

CURRICULUM VITAE

SARA G. BAER

Department of Plant Biology & Center for Ecology
Southern Illinois University
Carbondale, Illinois 62901-6509
Phone (618) 453-3226
Fax (618) 453-3441
sgbaer@siu.edu
<http://www.plant.siu.edu/Faculty/Baer/index.html>

I. EDUCATION

- 1997-2001 Ph.D., Biology, Kansas State University, Manhattan, KS
1992-1995 M.S., Entomology, University of Georgia, Athens, GA
1988-1992 B.S., Biology (Chemistry minor), University of North Texas, Denton, TX

II. PROFESSIONAL EXPERIENCE

- 2016- Acting Chair, Department of Plant Biology, Southern Illinois University
2014- Professor, Department of Plant Biology, Southern Illinois University
2011- Director, Core Facility for Ecological Analyses, Southern Illinois University
2009-14 Associate Professor, Department of Plant Biology, Southern Illinois University
2004-09 Assistant Professor, Department of Plant Biology, Southern Illinois University
2001-09 Adjunct Assistant Professor, Department of Forestry, Southern Illinois University
2005-08 Graduate Faculty, Division of Biology, Kansas State University
2001-04 Assistant Scientist, Department of Forestry, Southern Illinois University
2001-04 Executive Director, Green Earth, Inc., Carbondale, IL
1997-00 Graduate Research Assistant, Department of Biology, Kansas State University
1997-00 Graduate Teaching Assistant, Department of Biology, Kansas State University
1996-97 Conservation Technician, Nebraska Game and Parks Commission
1995-97 Part-time Instructor, Department of Math and Science, Wayne State College
1994-95 Research Technician for E. P. Odum, Institute of Ecology, University of Georgia
1994-95 Graduate Research Assistant, Department of Entomology, University of Georgia
1992-94 Graduate Teaching Assistant, Department of Entomology, University of Georgia
1990-92 Field Research Assistant, Water Research Field Station, University of North Texas

Honors and Awards

- 2015 Women of Distinction, Faculty and Staff Excellence Award Program, Southern Illinois University
2014 Outstanding Young Alumni, College of Arts and Sciences, Kansas State University
2009 Annual meetings of the Natural Areas Association, Washington 1st Place Poster Competition (Undergraduate Research: K. Elsenbroek)
2007 St. Louis Undergraduate Research Symposium, 2nd place poster competition

- (Undergraduate Research: D. Dalzotto)
- 2006 Junior Faculty Research Award, A. W. Mellon Foundation
- 2005 Nominated for “A Showcase of Promising Scientists in Natural Resources” sponsored by the School of Natural Resources, University of Arizona
- 2003 Honorary Member, Xi Sigma Phi Forestry Honorary Society
- 1999 Outstanding Graduate Research in Biology, Kansas State University
- 1995 Outstanding Graduate Teaching Assistant, University of Georgia
- 1991-92 Meritum Chapter of Mortar Board, University of North Texas
- 1989-91 Gamma Beta Phi National Honor Society, University of North Texas

III. RESEARCH & TRAINING

Research Grants Received

- 2014-20 *Konza Prairie: Processes influencing community assembly.*
 PI: S. G. **Baer**
 Funding Agency: NSF-LTER
 Total Award: \$148,799 (Subcontract through Kansas State University)
- 2014-20 *LTER: Long-Term Research on Grassland Dynamics - Assessing Mechanisms of Sensitivity and Resilience to Global Change.*
 PIs: J. M. Blair, S. G. **Baer**, W. Dodds, A. Joern, and J. Nippert
 Funding Agency: NSF
 Total Award: \$6,762,000
- 2012-17 *LTREB Collaborative Research: Does ecological heterogeneity in space and time enhance biodiversity and ecosystem function in restored prairie?*
 PIs: S. G. **Baer**, S. L. Collins and J. M. Blair
 Funding Agency: NSF
 Total Award: \$450,000 (SIU: \$318,914)
- 2009-14 *Community and ecosystem reassembly during tallgrass prairie restoration.*
 PI: S. G. **Baer**
 Funding Agency: NSF-LTER
 Total Award: \$148,000 (Subcontract through Kansas State University)
- 2008-13 *Ecotypic variation and functional response of an ecologically dominant species across a precipitation gradient and in response to altered precipitation: Test for local adaptation and ecosystem function.*
 Lead PI: L. Johnson (KSU)
 Funding agency: USDA – Plants and Abiotic Stress Program
 Total Award: \$394,439 (\$149,183 subcontract to S. G. **Baer** and D. J Gibson)
- 2008-11 *Genotype sorting as a mechanism for structuring plant communities.*
 PI: D. Gustafson
 Funding Agency: NSF-ROA Supplement Award to: Hierarchical consequences of intraspecific variation on community and ecosystem re-assembly

