<sup>†</sup>, A. DeLaCruz\*, J. Bryant\*, T.J. Morgan, M. Knapp, D. Gibson, S.G. Baer, L. Wilson<sup>†</sup>, **B.R. Maricle**, and L. Johnson. Adaptive trait variation and genetic divergence of a widespread grass *Andropogon gerardii* across a Great Plains' climate gradient. Presented at the American Society of Plant Biologists Annual Meeting, Minneapolis, MN, July 2015
100. Johnson, L.C., M.M. Gray<sup>†</sup>, P. St. Amand, M. Galliard<sup>†</sup>, S.J. Brown, J. Poland, K.A. Garrett, E. Akhunov, N.M. Bello, T. Morgan, S.G. Baer, and **B.R. Maricle**. Genetic differentiation, transcriptome variation, and local adaptation of dominant prairie grass *Andropogon gerardii* along the precipitation gradient of the US Midwest: Implications for climate change. Presented at the Society for Molecular Biology and Evolution meeting, Vienna, Austria, July 2015
99. Smart, C.M.\*, D.L. Kramer\*, K.L. Caudle\*, C.J. Hilt\*, A.D. Urban\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Chlorophyll content in big bluestem (*Andropogon gerardii*) ecotypes across a precipitation gradient. Presented at Fort Hays State University's John Heinrichs Scholarship and Creative Activities Day, Hays, KS, April 2015
98. Kramer, D.L.\* , K.L. Caudle\*, C.J. Hilt\*, N.M. Martin\*, A.D. Urban\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Morphological differences in ecotypes of big bluestem (*Andropogon gerardii*)

- grown in common gardens across a precipitation gradient. Presented at Fort Hays State University's John Heinrichs Scholarship and Creative Activities Day, Hays, KS, April 2015
97. Martin, N.M.\*, Y. Kobayashi, and **B.R. Maricle**. Species-specific enzymatic tolerance of sulfide toxicity in plant roots and comparative susceptibility between plant and catfish tissue. Presented at Fort Hays State University's John Heinrichs Scholarship and Creative Activities Day, Hays, KS, April 2015
  96. Martin, N.M.\*, Y. Kobayashi, and **B.R. Maricle**. Species-specific enzymatic tolerance of sulfide toxicity in plant roots and comparative susceptibility between plant and catfish tissue. Presented at the Experimental Biology Meeting, Boston, MA, March 2015
  95. Urban, A.D.\*, Y. Kobayashi, and **B.R. Maricle**. Effects of lactic acid on anaerobic respiration in channel catfish (*Ictalurus punctatus*) liver. Presented at the Kansas IDeA Network of Biomedical Research Excellence (K-INBRE) Annual Symposium, Topeka, KS, January 2015
  94. Martin, N.M.\*, Y. Kobayashi, and **B.R. Maricle**. Species-specific enzymatic tolerance of sulfide toxicity in plant roots and comparative susceptibility between plant and catfish tissue. Presented at the Kansas IDeA Network of Biomedical Research Excellence (K-INBRE) Annual Symposium, Topeka, KS, January 2015
  93. Galliard, M.\*, P. St. Amand, J. Poland, N.M. Bello, S. Sabates\*, H. Tetreault<sup>†</sup>, A. DeLaCruz\*, J. Bryant\*, T.J. Morgan, M. Knapp, S.G. Baer, D. Gibson, L. Wilson<sup>†</sup>, **B.R. Maricle**, and L. Johnson. Adaptive trait variation and genetic divergence of a widespread grass *Andropogon gerardii* across a Great Plains' climate gradient. Presented at the International Plant and Animal Genome XIII Conference, San Diego, CA, January 2015
  92. Galliard, M.\*, P. St. Amand, J. Poland, N.M. Bello, S. Sabates\*, H. Tetreault<sup>†</sup>, A. DeLaCruz\*, J. Bryant\*, T.J. Morgan, M. Knapp, S.G. Baer, D. Gibson, L. Wilson<sup>†</sup>, **B.R. Maricle**, and L. Johnson. Adaptive trait variation and genetic divergence of a widespread grass *Andropogon gerardii* across a Great Plains' climate gradient. Presented at the 12th Annual Ecological Genomics Symposium, Kansas City, MO, November 2014
  91. Smart, C.M.\*, D.L. Kramer\*, K.L. Caudle\*, C.J. Hilt\*, S.G. Cheema\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Nitrate reductase activities in big bluestem (*Andropogon gerardii*) ecotypes. Presented at the Botanical Society of America Annual Meeting, Boise, ID, July 2014
  90. Gaffney, J.\*, M. Galliard\*, S. Sabates\*, S. Baer, **B. Maricle**, E. McCrea\*, N.M. Bello, and L. Johnson. Variations in polyploidy in Big Bluestem (*Andropogon gerardii*) ecotypes across the Great Plains. Presented at the Botanical Society of America Annual Meeting, Boise, ID, July 2014
  89. Hilt, C.J.\* and **B.R. Maricle**. Physiological responses of grasses to drought and flooding treatments. Presented at the Botanical Society of America Annual Meeting, Boise, ID, July 2014 [**Li-Cor prize for student poster in the Physiological section**]
  88. Caudle, K.L.\*, C.J. Hilt\*, C.M. Smart\*, D.L. Kramer\*, S.G. Cheema\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Pigment variation among ecotypes of big bluestem (*Andropogon gerardii*) across a precipitation gradient. Presented at the Botanical Society of America Annual Meeting, Boise, ID, July 2014 [**best student poster in the Physiological section**]
  87. Honig, A.D.\*, M. Rehm\*, **B.R. Maricle**, and Y. Kobayashi. The effects of motor oil pollution on green algal chlorophyll concentrations. Presented at the Kansas Academy of Science Annual Meeting, Emporia, KS, April 2014 [**1st place poster by an undergraduate student**]
  86. Hilt, C.J.\* and **B.R. Maricle**. Physiological responses of grasses to drought and flooding treatments. Presented at the Kansas Academy of Science Annual Meeting, Emporia, KS, April 2014
  85. Cheema, S.G.\*, K.L. Caudle\*, and **B.R. Maricle**. Effects of nitrate and phosphate concentrations on inorganic nitrogen assimilation in the grasses *Pascopyrum smithii*, *Phalaris arundinacea*, and

- Phragmites australis*. Presented at the Kansas Academy of Science Annual Meeting, Emporia, KS, April 2014
84. Kramer, D.L.\* , K.L. Caudle\*, C.M. Smart\*, C.J. Hilt\*, S.G. Cheema\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Glutamine synthetase activities in big bluestem (*Andropogon gerardii*) ecotypes from common garden sites across the U.S. Great Plains. Presented at the Kansas Academy of Science Annual Meeting, Emporia, KS, April 2014
  83. Smart, C.M.\* , D.L. Kramer\*, K.L. Caudle\*, C.J. Hilt\*, S.G. Cheema\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Nitrate reductase activities in big bluestem (*Andropogon gerardii*) ecotypes. Presented at the Kansas Academy of Science Annual Meeting, Emporia, KS, April 2014
  82. Caudle, K.L.\* , C.J. Hilt\*, C.M. Smart\*, D.L. Kramer\*, S.G. Cheema\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Pigment variation among ecotypes of big bluestem (*Andropogon gerardii*) across a precipitation gradient. Presented at the Kansas Academy of Science Annual Meeting, Emporia, KS, April 2014 [**3rd place poster by an undergraduate student**]
  81. Martin, N.M.\* and **B.R. Maricle**. Effect of sulfide toxicity on enzymes of respiration in plant roots. Presented at the Kansas Academy of Science Annual Meeting, Emporia, KS, April 2014
  80. Caudle, K.L.\* , K.J. Lindsey†, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Effects of extreme drought on photosynthesis and water potential of *Andropogon gerardii* (big bluestem) ecotypes in common gardens across Kansas. Presented at the Kansas Undergraduate Research Day at the Capitol, Topeka, KS, February 2014
  79. Honig, A.D.\* , M. Rehm\*, **B.R. Maricle**, and Y. Kobayashi. The effects of motor oil pollution on green algal chlorophyll concentrations. Presented at the Kansas IDeA Network of Biomedical Research Excellence (K-INBRE) Annual Symposium, Kansas City, MO, January 2014
  78. Martin, N.M.\* and **B.R. Maricle**. Effect of sulfide toxicity on enzymes of respiration in plant roots. Presented at the Kansas IDeA Network of Biomedical Research Excellence (K-INBRE) Annual Symposium, Kansas City, MO, January 2014
  77. Gaffney, J.\* , M. Galliard\*, S. Sabates\*, S. Baer, **B. Maricle**, E. McCrea\*, N.M. Bello, and L. Johnson. Variations in polyploidy in Big Bluestem (*Andropogon gerardii*) ecotypes across the Great Plains. Presented at the 11th Annual Ecological Genomics Symposium, Kansas City, MO, November 2013
  76. Sabates, S.\* , M. Galliard\*, S. Baer, K. Caudle, **B. Maricle**, E. McCrea\*, D. Gibson, L. Wilson†, and L. Johnson. Phenology and fitness in big bluestem (*Andropogon gerardii*) ecotypes in Great Plains reciprocal gardens: the role of site and ecotype. Presented at the Ecological Genomics Symposium, Kansas City, KS, October, 2013
  75. Galliard, M.\* , S. Sabates\*, S. Baer, N. Bello, K. Caudle\*, **B. Maricle**, E. McCrea\*, D. Gibson, L. Wilson†, and L. Johnson. How does phenology and seed production of big bluestem (*Andropogon gerardii*) vary across the climate gradient of the Great Plains? A reciprocal garden approach to distinguish roles of site and ecotype. Presented at the Switchgrass II meeting, Madison, WI, September 2013
  74. **Maricle, B.R.**, M.M. Gray†, J. Bryant†, A. Jensen\*, A. de la Cruz†, K.L. Caudle\*, J.T. Olsen†, S.G. Baer, M. Knapp, and L.C. Johnson. A possible mechanism for increased performance of a xeric adapted big bluestem (*Andropogon gerardii*) ecotype: Nitrogen and chlorophyll content of leaves in reciprocal gardens across the Great Plains. Presented at the Switchgrass II meeting, Madison, WI, September 2013
  73. Caudle, K.L.\* , K.J. Lindsey†, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Effects of extreme drought on photosynthesis and water potential of *Andropogon gerardii* (big bluestem) ecotypes in common gardens across Kansas. Presented at the Switchgrass II meeting, Madison, WI, September 2013

72. Caudle, K.L.\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Influence of precipitation on trichome densities in big bluestem (*Andropogon gerardii*) ecotypes in Great Plains reciprocal gardens. Presented at the Switchgrass II meeting, Madison, WI, September 2013
71. Galliard, M.\*, Sabates, S.\*, S. Baer, N. Bello, K. Caudle\*, **B. Maricle**, E. McCrea\*, D. Gibson, L. Wilson†, and L. Johnson. How does phenology and seed production of big bluestem (*Andropogon gerardii*) vary across the climate gradient of the Great Plains? A reciprocal garden approach to distinguish roles of site and ecotype. Presented at the K-State Joint REU Poster Session, Manhattan, KS. Poster Presentation. August 2013
70. Galliard, M.\*, Sabates, S.\*, S. Baer, N. Bello, K. Caudle\*, **B. Maricle**, E. McCrea\*, D. Gibson, L. Wilson†, and L. Johnson. How does phenology and seed production of big bluestem (*Andropogon gerardii*) vary across the climate gradient of the Great Plains? A reciprocal garden approach to distinguish roles of site and ecotype. Presented at America's Grasslands meeting, Manhattan, KS, August 2013
69. Johnson, L, M. Gray†, H. Tetreault†, K. Garrett, E. Akhunov, P. St. Amand, N. Bello, J. Bryant\*, N. An†, **B.R. Maricle**, J. Olsen†, S.G. Baer, R.K. Goad†, A. De La Cruz†, T. Morgan, and M. Knapp. Ecotypic variation in drought tolerance and genetic diversity of the ecologically dominant grass big bluestem (*Andropogon gerardii*) across the Great Plains precipitation gradient: Implications for climate change and restoration. Presented at the America's Grasslands meeting, Manhattan, KS, August 2013
68. **Maricle, B.R.**, M.M. Gray†, J. Bryant†, A. Jensen\*, A. de la Cruz†, K.L. Caudle\*, J.T. Olsen†, S.G. Baer, M. Knapp, and L.C. Johnson. A possible mechanism for increased performance of a xeric adapted big bluestem (*Andropogon gerardii*) ecotype: Nitrogen and chlorophyll content of leaves in reciprocal gardens across the Great Plains. Presented at America's Grasslands meeting, Manhattan, KS, August 2013
67. Caudle, K.L.\*, K.J. Lindsey†, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Effects of extreme drought on photosynthesis and water potential of *Andropogon gerardii* (big bluestem) ecotypes in common gardens across Kansas. Presented at America's Grasslands meeting, Manhattan, KS, August 2013
66. Caudle, K.L.\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Influence of precipitation on trichome densities in big bluestem (*Andropogon gerardii*) ecotypes in Great Plains reciprocal gardens. Presented at America's Grasslands meeting, Manhattan, KS, August 2013
65. Galliard, M.\*, S. Sabates\*, S. Baer, N. Bello, K. Caudle\*, **B. Maricle**, E. McCrea\*, D. Gibson, L. Wilson†, and L. Johnson. How does phenology and seed production of big bluestem (*Andropogon gerardii*) vary across the climate gradient of the Great Plains? A reciprocal garden approach to distinguish roles of site and ecotype. Presented at the Botanical Society of America Annual Meeting, New Orleans, LA, July 2013
64. Sabates, S.\*, M. Gitzendanner\*, S. Baer, N. Bello, K. Caudle\*, **B. Maricle**, E. McCrea\*, D. Gibson, L. Wilson†, and L. Johnson. How does phenology and seed production of big bluestem (*Andropogon gerardii*) vary across the climate gradient of the Great Plains? A reciprocal garden approach to distinguish roles of site and ecotype. Presented at the Botanical Society of America 2013 Annual Conference, New Orleans, LA, July 2013
63. **Maricle, B.R.**, M.M. Gray†, J. Bryant†, A. Jensen\*, A. de la Cruz†, K.L. Caudle\*, J.T. Olsen†, S.G. Baer, M. Knapp, and L.C. Johnson. A possible mechanism for increased performance of a xeric adapted big bluestem (*Andropogon gerardii*) ecotype: Nitrogen and chlorophyll content of leaves in reciprocal gardens across the Great Plains. Presented at the Botanical Society of America Annual Meeting, New Orleans, LA, July 2013