- PIs: S. G. **Baer** and D. J. Gibson subcontract to D. Gustafson (The Citadel)
Total Award: \$24,589 (100% to D. Gustafson)
- 2006-11 *Plant and environmental drivers of C₄ grassland development.*
PI: S. G. **Baer**
Funding Agency: The A. W. Mellon Foundation – Conservation and Environment Program
Total Award: \$286,000
- 2006-07 *Evaluation of soils and associated belowground resources in central Platte River sloughs.*
PIs: M.R. Whiles, S. G. **Baer**, and C. K. Meyer
Funding Agency: U.S. Fish & Wildlife Service through NE Game & Parks Commission
Total Award: \$33,380
- 2006-07 *Development of a hydrologic monitoring network and experimental design for the middle Mississippi River Field Station.*
PIs: M. R. Whiles, S.G. **Baer**, L. Battaglia, E. C. Hellgren, J. E. Garvey, G. Whitley, and K.W.J. Williard
Funding Agency: Southern Illinois University ORDA – Interdisciplinary Research
Total Award: \$54,554
- 2005-11 *Hierarchical consequences of intraspecific variation on community and ecosystem re-assembly.*
PIs: S. G. **Baer** and D. J. Gibson
Funding Agency: NSF – Ecological Biology Program
Total Award: \$445,000
- 2005-06 *Monitoring the effect of disturbance on the growth and development of planted giant cane to improve success of canebrake restoration.*
PIs: J. Zaczek, S. G. **Baer**, K. W. J. Williard, and J. Groninger
Funding Agency: Illinois Department of Natural Resources
Total Award: \$9,940
- 2005 *Effects of dominant species selection and seed diversity on restored prairie community structure and ecosystem function.*
PI: S. G. **Baer**
Funding Agency: Southern Illinois University, ORDA Faculty Seed Grant
Total Award: \$19,746
- 2004-07 *Filters on community and ecosystem reassembly: source population and dominance selection during tallgrass prairie restoration.*
PI: S. G. **Baer**.
Funding Agency: NSF-LTER Subcontract through Kansas State University
Total Award: \$80,746
- 2003-05 *Biological evaluation of central Platte River slough wetland restorations.*

- PIs: M. R. Whiles, B. S. Goldowitz, S. G. **Baer**, and C. K. Meyer
 Funding Agency: United States Fish and Wildlife Service
 Total Award: \$41,332
- 2003-04 *Bottomland forest health in the lower Kaskaskia River region.*
 PIs: K. W. J. Williard, S. G. **Baer**, J. J. Zaczek, J. C. Mangun, and C. M. Ruffner
 Funding Agency: Illinois Department of Natural Resources - Conservation 2000
 Ecosystem Partnership
 Total Award: \$156,105
- 2003-04 *Watershed Management Planning for Rayse Creek.*
 PIs: K. W. J. Williard, J. C. Mangun, S. G. **Baer**, and J. J. Zaczek
 Funding Agency: Illinois Environmental Protection Agency, Section 319(h) Nonpoint
 Source Pollution Control Program
 Total Award: \$50,000
- 2002-03 *Integrating management and outreach for bottomland forest regeneration in the
 Lower Kaskaskia River region.*
 PIs: K. Williard, J. Zaczek, S. G. **Baer**, A. Carver, J. Mangun
 Funding Agency: Illinois Department of Natural Resources, Conservation 2000
 Program Total Award: \$28,383
- 1999 *Assessment of soil quality recovery in the Conservation Reserve Program.*
 PIs: S. G. **Baer** and J. M. Blair
 Funding Agency: Nebraska Game and Parks Commission
 Total Award: \$3,000

Research Training Grants Received

- 2013-16 *REU Convergence Ecology – Research Experience for Undergraduates in Ecological
 Diversity across Systems and Disciplines*
 PIs: C. Nielsen and S. G. **Baer**
 Funding Agency: National Science Foundation
 Award: \$353,666
- 2014 *Nachusa Grassland: SIU Center for Ecology Intern, 2014*
 PI: S. G. **Baer**
 Funding Agency: The Nature Conservancy
 Award: \$3,465
- 2013 *Nachusa Grassland: SIU Center for Ecology Intern, 2013*
 PI: S. G. **Baer**
 Funding Agency: The Nature Conservancy
 Award: \$3,213
- 2010-13 *Center for Ecology Statewide Land Management Internship Program: continuation.*
 PIs: S. G. **Baer**, D. J. Gibson, J. Groninger, and M. R. Whiles
 Funding Agency: Illinois Clean Energy Community Foundation