62. Caudle, K.L.\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Influence of precipitation on trichome densities in big bluestem (*Andropogon gerardii*) ecotypes in Great Plains reciprocal gardens. Presented at the Botanical Society of America Annual Meeting, New Orleans, LA, July 2013
61. Johnson, L, S.G. Baer, **B.R. Maricle**, M. Gray<sup>†</sup>, H. Tetreault<sup>†</sup>, N. Bello. Genetic differentiation, transcriptome variation, and local adaptation of an ecologically dominant prairie grass *Andropogon gerardii* (big bluestem) occurring along the climate gradient in Midwest U.S. grasslands. Presented at the Society for Molecular Biology and Evolution Annual Meeting, Chicago, IL, July 2013
60. Galliard, M.\*, S. Sabates\*, E. McCrea\*, S. Baer, L. Wilson<sup>†</sup>, D. Gibson, **B. Maricle**, K. Caudle\*, N. Bello, and L. Johnson. How does phenology and seed production of big bluestem (*Andropogon gerardii*) ecotypes vary across the Great Plains climate gradient? A reciprocal garden approach. Presented at the Evolution 2013 Meeting, Snowbird, UT, June 2013
59. Sabates, S.\*, M. Gitzendanner\*, S. Baer, N. Bello, K. Caudle\*, **B. Maricle**, E. McCrea\*, D. Gibson, L. Wilson<sup>†</sup>, and L. Johnson. How does phenology and seed production of big bluestem (*Andropogon gerardii*) vary across the climate gradient of the Great Plains? A reciprocal garden approach to distinguish roles of site and ecotype. Presented at the Evolution 2013 Annual Conference, Snowbird, UT, June 2013
58. Disney, H.L.\*, Q.C. Aker\*, and **B.R. Maricle**. Effects of drought on Kansas turf grasses. Presented at the International Science and Engineering Fair, Phoenix, AZ, May 2013
57. Jensen, A.\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Big bluestem ecotypic differences in leaf nitrogen content as a possible mechanism for increased performance of Central KS ecotype in reciprocal gardens planted across the Great Plains. Presented at the Nebraska Academy of Sciences, Lincoln, NE, April 2013
56. Disney, H.L.\*, Q.C. Aker\*, and **B.R. Maricle**. Effects of drought on Kansas turf grasses. Presented at the Kansas Academy of Science Annual Meeting, Overland Park, KS, April 2013
55. Caudle, K.L.\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Influence of precipitation on trichome densities in big bluestem (*Andropogon gerardii*) ecotypes grown in reciprocal gardens. Presented at the Kansas Academy of Science Annual Meeting, Overland Park, KS, April 2013 [**2nd place poster by an undergraduate student**]
54. **Maricle, B.R.**, M.M. Gray<sup>†</sup>, J. Bryant<sup>†</sup>, A. Jensen\*, A. de la Cruz<sup>†</sup>, K.L. Caudle\*, J.T. Olsen<sup>†</sup>, S.G. Baer, M. Knapp, and L.C. Johnson. A possible mechanism for increased performance of a xeric adapted big bluestem (*Andropogon gerardii*) ecotype: Nitrogen and chlorophyll content of leaves in reciprocal gardens across the Great Plains. Presented at the Kansas Academy of Science Annual Meeting, Overland Park, KS, April 2013
53. Caudle, K.L.\*, L.C. Johnson, S.G. Baer, and **B.R. Maricle**. Non-destructive vs. destructive methods of measuring leaf chlorophyll content in *Andropogon gerardii* ecotypes. Presented at the Kansas Academy of Science Annual Meeting, Overland Park, KS, April 2013
52. Martin, N.M.\* and **B.R. Maricle**. Effect of sulfide toxicity on root cytochrome *c* oxidase activity in plants. Presented at the Kansas Academy of Science Annual Meeting, Overland Park, KS, April 2013
51. Biggs, T.N.\*, S.J. White\*, A. Meraz\*, N.G. Maforo\*, and **B.R. Maricle**. Effect of ethanol toxicity on enzyme activity in anaerobic respiration in plants. Presented at the Kansas Academy of Science Annual Meeting, Overland Park, KS, April 2013
50. Betzen, B.M.\*, C.M. Smart\*, K.L. Caudle\*, and **B.R. Maricle**. Effects of salinity on photosynthesis and water potential in native and non-native salt marsh species. Presented at the Kansas Academy of Science Annual Meeting, Overland Park, KS, April 2013 [**3rd place poster by an undergraduate student**]

49. Caudle, K.L.\* and **B.R. Maricle**. Effects of flooding on photosynthesis and root oxygen stress in plants of different flooding tolerance. Presented at the Kansas Undergraduate Research Day at the Capitol, Topeka, KS, April 2013
48. Disney, H.L.\*, Q.C. Aker\*, and **B.R. Maricle**. Effects of drought on Kansas turf grasses. Presented at the Kansas Undergraduate Research Day at the Capitol, Topeka, KS, April 2013
47. Sabates, S.\*, M. Galliard\*, S. Baer, N. Bello, K. Caudle\*, **B. Maricle**, E. McCrea\*, D. Gibson, L. Wilson<sup>†</sup>, and L. Johnson. How does phenology and seed production of big bluestem (*Andropogon gerardii*) vary across the climate gradient of the Great Plains? A reciprocal garden approach to distinguish roles of site and ecotype. Kansas State University Research Forum, Manhattan, KS, March 2013 [**best poster award**]
46. Betzen, B.M.\* , C.M. Smart\*, K.L. Caudle\*, and **B.R. Maricle**. Effects of salinity on photosynthesis and plant water potential in native and non-native salt marsh species. Presented at the Kansas State Science Fair, Wichita, KS, March 2013
45. Disney, H.L.\* , Q.C. Aker\*, and **B.R. Maricle**. Effects of drought on Kansas turf grasses. Presented at the Kansas State Science Fair, Wichita, KS, March 2013 [**2nd place project overall in Division I; 1st place in Botany category; U.S. Stockholm Junior Water prize regional winner; U.S. Army winner; and Kanas BioScience award winner**]
44. Betzen, B.M.\* , C.M. Smart\*, K.L. Caudle\*, and **B.R. Maricle**. Effects of salinity on photosynthesis and plant water potential in native and non-native salt marsh species. Presented at the Hays Regional Science Fair, Hays, KS, February 2013 [**gold medal recipient in Division I**]
43. Disney, H.L.\* , Q.C. Aker\*, and **B.R. Maricle**. Effects of drought on Kansas turf grasses. Presented at the Hays Regional Science Fair, Hays, KS, February 2013 [**gold medal recipient in Division I**]
42. Biggs, T.N.\* , S.J. White\*, A. Meraz\*, N.G. Maforo\*, and **B.R. Maricle**. Effect of ethanol toxicity on enzyme activity in anaerobic respiration in plants. Presented at the Kansas IDeA Network of Biomedical Research Excellence (K-INBRE) Annual Symposium, Manhattan, KS, January 2013
41. Gaffney, J.\* , S. Sabates\*, S. Baer, **B. Maricle**, E. McCrea\*, N. Bello, and L. Johnson. Variations in polyploidy in Big Bluestem (*Andropogon gerardii*) ecotypes across the Great Plains. Presented at the 10th Anniversary Ecological Genomics Symposium, Kansas City, MO, October 2012
40. Sabates, S.\* , M. Galliard\*, E. McCrea\*, S. Baer, L. Wilson<sup>†</sup>, D. Gibson, **B. Maricle**, K. Caudle\*, and L. Johnson. Phenology and seed production in big bluestem (*Andropogon gerardii*) ecotypes in Great Plains reciprocal gardens: the role of site and ecotype. Presented at the 10th Anniversary Ecological Genomics Symposium, Kansas City, MO, October 2012
39. Gray, M.<sup>†</sup>, P. St Amand, H. Tetreault<sup>†</sup>, S. Baer, B. Maricle, T. Morgan, R. Goad<sup>†</sup>, J. Olsen<sup>†</sup>, and L. Johnson. Phenotypic and genetic variation in a dominant prairie grass along the Great Plains' precipitation gradient: a reciprocal garden approach. Presented at the 10th Anniversary Ecological Genomics Symposium, Kansas City, MO, October 2012
38. Sabates, S.\* , E. McCrea\*, S. Baer, **B. Maricle**, K. Caudle\*, and L. Johnson. Phenology and seed production in big bluestem (*Andropogon gerardii*) ecotypes in Great Plains reciprocal gardens: the role of site and ecotype. Presented at the Kansas State University Undergraduate Research Meeting, Manhattan, KS, August 2012
37. Betzen, B.M.\* , C.M. Smart\*, **B.R. Maricle**, and K.L. Caudle\*. Effects of salinity on plant water potential in native and introduced salt marsh species. Presented at the Fort Hays State University Student Research Meeting, Hays, KS, May 2012
36. Caudle, K.L.\* and **B.R. Maricle**. Responses of respiration and photosynthesis to spilled oil in coastal marsh species. Presented at Fort Hays State University's Scholarship and Creative Activities Day, Hays, KS, May 2012 [**2nd place poster in undergraduate research experience category**]