- Award: \$67,630
- 2013 *Natural areas management internship program.*
PIs: C. Nielson, M. R. Whiles, S. G. **Baer**, and J. Groninger
Funding Agency: Illinois Department of Natural Resources
Award: \$12,455 (Cumulative award \$79,514)
- 2012 *Nachusa Grassland: SIU Center for Ecology Intern, 2012*
PI: S. G. **Baer**
Funding Agency: The Nature Conservancy
Award: \$3,213
- 2012 *Natural areas management internship program.*
PIs: C. Nielson, M. R. Whiles, S. G. **Baer**, and J. Groninger
Funding Agency: Illinois Department of Natural Resources
Award: \$12,353
- 2011 *Natural areas management internship program.*
PIs: M. R. Whiles, S. G. **Baer**, D. J. Gibson, and J. Groninger.
Funding Agency: Illinois Department of Natural Resources
Award: \$12,353
- 2010 *Natural areas management internship program.*
PIs: M. R. Whiles, S. G. **Baer**, D. J. Gibson, and J. Groninger.
Funding Agency: Illinois Department of Natural Resources
Award: \$12,353
- 2009-13 *IGERT: Multidisciplinary, Team-based Training in Watershed science and policy.*
PIs: N. Pinter, C. Lant, M. Whiles, L. Chevalier, and S. G. **Baer** (replacement PI)
Funding Agency: NSF
Total award: \$3,198,836
- 2008 *Continuation of a statewide natural land management program – Years 2 and 3.*
PIs: S. G. **Baer**, D. J. Gibson, J. Groninger, and M. R. Whiles.
Funding Agency: Illinois Clean Energy Community Foundation
Total Award: \$56,266
- 2008 *Center for Ecology IDNR Undergraduate Internships.*
PIs: M. R. Whiles, S. G. **Baer**, D. J. Gibson, and J. Groninger.
Funding Agency: Illinois Department of Natural Resources
Total Award: \$10,000
Funding period: 1 year
- 2007 *Statewide natural land management program.*
PIs: D. J. Gibson, M.R. Whiles, S. G. **Baer**, and J. Groninger.
Funding Agency: Illinois Clean Energy Community Foundation
Total Award: \$10,000

- 2006 *Center for Ecology IDNR Undergraduate Internships.*
 PIs: D. J. Gibson, M.R. Whiles, S.G. **Baer**, and J. Groninger.
 Funding agency: Illinois Department of Natural Resources
 Total Award: \$10,000
- 2005 *Center for Ecology IDNR Undergraduate Internships.*
 PIs: D. J. Gibson, M. R. Whiles, and S. G. **Baer**.
 Funding agency: Illinois Department of Natural Resources
 Total Award: \$10,000

Peer-Reviewed Publications (authorship is in order of contribution [for most articles];
underlined names = students mentored by Sara Baer)

Submitted

Manning, G., S. G. Baer and J. M. Blair. Effects of grazing and fire frequency on soil and floristic quality in tallgrass prairie: benchmarks for restoration. Submitted to *Environmental Management*. Acceptance pending revision.

Published

69. Smith, A. B., J. Alsdurf, M. Knapp, S. G. Baer, and L. C. Johnson. **In press.** Phenotypic distribution models corroborate species distribution models: A shift in the role and prevalence of a dominant prairie grass in response to climate change. Submitted to *Global Change Biology*
68. Klopf, R. P., S. G. **Baer**, E. M. Bach, and J. Six. **In press.** Restoration and management for high plant diversity enhances belowground ecosystem recovery from disturbance. *Ecological Applications Communications*
67. Walia, M. K., S. G. **Baer**, and R. L. Cook. **In press.** Deep soil carbon after 44 years of tillage and fertilizer management in southern Illinois compared to forest and restored prairie soils. *Journal of Soil and Water Conservation*
66. Scott, D. A., S. G. **Baer**, and J. M. Blair. **2017.** Recovery and relative influence of root, microbial, and structural properties of soil on physically sequestered carbon stocks in restored grassland. *Soil Science Society of America Journal Online*: doi:10.2136/sssaj2016.05.0158
65. Gibson, D. J, J. M. Donatelli, A. AbuGhazaleh, S. G. **Baer**, and L. C. Johnson. **2016.** Ecotypic variation in forage nutrient value of a dominant prairie grass across a precipitation gradient. *Grassland Science* 62: 233–242.
64. **Baer**, S. G. **2016.** Nutrients as determinants and endpoints in ecological restoration. In M. A. Palmer, J. Zedler, and D. Falk (editors). *Foundations of Restoration Ecology*, 2nd edition. Island Press: Washington D.C.
63. Khalil, M. I., D. J. Gibson, and S. G. **Baer**. **2016.** Population source of dominant species differentially affect community phylogenetic structure in a grassland restoration. *Journal of Applied Ecology* Published online doi: 10.1111/1365-2664.12743

62. Birgé, H. E., R. A. Bevens, D. G. Angeler, C. R. Allen, S. G. **Baer**, and D. H. Wall. **2016**. Adaptive management for soil ecosystem services. *Journal of Environmental Management* 183: 371-378.
61. Weathers, K. C., P. M. Groffman, P. M., E. Van Dolah, E. Bernhardt, N. Grimm, K. McMahon, J. Schimel, M. Paolisso, R. Maranger, S. **Baer**, K. Brauman, and E. Hinkley. **2016**. Frontiers in ecosystem ecology from an interdisciplinary perspective: the future is boundless and bright. *Ecosystems* 19: 753-770.
60. Wilson, L. D. J. Gibson, S. G. **Baer**, L. C. Johnson. **2016**. Plant community response to regional sources of dominant grasses in grasslands restored across a longitudinal gradient. *Ecosphere* Volume 7(4) Article e01329
59. **Baer**, S. G., J. M. Blair, and S. L. Collins. **2016**. Environmental heterogeneity has a weak effect on diversity during community assembly in tallgrass prairie. *Ecological Monographs* 86: 94-106.
58. Rosenzweig, S., M. Carson, S. G. **Baer**, and J. M. Blair. **2016**. Changes in soil properties, microbial biomass, and fluxes of C and N in soil following post-agricultural grassland restoration. *Journal of Applied Soil Ecology* 100:186–194.
57. Johnson, L., J. Olsen, H. Tetreault, N. M. Bello, A. DeLa Cruz, A. Landau, J. Bryant, T. Morgan, M. Knapp, S. G. **Baer**, and B. R. Maricle. **2015**. Intraspecific variation of a dominant grass and local adaptation in reciprocal garden communities along a US Great Plains' precipitation gradient: Implications for grassland restoration with climate change. *Evolutionary Applications* 8:705-723.
56. Mendola, M. M., 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.
55. Wodika, B. R. and S. G. **Baer**. **2015**. If we build it will they colonize? A test of the field of dreams paradigm with soil macroinvertebrate communities. *Applied Soil Ecology* 91: 80-89.
54. **Baer**, S. G., E. M. Bach, C. K. Meyer, C. DuPreez, and J. Six. **2015**. Restoration of cultivated soil in the Free State (South Africa) and comparison to Nebraska (United States) provides a global perspective of belowground ecosystem recovery in response to grassland restoration. *Ecosystems* 18: 390-403.
53. Willand, J. E., S. G. **Baer**, and D. J. Gibson. **2015**. Propagule abundance and richness are equivalent or higher in communities restored with local ecotypes relative to cultivars of dominant species *Journal of Vegetation Science* 26: 421-430.
52. Gray, M., P. St. Amand, N. Bello, M. Galliard, M. Knapp, K. Garrett, T. Morgan, S. G. **Baer**, B. Maricle, E. Akhunov, and L. 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(24):6011-28.
51. Caudle, K. L., L. C. Johnson, S. G. **Baer**, and B. R. Maricle. **2014**. Comparing nondestructive and destructive methods of measuring leaf chlorophyll content: tracking changes in foliar chlorophyll of five *Andropogon gerardii* ecotypes (Poaceae). *Photosynthetica* 52:511-518.
50. Paudel, S., S. G. **Baer**, and L. L. Battaglia. **2014**. Vesicular arbuscular mycorrhizae (VAM) and success of *Triadica sebifera* invasion in coastal transition ecosystems along the northern Gulf of Mexico. *Plant and Soil* 378:377-349.

49. Wodika, B. R., S. G. **Baer**, and R. P. Klopf. **2014**. Colonization and recovery of invertebrate ecosystem engineers during prairie restoration. *Restoration Ecology* 22: 456-464.
48. Danny J. Gustafson, C. Major, D. Jones, J. Synovec, S. G. **Baer**, and D. J. Gibson. **2014**. Genetic sorting of subordinate species in grassland modulated by intraspecific variation in dominant species. *PlosOne* March 17, 2014. DOI: 10.1371/journal.pone.0091511
47. Klopf, R. P., S. G. **Baer**, and D. J. Gibson. **2014**. Convergent and contingent community responses to grass source and dominance during prairie restoration across a longitudinal gradient. *Environmental Management* **53**: 252-265.
46. **Baer**, S. G., D. J. Gibson, A. M. Benscoter, L. K. Reed, R. E. Campbell, R. P. Klopf, J. E. Willand, and B. R. Wodika. **2014**. No effect of seed source on multiple aspects of ecosystem functioning during ecological restoration: cultivars compared to local ecotypes of dominant grasses. *Evolutionary Applications* **7**:323-335.
45. Gibson, D. J., Sendor, G., J. Donatelli, S. G. **Baer**, and L. Johnson. **2013**. Fitness among population sources of a dominant species (*Andropogon gerardii* Vitman) used in prairie restoration. *Torrey Botanical Society* 140(3):269-279.
44. Olsen, J. T., K. L. Caudle, L. C. Johnson, S. G. **Baer**, and B. Maricle. **2013**. Environmental and genetic variation in leaf anatomy among populations of *Andropogon gerardii* (Poaceae) along a precipitation gradient. *American Journal of Botany* 100: 1-12.
43. Willand, J. E., S. G. **Baer**, D. J. Gibson, and R. P. Klopf. **2013**. Temporal dynamics of propagule sources for community regeneration during grassland establishment. *Plant Ecology* 214: 1169-1180.
42. Pinter, N., S. **Baer**, L. Chevalier, R. Kowlchuck, C. Lant, and M. Whiles. **2013**. An “IGERT” model for interdisciplinary doctoral education in water-related science and policy. *Journal of Contemporary Water Research & Education* 150: 53-62.
41. Considine, C.D., J.W. Groninger, C.M. Ruffner, M.D. Therrell, and S. G. **Baer**. **2013**. Black oak sand savanna stand structure as related to fire history. *Natural Areas Journal* 33: 10-20.
40. Gibson, D.J., S. G. **Baer**, R. P. Klopf, L. K. Reed, B. R. Wodika, B.R., and J. E. Willand. **2013**. Limited effects of dominant species population source on community composition during community assembly. *Journal of Vegetation Science* 24: 429-440. F1000Prime
39. **Baer**, Sara G. **2013**. Restoration Ecology. In *Oxford Bibliographies in Ecology*. Edited by David Gibson. New York: Oxford University Press. <http://www.oxfordbibliographies.com/>
38. **Baer**, S. G., L. Heneghan, and V. Eviner. **2012**. Applying soil ecological knowledge to restore ecosystem services. Pages 377-393 *Soil Ecology and Ecosystem Services*. Edited by Diana H. Wall, Richard D. Bardgett, Valerie Behan-Pelletier, Jeffrey E. Herrick, Hefin Jones, Karl Ritz, Johan Six, Donald R. Strong and William H. van der Putten. Oxford, UK: Oxford University Press.
37. Bach, E.M., S. G. **Baer**, and J. Six. **2012**. Plant and soil responses to high and low diversity restoration practices. *Environmental Management* 49:412-424.
36. Gibson, D. J., A. J. Alstadt, S. G. **Baer**, and M. Geisler. **2012**. Effects of foundation species genotypic diversity on subordinate species richness in an assembling community. *Oikos* 121: 496-507.
35. Gibson, D.J., J. Urban, and S. G. **Baer**. **2011**. Mowing and fertilizer effects on seedling establishment in a successional old field. *Journal of Plant Ecology* 4: 157-168.