35. Caudle, K.L.\* and **B.R. Maricle**. Effects of flooding on photosynthesis and root oxygen stress in plants of different flooding tolerance. Presented at Fort Hays State University's Scholarship and Creative Activities Day, Hays, KS, May 2012 [**1st place poster by an undergraduate student**]
34. Betzen, B.M.\*, C.M. Smart\*, **B.R. Maricle**, and K.L. Caudle\*. Effects of salinity on plant water potential in native and introduced salt marsh species. Presented at Fort Hays State University's Scholarship and Creative Activities Day, Hays, KS, May 2012
33. White, S.J.\*, A. Meraz\*, N.G. Maforo\*, and **B.R. Maricle**. Effect of ethanol toxicity on enzymes of respiration and carbon metabolism in plants. Presented at Fort Hays State University's Scholarship and Creative Activities Day, Hays, KS, May 2012
32. Biggs, T.N.\* and **B.R. Maricle**. Effects of nitrogen source and wind on photosynthesis and nitrate reductase activity in reed canarygrass. Presented at the Kansas Academy of Science Annual Meeting, Wichita, KS, March 2012
31. White, S.J.\*, A. Meraz\*, N.G. Maforo\*, and **B.R. Maricle**. Effect of ethanol toxicity on enzymes of respiration and carbon metabolism in plants. Presented at the Kansas Academy of Science Annual Meeting, Wichita, KS, March 2012
30. Caudle, K.L.\*, C.M. Smart\*, B.M. Betzen\*, and **B.R. Maricle**. Effects of salinity on plant water potential in native and introduced salt marsh species. Presented at the Kansas Academy of Science Annual Meeting, Wichita, KS, March 2012
29. Caudle, K.L.\* and **B.R. Maricle**. Effects of flooding on photosynthesis and root oxygen stress in plants of different flooding tolerance. Presented at the Kansas Academy of Science Annual Meeting, Wichita, KS, March 2012
28. Gray, M.<sup>†</sup>, H. Tetreault<sup>†</sup>, C. Rodewald\*, P. St. Amand, S. Baer, **B. Maricle**, T. Morgan, N. Bello, R. Goad<sup>†</sup>, J. Olsen<sup>†</sup>, L. Wheeler\*, E. Akhunov, K. Garrett, G. Bai, and L. Johnson. Evidence for local adaptation and genetic differentiation across *Andropogon gerardii* (big bluestem) tall grass ecotypes occurring along a precipitation gradient. Presented at the 9th Annual Ecological Genomics Symposium, Kansas City, MO, November 2011
27. Bryant, J.\*, A. De La Cruz<sup>†</sup>, K. Price, N. An<sup>†</sup>, M. Knapp, H. Tetreault<sup>†</sup>, **B. Maricle**, J. Olsen<sup>†</sup>, K. Caudle\*, R. Goad<sup>†</sup>, S. Baer, and L. Johnson. Remote sensing to detect plant performance in common gardens of big bluestem ecotypes across the Great Plains. Presented at the 9th Annual Ecological Genomics Symposium, Kansas City, MO, November 2011
26. Bryant, J.\*, A. De La Cruz<sup>†</sup>, K. Price, N. An<sup>†</sup>, H. Tetreault<sup>†</sup>, **B. Maricle**, J. Olsen<sup>†</sup>, K. Caudle\*, S. Baer, and L. Johnson. Use of chlorophyll fluorescence analysis to detect plant performance in common gardens of big bluestem ecotypes across the Great Plains. Presented at the Grasslands in a Global Context meeting, Manhattan, KS, September 2011
25. Goad R.K.<sup>†</sup>, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Patterns in aboveground net primary productivity in prairie reciprocally restored with dominant grasses from across a precipitation gradient. Presented at the Grasslands in a Global Context meeting, Manhattan, KS, September 2011
24. Goad R.K.<sup>†</sup>, S.G. Baer, L.C. Johnson, **B.R. Maricle**, H.M. Tetrault<sup>†</sup>, and J.T. Olsen<sup>†</sup>. Patterns in aboveground net primary productivity of an assembling tallgrass prairie. Presented at the Ecological Society of America Annual Meeting, Austin, TX, August 2011
23. Tetreault, H. <sup>†</sup>, C. Rodewald\*, S. Baer, **B. Maricle**, T. Morgan, R. Goad<sup>†</sup>, J. Olsen<sup>†</sup>, and L. Johnson. Local drought adaptation of the ecologically dominant prairie grass big bluestem *Andropogon gerardii*: Contribution of genotype and environment to phenotypic variation. Presented at the Ecological Society of America Annual Meeting, Austin, TX, August 2011
22. Tetreault, H.<sup>†</sup>, M. Gray<sup>†</sup>, C. Rodewald\*, M. Mendola<sup>†</sup>, R. Goad<sup>†</sup>, J. Olsen<sup>†</sup>, E. McCrea\*, L. Wheeler, N. Bello, T. Morgan, M. Knapp, P. St. Amand, E. Akhunov, K. Garrett, G. Bai, S. Baer,