34. Klopf, R. P. and S. G. **Baer**. **2011**. Root dynamics of cultivar and non-cultivar population sources of three dominant grasses during initial establishment of tallgrass prairie. *Restoration Ecology* 19: 112-117
33. Lambert, A. M., S. G. **Baer**, and D. J. Gibson. **2011**. Intraspecific variation in ecophysiology of three dominant prairie grasses used in restoration: cultivar vs. non-cultivar population sources. *Restoration Ecology* 19:43-52.
32. Bach, E. M., S. G. **Baer**, C. K. Meyer, and J. Six. **2010**. Soil microbial and structural recovery during grassland restoration on contrasting soil texture. *Soil Biology & Biochemistry* 42: 2182-2191.
31. **Baer**, S. G., C. K. Meyer, E. M. Bach, R. P. Klopf, and J. Six. **2010**. Contrasting ecosystem recovery on two soil textures: implications for carbon mitigation and grassland conservation. *Ecosphere* 1(1):art5. **FACULTY OF 1000**
30. McCain, K.N., S. G. **Baer**, J. M. Blair, and G. W. T. Wilson. **2010**. Dominant grasses suppress local diversity in restored tallgrass prairie. *Restoration Ecology* 18: 40-49.
29. Meyer, C.K., M. R. Whiles, and S. G. **Baer**. **2010**. Plant community recovery following restoration in temporally variable riparian wetlands. *Restoration Ecology* 18: 52-64.
28. Goldstein, C., K. Williard, J. E. Schoonover, J. W. Groninger, S. G. **Baer**, and J. M. Snyder. **2010**. Soil and groundwater nitrogen response to invasion by an exotic N-fixing shrub. *Journal of Environmental Quality* 39: 1077-1084.
27. Lee, J., J. W. Hopmans, D. E. Rolston, S. G. **Baer**, and J. Six. **2010**. Determining soil carbon stock changes: Simple bulk density corrections fail (vol 134, pg 251, 2009). *Agriculture Ecosystems & Environment* 138: 355-355.
26. Zaczek, J., S. G. **Baer**, and D. Dalzotto. **2010**. Fire and fertilization effects on the growth and spread of rhizome-transplanted giant cane (*Arundinaria gigantea*). *Restoration Ecology* 18: 462-468.
25. **Baer**, S. G., D. Engle, J. M. H. Knops, K. A. Langeland, B. D. Maxwell, F. D. Menalled, and A. Symstad. **2009**. Vulnerability of rehabilitated agricultural production systems to invasion by nontarget plant species. *Environmental Management* 43:189-196.
24. Battaglia, L. L., J. Denslow, J. Inzauskis, and S. G. **Baer**. **2009**. Effects of native vegetation on invasion success of Chinese tallow in a floating marsh ecosystem. *Journal of Ecology* 97: 239-246.
23. Blattel, C. R., K. W. J. Williard, S. G. **Baer**, J. E. Schoonover, and J. J. Zaczek. **2009**. Ground water nitrogen dynamics in Giant Cane and forest riparian buffers. *Castanea* 74: 259-270.
22. Lee, J., J. W. Hopmans, D. E. Rolston, S. G. **Baer**, and J. Six. **2009**. Determining soil carbon stock changes: Simple bulk density corrections fail. *Agriculture, Ecosystems & Environment* 134: 251-256
21. Zaczek J. , S. G. **Baer**, J. L. Hartleb, W. W. Brendecke, J. E. Schoonover, K. W. J. Williard, and J. W. Groninger. **2009**. Survival and genet growth and development of field-planted giant cane (*Arundinaria gigantea*) over time in southern Illinois. *Castanea* 74:286-299.
20. Romano, S. P., S. G. **Baer**, J. J. Zaczek, and K. W. J. Williard. **2009**. Site modeling methods for detecting hydrologic alteration of flood frequency and flood duration in the floodplain below the Carlyle Dam, Lower Kaskaskia River, Illinois, USA. *River Research and Applications* 25: 975-984.

19. Heneghan, L., S. Miller, S. **Baer**, M. A. Callaham, J. Montgomery, C. C. Rhoades, S. Richardson, M. Pauvo-Zuckerman. **2008**. Integrating soil ecological knowledge into restoration management. *Restoration Ecology* 16:608-617.
18. **Baer**, S. G. and J. M. Blair. **2008**. Grassland establishment under varying resource availability: A test of positive and negative feedback. *Ecology* 89:1859-1871.
17. Meyer, C. K., S. G. Baer, and M. R. Whiles. **2008**. Ecosystem recovery across a chronosequence of restored wetlands in the Platte River Valley. *Ecosystems* 11:193-208.
16. Crum, M. L., J. J. Zaczek, J. E. Preece, and S. G. **Baer**. **2007**. The impact of thinning and fertilization on sap sugar concentration and sap volume of silver maple (*Acer saccharinum* L.) Pages 269-275 in D. S. Buckley and W. K. Clatterbuck (editors), *Proceedings, 15th Central Hardwood Forest Conference*. Feb 27- March 1, 2006, Knoxville, TN. e-General Technical Report SRS-101, USDA Forest Service, Southern Research Station Asheville, NC.
15. **Baer**, S. G., J. M. Church, K. W. J. Williard, and J. W. Groninger. **2006**. Changes in intrasystem N cycling from N₂-fixing shrub encroachment in grassland: multiple positive feedbacks. *Agriculture, Ecosystems and Environment* 115:174-182.
14. **Baer**, S. G., S. L. Collins, J. M. Blair, A. K. Knapp and A. Fiedler. **2005**. Soil heterogeneity effects on tallgrass prairie community heterogeneity: An application of ecological theory to restoration ecology. *Restoration Ecology* 13:413-424.
13. Blattel, C. R., K. W. J. Williard, S. G. **Baer** and J. J. Zaczek. **2005**. Abatement of groundwater phosphate in giant cane and forest riparian buffers. *Journal of the American Water Resources Association* 41:301-307.
12. Zaczek, J. J., K. W. J. Williard, S. G. **Baer**, J. W. Groninger, and R. L. Sexton. **2005**. Propagation of giant cane (*Arundinaria gigantea*) using rhizome cuttings. *Proceedings of the International Plant Propagators Society* 54:408-411.
11. **Baer**, S. G., Blair, J. M., Collins, S. L., and A. K. Knapp. **2004**. Plant community responses to resource availability and heterogeneity during restoration. *Oecologia* 139:617-639.
10. **Baer**, S. G. and J. W. Groninger. **2004**. Herbicide and tillage effects on volunteer vegetation composition and diversity during reforestation. *Restoration Ecology* 12:258-267.
9. Groninger, J. W. and S. G. **Baer**. **2004**. Planted green ash (*Fraxinus pennsylvanica* Marsh.) and herbaceous vegetation responses to competition control during the first three years of afforestation *Forest Ecology and Management* 189:161-170.
8. Church, J.M., K.W.J. Williard, S. G. **Baer**, J.W. Groninger, and J.J. Zaczek. **2004**. Nitrogen leaching below riparian autumn olive during the dormant season. Pages 211-216 in D.A. Yaussey, D. Hix, R.P. Long, and G.P. Goebel (editors). *Proceedings, 14th Central Hardwood Forest Conference*, March 16-19, 2004, Wooster, OH. Gen. Tech. Report NE-316. U.S. Department of Agriculture. Forest Service. Northeastern Research Station, Newton Square, PA.
7. **Baer**, S. G., J. M. Blair, S. L. Collins, and A. K. Knapp. **2003**. Soil resources regulate productivity and diversity in newly established tallgrass prairie. *Ecology* 84:724-735.
6. Blattel, C.R., K.W.J. Williard, and S.G. **Baer**. **2003**. Groundwater phosphate attenuation by giant cane and forest riparian buffers. In: J.D. Williams and D. Kolpin, eds. *Proceedings of the American Water Resources Association, 2003 Spring Specialty Conference on Agricultural Hydrology and Water Quality*. May 12-14, 2003, Kansas City, MO.

5. Romano, S. P., J. J. Zaczek, K. W. J. Williard, S. G. **Baer**, A. D. Carver, and J. C. Mangun. **2003**. Riparian forest communities of the lower Kaskaskia River bottoms. Pages 169-176 in J. W. Van Sambeek, J. O. Dawson, F. Ponder, Jr., E. F. Louwenstein, and J. S. Fralish (editors), *Proceedings 13th Central Hardwood Forest Conference*, April 1-3, 2002, Champaign, IL. USDA Forest Service General Technical Report NC-234, North Central Research Station, St. Paul, MN.
4. **Baer**, S. G., D. J. Kitchen, J. M. Blair, and C. W. Rice. **2002**. Changes in ecosystem structure and function along a chronosequence of grasslands restored through the Conservation Reserve Program. *Ecological Applications* 12:1688-1701.
3. **Baer**, S. G., E. R. Siler, S. Eggert, and J. B. Wallace. **2001**. Colonization and production of macroinvertebrates on artificial substrates: upstream-downstream responses to a leaf litter exclusion manipulation. *Freshwater Biology* 46:347-365.
2. **Baer**, S. G., C. W. Rice, and J. M. Blair. **2000**. Assessment of soil quality in fields with short- and long term enrollment in the CRP. *Journal of Soil and Water Conservation* 55:142-146.
1. **Baer**, S. G., J. M. Blair, and A. K. Knapp. **1999**. Manipulation of soil resource heterogeneity in a tallgrass prairie restoration. *Proceedings of the North American Prairie Conference* 16:78-87.