- B. Maricle**, L. Johnson. Phenotypic variation and population differentiation of *Andropogon gerardii* along the Great Plains precipitation gradient. Presented at the Gordon Research Conference on Ecological and Evolutionary Genomics, Biddeford, ME, July 2011
21. Tetreault, H. †, C. Rodewald\*, M. Mendola\*, R. Goad†, J. Olsen†, E. McCrea\*, N. Bello, T. Morgan, R. Wynia, S. Baer, **B. Maricle**, and L. Johnson. Phenotypic variation of big bluestem ecotypes across the Great Plains precipitation gradient. Presented at the Evolution 2011 Meeting, Norman, OK, June 2011
  20. Caudle, K.L.\* and **B.R. Maricle**. Effects of oil deposition on respiration and photosynthesis in coastal native and introduced wetland grasses. Presented at Fort Hays State University's Research and Creative Activities Week, Hays, KS, April 2011 [**1st place poster by an undergraduate student**]
  19. Olsen, J.T.†, H.M. Tetreault†, R.K. Goad†, M.L. Mendola\*, S.G. Baer, L.C. Johnson, and **B.R. Maricle**. Effects of precipitation and ecotype on photosynthesis in two grass species. Presented at Fort Hays State University's Research and Creative Activities Week, Hays, KS, April 2011
  18. Gray, M.†, H. Tetreault†, C. Rodewald\*, S. Baer, **B. Maricle**, P. St. Amand, E. Akhunov, K. Garrett, T. Morgan, L. Wheeler\*, R. Goad†, J. Olsen†; B. Guihua, L. Johnson. Local adaptation of the dominant prairie grass big bluestem: Contribution of genetics and environment to phenotype. Presented at the Ecological Genomics Symposium, Kansas City, MO, November 2010
  17. Johnson, L.C., **B.R. Maricle**, and S.G. Baer. Ecotypic variation of *Andropogon gerardii* across a precipitation gradient in midwest grasslands. Presented at Konza Prairie visitor's day, Manhattan, KS, September 2010
  16. Waring, E.F.† and **B.R. Maricle**. Effects of flooding on transpiration in *Sorghum halepense* (johnsongrass) and *Phragmites australis* (common reed). Presented at the Society of Wetland Scientists Annual Meeting, Salt Lake City, UT, June 2010
  15. Polacik, K.A.† and **B.R. Maricle**. Response to flooding in invasive saltcedar (*Tamarix*). Presented at the Kansas Native Plant Society Annual Wildflower Weekend, Pittsburgh, KS, September 2009
  14. Waring, E.F.† and **B.R. Maricle**. Differences in photosynthesis and respiration due to flooding in native and nonnative wetland grasses of central Kansas. Presented at the Society of Wetland Scientists Annual Meeting, Madison, WI, June 2009
  13. Polacik, K.A.† and **B.R. Maricle**. Response to flooding in invasive saltcedar (*Tamarix*). Presented at Fort Hays State University's Research and Creative Activities Week, Hays, KS, April 2009
  12. Waring, E.F.† and **B.R. Maricle**. Effects of flooding on light harvesting and CO<sub>2</sub> fixation in native and nonnative wetland grasses of central Kansas. Presented at Fort Hays State University's Research and Creative Activities Week, Hays, KS, April 2009 [**3rd place poster by a graduate student**]
  11. Polacik, K.A.† and **B.R. Maricle**. Response to flooding in invasive saltcedar (*Tamarix*). Presented at the Kansas Academy of Science Annual Meeting, Topeka, KS, March 2009
  10. Waring, E.F.† and **B.R. Maricle**. Effects of flooding on light harvesting and CO<sub>2</sub> fixation in native and nonnative wetland grasses of central Kansas. Presented at the Kansas Academy of Science Annual Meeting, Topeka, KS, March 2009
  9. Pfeifer, A.M.\*, R.W. Lee, and **B.R. Maricle**. Effects of diet, drugs, and activity levels on δ<sup>13</sup>C of breath and hair of humans. Presented at the Kansas Academy of Science Annual Meeting, Topeka, KS, March 2009
  8. **Maricle, B.R.**, J.R. Thomasson, J.L. Casey\*, J.J. Bitner†, J.L. Gorney†, C.M. Dasilva-Carvalho†, R.M. Shofner\*, E.V. Voznesenskaya, N.K. Koteyeva, and G.E. Edwards. Functional and

ecological leaf anatomy in grass leaves of the genus *Spartina*. Presented at Fort Hays State University's Research and Creative Activities Week, Hays, KS, April 2008

7. **Maricle, B.R.** and R.W. Lee. Respiration and oxygen transport in saltmarsh grasses in relation to elevational zonation. Presented at the American Society of Plant Biologists Annual Meeting, Seattle, WA, July 2005
6. **Maricle, B.R.**, O. Kiirats, G.E. Edwards, and R.W. Lee. Effects of salinity on photosynthesis in C<sub>4</sub> estuarine grasses. Presented at the Third International Conference on Invasive *Spartina*, San Francisco, CA, November 2004
5. Hellquist, C.E., R.W. Lee, **B.R. Maricle**, S. Riggs, and R.A. Black. Interactions of *Spartina anglica* with native plant and animal species in northern Puget Sound, WA, USA: an overview. National Estuarine Research Reserve System Mixer. Presented at the Estuarine Research Federation Biennial Conference, Seattle, WA, September 2003
4. **Maricle, B.R.** and R.W. Lee. Changes in carbon and nitrogen isotopic composition of C<sub>4</sub> estuarine grasses under different salinity levels. Presented at the Estuarine Research Federation Biennial Conference, Seattle, WA, September 2003
3. **Maricle, B.R.**, T. Tsuzaki\*, B.C. Bussiere\*, and R.W. Lee. Aerenchyma development in *Spartina alterniflora* and *S. anglica*: Differential responses to flooding and nutrient limitation. Presented at the Science and Engineering Research Symposium, Pullman, WA, March 2001
2. **Maricle, B.R.** and R.W. Lee. Aerenchyma development in *Spartina alterniflora* and *S. anglica*: Differential responses to flooding. Presented at the William R. Wiley Research Exposition, Pullman, WA, February 2001
1. **Maricle, B.R.** and J.L. Mena-Werth. The determination of circumstellar material around stars observed with the International Ultraviolet Explorer Satellite using asymmetries in the singly ionized magnesium *h* and *k* lines. Presented at the National Conference of Undergraduate Research, Rochester, NY, April 1999

## 9. Research Grants Received

- a. **Current Research Grants** (asterisks\* indicate undergraduate authors; daggers† indicate graduate student authors)

### **Kansas IDEa Network of Biomedical Research Excellence (K-INBRE)**

- 2016 Urban, A.D.\* and **B. R. Maricle**. Effect of lactic acid on enzymes of respiration in catfish tissue. K-INBRE Star Trainee Program, \$7000
- 2016 Quispe, N.C.\* and **B.R. Maricle**. Effect of lactic acid on enzymes of respiration in catfish tissue. K-INBRE Summer Scholars Program, \$4000
- 2016 Urban, A.D.\*, N.C. Quispe\*, and **B. R. Maricle**. Effect of lactic acid on enzymes of respiration in catfish liver and muscle tissues. K-INBRE Minigrant, \$2863
- 2016 Oraemesi, I.S.† and **B. R. Maricle**. Biodiesel production from the green algae *Botryococcus braunii*, *Chlorella vulgaris*, and *Scenedesmus obliquus*. K-INBRE Minigrant, \$2709

### **Kansas Academy of Science**

- 2015 Urban, A.D.\* and **B.R. Maricle**. Effect of lactic acid on enzymes of respiration in catfish tissue. KAS Student Research Grant, \$1000

### **Fort Hays State University**

- 2016 **Maricle, B.R.** Evolution of drought and herbivory tolerance in big bluestem ecotypes. FHSU Undergraduate Research Experience (URE) application, \$2201

**b. Pending Research Grants** (asterisks\* indicate undergraduate authors; daggers† indicate graduate student authors)

**National Science Foundation**

- 2016 Johnson, L.C., D.C. Hartnett, N. Bello, **B.R. Maricle**, and S.G. Baer. Linking land use, evolution, and ecosystem processes: Does rapid plant evolution in response to grazing influence ecosystem processes in grasslands? NSF Division of Ecosystems, pre-proposal
- 2016 Johnson, L.C., **B.R. Maricle**, S.G. Baer, N. Bello, and D.J. Gibson. Biotic and abiotic forces in shaping local adaptation of ecotypes in a foundation grass species across a Great Plains' climate gradient. NSF Division of Integrative Organismal Systems, pre-proposal

**United States Department of Agriculture**

- 2015 Johnson, L.C., S. Brown, N. Bello, J. Poland, S.G. Baer, and **B.R. Maricle**. Transcription variation in response to drought in ecotypes of the forage grass big bluestem (*Andropogon gerardii*) in Midwest grasslands. Plant Health and Production and Plant Products, Program Area Priority – Understanding Biological Mechanisms for Plant Production (code A1101), \$500,000

**c. Past Research Grants** (asterisks\* indicate undergraduate authors; daggers† indicate graduate student authors)

**National Science Foundation**

- 2004 Lee, R.W. and **B.R. Maricle**. DISSERTATION RESEARCH: Mechanisms of anoxia tolerance in marsh grasses in the genus *Spartina* (Poaceae). National Science Foundation Doctoral Dissertation Improvement Grant DEB-0508833, \$8542

**U.S. Environmental Protection Agency**

- 2012 Caudle, K.L.\* and **B.R. Maricle**. Fall 2012 EPA Environmental Protection Agency Greater Research Opportunities (GRO) Fellowships for Undergraduate Environmental Study, \$36,796
- 2001 Lee, R. W. and **B.R. Maricle**. Physiological mechanisms of estuarine sediment oxidation by *Spartina* cordgrasses. U.S. Environmental Protection Agency Joint Program in Phytoremediation, \$110,307

**United States Department of Agriculture**

- 2010 **Maricle, B.R.** Ecotypic variation of *Andropogon gerardii* across a precipitation gradient in Midwest grasslands. Subaward from USDA Plant Biology Abiotic Stress program, \$35,545

**Li-Cor Biosciences, Inc.**

- 2008 **Maricle, B.R.** Application for LI-6400 XTR package through the Li-Cor Environmental Education Fund (LEEF) program, \$71,850

**American Society of Plant Biologists**

- 2012 Caudle, K.L.\* and **B.R. Maricle**. Genetic and environmental influence on physiological drought tolerance in big bluestem. American Society of Plant Biologists Summer Undergraduate Research Fellowship (SURF), \$4700

**Botanical Society of America**

- 2011 Caudle, K.L.\* and **B.R. Maricle**. Does soil nitrogen facilitate invasive potential of non-native grasses? Effects of NO<sub>3</sub><sup>-</sup> concentration on nitrogen uptake rates, assimilation, and photosynthesis in native and introduced grasses. Botanical Society of America Undergraduate Student Research Award, \$200

### **Weed Science Society of America**

- 2013 Caudle, K.L.\* and **B.R. Maricle**. Can anatomical advantages increase invasive potential of introduced species in native marshes following an oil spill? Influence of spilled oil on root anatomy in native and introduced marsh grasses. Weed Science Society of America Undergraduate Research Award, \$967
- 2012 Caudle, K.L.\* and **B.R. Maricle**. Does salinity tolerance encourage invasiveness in marsh communities? How physiological advantages of the invasive saltcedar *Tamarix ramosissima* impact a Kansas salt marsh. Weed Science Society of America Undergraduate Research Award, \$1000
- 2011 Caudle, K.L.\* and **B.R. Maricle**. Does soil nitrogen facilitate invasive potential? Effects of NO<sub>3</sub><sup>-</sup> concentration on N uptake rates, assimilation, and photosynthesis in native and introduced grasses. Weed Science Society of America Undergraduate Research Award, \$1000

### **Society of Wetland Scientists**

- 2012 Caudle, K.L.\* and **B.R. Maricle**. Physiological, anatomical, and ecological responses of salt marsh communities to spilled oil using experimental mesocosms. Society of Wetland Scientists Student Research Grant, \$989

### **Prairie Biotic Research, Inc.**

- 2014 McCampbell, B.C.† and **B.R. Maricle**. Ecology of biological soil crusts on the prairie. Prairie Biotic Research, Inc., Small Grant Proposal, \$1000

### **Kansas Academy of Science**

- 2015 Tamang, T.M.† and **B.R. Maricle**. Determination of evolutionary history of big bluestem ecotypes through chloroplast DNA analysis. KAS Student Research Grant, \$1500
- 2014 Hilt, C.J.\* and **B.R. Maricle**. Evolution of anatomical drought tolerance in an important prairie grass. KAS Student Research Grant, \$1000
- 2014 Smart, C.M.\* and **B.R. Maricle**. Anatomical and physiological salinity tolerance in native and non-native salt marsh species in Kansas. KAS Student Research Grant, \$1000
- 2013 Martin, N.M.\* and **B.R. Maricle**. Effect of sulfide toxicity on cytochrome *c* oxidase activity in plant mitochondria. KAS Student Research Grant, \$1000
- 2011 Caudle, K.L.\* and **B.R. Maricle**. Does spilled oil induce anaerobic soil conditions in coastal wetlands? Effects of oil deposition on respiration and photosynthesis in coastal native and introduced wetland grasses. KAS Student Research Grant, \$1000
- 2009 Waring, E.F.† and **B.R. Maricle**. Mechanisms of cold-tolerance in C<sub>4</sub> photosynthetic plants. KAS Student Research Grant, \$1000
- 2009 Polacik, K.A.† and **B.R. Maricle**. Response to flooding in invasive salt cedar (*Tamarix*). KAS Student Research Grant, \$922

### **Kansas IDEa Network of Biomedical Research Excellence (K-INBRE)**

- 2015 Tamang, T.M.† and **B.R. Maricle**. Determination of evolutionary history of big bluestem ecotypes through chloroplast DNA analysis. K-INBRE Minigrant, \$4000
- 2015 Martin, N.M.\*, Y, Kobayashi, and **B.R. Maricle**. How sulfide toxicity influences enzymes of respiration in plants. K-INBRE Star Trainee Program, \$7000
- 2015 Urban, A.D.\*, Y, Kobayashi, and **B. R. Maricle**. Effect of lactic acid on enzymes of respiration in catfish tissue. K-INBRE Summer/Semester Scholars Program, \$4000