Presentations

Invited Seminars

- 2016 New Mexico State University, Las Cruces, NM
- 2016 University of Kansas, Lawrence, KS
- 2015 University of Nebraska, Lincoln, NE
- 2015 St. Louis University
- 2015 Michigan State University – Kellogg Biological Station and LTER
- 2014 University of Louisville, Kentucky
- 2012 Sevilleta LTER REU Program, New Mexico
- 2012 University of Illinois, Champagne-Urbana
- 2011 University of Texas, Austin
- 2010 Cary Institute of Ecosystem Studies, Millbrook, NY
- 2010 Virginia Tech, Blacksburg, VA
- 2009 University of California, Davis
- 2009 University of North Texas
- 2009 University of Wisconsin
- 2008 Washington University, Tyson Biological Field Station
- 2007 Kansas State University, Division of Biology
- 2007 Murray State University, Department of Biology
- 2006 University of Missouri St. Louis, Department of Biology
- 2006 Michigan State University, Kellogg Biological Station and LTER
- 2005 Illinois State University, Department of Biology
- 2005 University of Wyoming, Department of Renewable Resources

- 2005 University of New Mexico, Department of Biology
 2002 Southern Illinois University, Department of Plant Biology
 2001 Southern Illinois University, SIU Chapter of the American Water Resources Assoc.
 2000 Southern Illinois University, Department of Forestry

*Invited Presentations and Symposia at Professional Meetings (*Keynote Speaker)*

- Baer, S. G. and M. A. Callaham 2016.** Integrating soil ecological knowledge into restoration: How relevant is theory to practice? Annual meetings of the Ecological Society of America, Fort Lauderdale, FL (symposium presentation).
- *Baer, S. G. 2016.** Applying theory in ecology and evolution to steer community reassembly and ecosystem recovery: how restoration remains an acid test. North American Prairie Conference, Normal, IL (closing plenary presentation)
- Baer S. G., E. M. Bach, D. A. Scott, and J. Six. 2016.** Physical and biological factors underlying recovery patterns of soil microbial biomass during grassland restoration on decadal time scales. Midwest Great Lakes Chapter of the Society for Ecological Restoration, Bloomington, IN.
- Baer, S. G. 2013.** History offers a direction for restoration: a tallgrass prairie perspective. Society for Ecological Restoration World Conference, Madison, WI.
- Baer, S. G., B. R. Maricle, N. M. Bello, K. L. Caudle, M. Galliard, D. J. Gibson, M. Gray, R. K. Goad, E. McCrea, M. L. Mendola, J. T. Olsen, S. Sebates, H. Tetreault, L. Wilson, and L. C. Johnson. 2013.** Discerning the presence and ecological consequence of ecotypic variation: A dilemma for restoration. Society for Ecological Restoration World Conference, Madison, WI.
- *Baer S. G., B. R. Wodika, and J. E. Willand. 2012.** Propagule, plant, invertebrate and ecosystem recovery at Nachusa Grasslands. Nachusa Grasslands Science and Research Open House, October 19, Dixon, IL.
- Baer, S. G. 2012.** Soapbox speech on the future direction of ecosystem ecology to the National Science Foundation's Ecosystems Program Directors and Frontiers in Ecosystem Science Steering Committee. Annual Meetings of the Ecological Society of America, August 5-10, Portland, Oregon.
- Baer, S. G., 2011.** Restoring tallgrass prairie: abiotic and biological constraints to community and ecosystem assembly at local and regional scales. Grasslands in a Global Context. A symposium celebrating the anniversaries of the Konza Prairie Biological Station and the LTER program. September 4-7, Manhattan, KS.
- *Baer, S. G. 2009.** Drivers of ecosystem recovery and filters on community reassembly during grassland restoration. Center for Ecology, Evolution and Behavior Research Symposium, University of Kentucky, Lexington, KY. May 15, 2009.
- *Baer, S. G. 2009.** Carbon sequestration in grasslands. Fifth Annual Tallgrass Prairie Management Workshop. Beatrice, NE
- Baer, S. G. 2007.** Grassland restoration at KNZ LTER: Current research and Future Initiatives. Konza Prairie LTER Workshop, Manhattan, KS.

- Baer, S. G. 2006.** Manipulating soil resources in restoration: complex feedbacks between above and belowground processes influence community and ecosystem change over time. Soil and Restoration Conference, Chicago, IL.
- Baer, S. G., J. M. Blair, S. L. Collins, and A. K. Knapp. 2003.** Temporal changes in plant community structure under different levels of soil fertility created to increase heterogeneity in a restored prairie. Symposium on Heterogeneity and Restoration. Annual meeting of the Society of Ecological Restoration International, Austin, TX.
- Baer, S. G., J. M. Blair, S. L. Collins, A. K. Knapp and M. A. Palmer. 2002.** The role of resource heterogeneity in restoration of ecosystem structure and function. Ecological theory and restoration ecology symposium. Annual Meeting of the Ecological Society of America, Tucson, AZ.
- Baer, S. G., K. Williard, and K. Davie. 2002.** Hydrologic assessment of the Kaskaskia River downstream of Carlyle Dam. Illinois Department of Natural Resources, Alton, IL.
- Baer, S. G. and D. E. Johnson. 2001.** A prairie restoration: experimental design and analysis. 13th Annual Kansas State University Conference on Applied Statistics in Agriculture, Manhattan, KS.