- 2014 Martin, N.M.\* and **B.R. Maricle**. How sulfide toxicity influences enzymes of respiration in plants. K-INBRE Summer Scholars Program, \$4000
- 2014 Urban, A.D.\* and **B. R. Maricle**. Effect of lactic acid on anaerobic respiration in catfish muscle. K-INBRE Minigrant, \$1853
- 2014 Martin, N.M.\* and **B. R. Maricle**. Effect of sulfide on cytochrome *c* oxidase in catfish muscle. K-INBRE Minigrant, \$3465
- 2014 **Maricle, B.R.** Anatomical mechanisms of drought and salinity tolerance in Kansas plants. Request for K-INBRE carryover funds, \$3310
- 2013 Martin, N.M.\* and **B.R. Maricle**. Effect of sulfide toxicity on enzymes of respiration in plants. K-INBRE Summer Scholars Program, \$4000
- 2013 **Maricle, B.R.** and N.M. Martin\*. Effects of sulfide toxicity on enzymes of respiration in plants. K-INBRE Minigrant, \$1187
- 2012 Biggs, T.N.\* and **B.R. Maricle**. Effect of ethanol toxicity on enzymes of respiration and carbon metabolism in plants. K-INBRE Summer Scholars Program, \$4000

#### **Washington State Department of Ecology**

- 2001 **Maricle, B.R.** Physiological assessments of vigor in Pacific estuary invaders *Spartina alterniflora* and *S. anglica*: How effective is mowing as a control agent? Washington State Department of Ecology Research Assistantship, \$5000

#### **Fort Hays State University**

- 2016 **Maricle, B.R.** Work with students in botanical research. FHSU Faculty Summer Research and Creative Activity Grant, \$4299
- 2016 **Maricle, B.R.** Request for travel money. FHSU Faculty/Staff Development Plan, \$1800
- 2015 **Maricle, B.R.** Characterization of herbivore resistance and fatty acid biosynthesis in plants. FHSU Undergraduate Research Experience (URE) application, \$1000
- 2015 Stephenson, R.J., J.A. Gleichsner, **B.R. Maricle**, and M.J. Greer. Faculty teaching grant award. FHSU College of Health and Life Sciences, \$500
- 2015 **Maricle, B.R.** Genetic and environmental influences on physiological and anatomical drought tolerance in big bluestem. FHSU Faculty Summer Research and Creative Activity Grant, \$4193
- 2015 **Maricle, B.R.** Request for travel money. FHSU Faculty/Staff Development Plan, \$1700
- 2014 **Maricle, B.R.** Mechanisms of drought and salinity tolerance in Kansas plants. FHSU Undergraduate Research Experience (URE) application, \$1694
- 2014 **Maricle, B.R.** Funding for Heinrichs Undergraduate Research Mentor Award, \$500
- 2014 **Maricle, B.R.** Mechanisms of drought tolerance in ecotypes of big bluestem. Dane G. Hansen Funds to support work in northwestern Kansas, \$2720
- 2014 **Maricle, B.R.** Request for travel money. FHSU Faculty/Staff Development Plan, \$1400
- 2014 **Maricle, B.R.** Genetic and environmental influences on physiological and anatomical drought tolerance in big bluestem. FHSU Faculty Summer Research and Creative Activity Grant, \$3974
- 2013 **Maricle, B.R.** Mechanisms of drought tolerance in ecotypes of big bluestem. FHSU Undergraduate Research Experience (URE) application, \$1575
- 2012 **Maricle, B.R.** Effect of ethanol toxicity on enzymes of respiration and carbon metabolism in plants. FHSU Undergraduate Research Experience (URE) application, \$1500

- 2012 **Maricle, B.R.** Genetic and environmental influence on physiological drought tolerance in big bluestem. FHSU Faculty Summer Research and Creative Activity Grant, \$3467
- 2012 **Maricle, B.R.** Request for travel money. FHSU Faculty/Staff Development Plan, \$1200
- 2011 **Maricle, B.R.** Physiological and ecological effects of oil spills on coastal marsh plants. FHSU Undergraduate Research Experience (URE) application, \$1500
- 2011 **Maricle, B.R.** Precipitation manipulation and its role on photosynthesis and water potential in mixed-grass prairie grasses. FHSU Faculty Summer Research and Creative Activity Grant, \$3293
- 2011 **Maricle, B.R.** Request for travel money. FHSU Faculty/Staff Development Plan, \$775
- 2010 **Maricle, B.R.** Effects of oil spills and nitrogen pollutants on coastal and wetland plants. FHSU Undergraduate Research Experience (URE) application, \$1500
- 2010 **Maricle, B.R.** Funding for FHSU Masters II Graduate Faculty designation, \$500
- 2010 **Maricle, B.R.** Effects of water on photosynthesis in mixed-grass prairie grasses. FHSU Faculty Summer Research and Creative Activity Grant, \$3261
- 2009 **Maricle, B.R.** Effects of water on photosynthesis in mixed-grass prairie grasses. FHSU Graduate School Small Research Grant, \$1719
- 2009 Waring, E.F.<sup>†</sup> and **B.R. Maricle**. Mechanisms of cold-tolerance in C<sub>4</sub> photosynthetic plants. FHSU Graduate School Mini-Grant, \$249
- 2009 Waring, E.F.<sup>†</sup> and **B.R. Maricle**. Effects of flooding on photosynthesis and respiration in native and invasive wetland grasses of central Kansas. FHSU Graduate School Travel Grant, \$250
- 2009 Polacik, K.A.<sup>†</sup> and **B.R. Maricle**. Response to flooding in invasive salt cedar (*Tamarix*). FHSU Graduate School Mini-Grant, \$200
- 2008 **Maricle, B.R.** Mechanisms of chilling-tolerant C<sub>4</sub> photosynthesis in marsh grasses. FHSU Graduate School Small Research Grant, \$1190
- 2008 **Maricle, B.R.** Request for travel money. FHSU Faculty/Staff Development Plan, \$516
- 2007 **Maricle, B.R.** Physiological and ecological assessments of water stress in riparian trees. FHSU Graduate School Small Research Grant, \$4798
- 2007 **Maricle, B.R.** Request for travel money. FHSU Faculty/Staff Development Plan, \$600
- 2007 **Maricle, B.R.** Faculty teaching grant award. FHSU College of Health and Life Sciences, \$500
- 2006 **Maricle, B.R.** Physiological and biochemical mechanisms of flooding tolerance in plants. FHSU Graduate School Small Research Grant, \$740
- 2006 **Maricle, B.R.** Request for travel money. FHSU Faculty/Staff Development Plan, \$825

**Washington State University**

- 2006 **Maricle, B.R.** Environmental regulation of species distribution in Washington salt marshes. Betty W. Higinbotham Trust for off-campus training and research, \$975
- 2005 **Maricle, B.R.** Physiological mechanisms of anoxia tolerance in marsh grasses in the genus *Spartina* (Poaceae). Betty W. Higinbotham Trust for off-campus training and research, \$1028
- 2005 **Maricle, B.R.** Physiological mechanisms of anoxia tolerance in marsh grasses in the genus *Spartina* (Poaceae). WSU Orlin and Susann Biddulph Summer Research Award, \$1000

- 2004 **Maricle, B.R.** What makes a successful estuarine mudflat invader? Comparative hypoxia- and salt-stress physiology of introduced *Spartina* and native *Distichlis spicata* (Poaceae). WSU Betty W. Higinbotham Trust for off-campus training and research, \$1933
- 2004 **Maricle, B.R.** The physiology of an estuarine invader: What makes introduced *Spartina* so successful? WSU Orlin and Susann Biddulph Summer Research Award, \$1000
- 2003 **Maricle, B.R.** Oxygenation of sediment by *Spartina* marsh grasses: Facilitation of pollutant degradation. WSU Noe Higinbotham Endowment in Botany, \$500
- 2002 **Maricle, B.R.** Aerenchyma development and oxygen transport in the estuarine cordgrasses *Spartina alterniflora* and *S. anglica*. WSU Graduate School Travel Grant, \$270
- 2002 **Maricle, B.R.** What makes a successful estuarine invader? Comparative hypoxia- and salt-stress physiology of introduced *Spartina* and native West-Coast estuarine vegetation. WSU Betty W. Higinbotham Trust for off-campus training and research, \$1824
- 2001 **Maricle, B.R.** Aerenchyma formation and function in Pacific estuary invaders *Spartina alterniflora* and *S. anglica*: Physiological adaptations to hypoxia. WSU Betty W. Higinbotham Trust for off-campus training and research, \$2620

## 10. Honors and Distinctions

### a. Professional Distinctions

- 2016 Finalist, Fort Hays State University Navigator Award for academic advising
- 2016 Nominee, Faculty/Staff of the Month, Golden Plains Chapter of the National Residence Hall Honorary
- 2015 Outstanding Academic Advising Award Winner, Faculty Advising Category, National Academic Advising Association
- 2014 FHSU Heinrichs Outstanding Undergraduate Research Mentor
- 2014 FHSU Edmund Shearer Academic Advisor of the Year
- 2012 Nominee, Botanical Society of America Charles Edwin Bessey Teaching Award
- 2010 Nominee, Fort Hays State University Pilot Award for teaching excellence
- 2009-2010 Outstanding Thesis/Field Study Chair, Fort Hays State University Graduate School
- 2009 Outstanding Research Award, Fort Hays State University, Spring 2009
- 2008-2009 Outstanding Scholarship Award, FHSU College of Health and Life Sciences

### b. Academic Honors

- 2006 Graduated Summa Cum Laude, Ph.D. in Botany, WSU
- 2002 Graduated Summa Cum Laude, M.S. in Botany, WSU
- 2000-2006 Dean's List, Washington State University
- 2000 Selected as Outstanding Graduating Senior by the UNK Department of Biology
- 2000 Graduated Summa Cum Laude, B.S. in Biology, UNK
- 1996-2000 Dean's List, University of Nebraska at Kearney
- 1996-2000 Member of UNK Honors Program

### c. Professional Affiliations

- American Society of Plant Biologists (member 2001 - present)

Botanical Society of America (member 2008 - present)

Ecological Society of America (member 2004 - present)

Kansas Academy of Science (member 2009 - present; Lifetime member)

**d. Current and Recent Collaborators (since 2006)**

Peter B. Adler, Department of Wildland Resources and the Ecology Center, Utah State University, Logan, UT

Eduard D. Akhunov, Department of Plant Pathology, Kansas State University, Manhattan, KS

Sara G. Baer, Department of Plant Biology, Southern Illinois University, Carbondale, IL

Nora M. Bello, Department of Statistics, Kansas State University, Manhattan, KS

R. Alan Black, School of Biological Sciences, Washington State University, Pullman, WA

Susan J. Brown, Division of Biology, Kansas State University, Manhattan, KS

Colin S. Campbell, Decagon Devices, Inc., Pullman, WA

Michael D. Casler, USDA-ARS, U.S. Dairy Forage Research Center, Madison, WI

Douglas R. Cobos, Decagon Devices, Inc., Pullman, WA

Gerald E. Edwards, School of Biological Sciences, Washington State University, Pullman, WA

Karen A. Garrett, Department of Plant Pathology, Kansas State University, Manhattan, KS

David J. Gibson, Department of Plant Biology, Southern Illinois University, Carbondale, IL

Jack A. Gilbert, Argonne National Laboratory, Argonne, IL

Keith R. Harmony, Kansas State University Ag Research Center, Hays, KS

David C. Hartnett, Division of Biology, Kansas State University, Manhattan, KS

C. Eric Hellquist, Department of Biological Sciences, Oswego State University, Oswego, NY

Loretta C. Johnson, Division of Biology, Kansas State University, Manhattan, KS

Ari Jumpponen, Division of Biology, Kansas State University, Manhattan, KS

Olavi Kiirats, School of Biological Sciences, Washington State University, Pullman, WA

Mary Knapp, Department of Agronomy, Kansas State University, Manhattan, KS

Yasuhiro Kobayashi, Department of Biological Sciences, Fort Hays State University, Hays, KS

Nouria K. Koteyeva, Laboratory of Anatomy and Morphology, V. L. Komarov Botanical Institute of Russian Academy of Sciences, St. Petersburg, Russia

Maurice S. B. Ku, Graduate Institute of Agricultural Biotechnology, Center of Agricultural Biotechnology, National Chiayi University, Chiayi, Taiwan

Jordana J. LaFantasie, Department of Biological Sciences, Fort Hays State University, Hays, KS

Raymond W. Lee, School of Biological Sciences, Washington State University, Pullman, WA

Carolyn M. Malmstrom, Department of Plant Biology, Michigan State University, East Lansing, MI

Theodore J. Morgan, Division of Biology, Kansas State University, Manhattan, KS

Jesse Poland, Department of Agronomy, Kansas State University, Manhattan, KS

Kevin P. Price, Department of Agronomy, Kansas State University, Manhattan, KS

Dorith Rotenberg, Department of Plant Pathology, Kansas State University, Manhattan, KS

Paul St. Amand, United States Department of Agriculture, Agricultural Research Service, Hard Winter Wheat Genetics Research Unit, Manhattan, KS

Aavudai A. Swami, Department of Agronomy, Kansas State University, Manhattan, KS

Les J. Szabo, Cereal Disease Laboratory, USDA Agricultural Research Service, St. Paul, MN

Joseph R. Thomasson, Department of Biological Sciences, Fort Hays State University, Hays, KS

Elena V. Voznesenskaya, Laboratory of Anatomy and Morphology, V. L. Komarov Botanical Institute of Russian Academy of Sciences, St. Petersburg, Russia

Donghai Wang, Department of Biological and Agricultural Engineering, Kansas State University, Manhattan, KS

Anna E. Whitfield, Department of Plant Pathology, Kansas State University, Manhattan, KS

Samuel R. Zwenger, Department of Biological Sciences, Fort Hays State University, Hays, KS

## 11. Community Service

**Maricle, B.R.**, T. Mannell, and J.T. Olsen. Tree/shrub identification and sampling. Sternberg's Wildlife Explorer's Camp for students in third to eighth grade, August 2010

Work with the FHSU Biology club to develop an outdoor classroom at the Sternberg Museum of Natural History (Spring 2007 to Spring 2009)

Presentations to a lay audience:

**Maricle, B.R.** Responses of plants to abiotic stress. Invited presentation at the Phi Kappa Phi Honors Society Induction Ceremony, Fort Hays State University, Hays, KS, April 2012

**Maricle, B.R.** Wetland vegetation. Invited seminar presented at the Cheyenne Bottoms "Wetlanders" Festival, Hoisington, KS, April 2007

## 12. References

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