Contributed Presentations

Since 2005, see Appendix A

Research Highlights in Popular Press

- 2013 Olsen, J.T., R. K. Goad, M. L. Mendola, H. M Tetreault, L. C. Johnson, S. G. Baer, and B. R. Maricle. 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.
- 2012 “Restoration Research at Konza Prairie LTER.” *LTER Network News*, July 15, 2012 <http://news.lternet.edu/Article2565.html>
- 2008 “Passing the Research Baton.” *AgriSearch* published by Southern Illinois University Carbondale College of Agricultural Sciences, pp. 22-25.
- 2007 “Prairie Revival: Researchers put restoration to the test.” *Science News*, December 15, Volume 172 (No. 24): 376-377
- 2007 “Pure Prairie League” by Marilyn Davis. *Perspectives: Research and Creative Activities* published by the Office of the Vice Chancellor for Research/Office of Research and Administration (ORDA), Spring 2007. http://www.siu.edu/~perspect/07_sp/prairie.html
- 2006 “Prairie League.” *Research Profile 2006* published by the Office of the Vice Chancellor for Research and Graduate Dean, Southern Illinois University.
- 2002 “Restoration drama: the science of ecology is helping to bring ecosystem services back to Market.” *The Economist*, August 8, Issue.
- 2002 “Researchers bringing grasslands back to life.” News Release, Kansas State University Media Relations (8/26/2002).

IV. TEACHING AND MENTORING

Teaching Experience [course number] – years taught

SIU

Restoration Ecology [PLB 443] – 2007, 2009, 2011, 2014, 2016
Ecosystem Ecology (Biogeochemistry) [PLB 545] – 2005, 2008, 2010, 2013, 2015
Nutrient Cycling Laboratory [PLB 546] – 2008, 2010, 2013, 2015
Environmental Issues in the Contemporary World [PLB 301i] – 2004, 2005, 2006, 2008, 2009
General Biology [PLB 115] – 2004-2010, 2012, 2014, 2016
Watershed Policy [Co-taught; PLB/ERP 510] – 2011
Ecology Seminar [PLB 589a] – 2005, 2007, 2009, 2013, 2014, 2015
Research Methods [FOR 500] – 2003, 2004
Experimental Design – co-taught [PSGA 572] – 2004

Guest Lecture: Watershed Science [PLB/ZOOL 523] – 2010, 2011, 2012
Guest Lecture: Introduction to Research [PLB 590] – annually
Guest Lecture: Grassland Ecology [PLB 440]
Guest Lecture: Watershed Management [FOR 430]
Guest Lecture: Forest Soils [FOR 452, Southern Illinois University] – 2003
Guest Lecture: Conservation Biology [ZOOL 410, Southern Illinois University] – 2002, 2003

Other Institutions

Advanced Ecology [BIOL 551/451, Wayne State College] – 1996
Environmental Concerns [BIOL 104, Wayne State College] – 1996, 1997
General Biology [BIOL 102, Wayne State College] – 1995, 1996, 1997
Microbiology Laboratory [BIOL 455, Kansas State University] – 1998, 1999, 2000
Microbiology Laboratory [BIOL 385, Wayne State College] – 1995, 1996
Introductory Biology Lab/Lecture [BIOL 102, Kansas State University] – 1997, 1998, 1999
Agricultural Entomology Laboratory [ENT 351, University of Georgia] – 1993
General Biology Laboratory [BIO 103, University of Georgia] – 1992, 1993, 1994

Undergraduate Research Training Awards

2010-11 SIU Research Enhanced Academic Challenge Award (Kim Elsenbroek)
2009-10 SIU Saluki Scholar Award (Kim Elsenbroek)
2006-07 SIU Research Enhanced Academic Challenge Award (David Dalzotto)
2005-2016 Undergraduate Research Assistantship

Post-Doctoral Advisees and Research Technicians

2011- Rothert, Amanda Core Facility for Ecological Analyses, Researcher II
2009-10 Mendola, Meredith Researcher I

2007-08 Meyer, Clinton K. Post-doctoral Researcher
2008-09 Brown, Kirsten Researcher I

Graduated Students (†=co-advised)

- Klopf, R. P. 2007. Root dynamics of three dominant prairie grasses from different population sources. **M.Sc.** Thesis, Southern Illinois University, Carbondale.
- Lambert†, A. M. 2008. Physiology of dominant prairie grasses: the effect of population seed source on plant performance with implications for tallgrass prairie restoration. **M.Sc.** Thesis, Southern Illinois University, Carbondale.
- Campbell, R. E. 2009. Variation in benefit from arbuscular mycorrhizal fungal colonization within cultivars and non-cultivars of *Andropogon gerardii* and *Sorghastrum nutans*. **M.Sc.** Thesis, Southern Illinois University, Carbondale.
- Bach, E. M. 2009. Biotic and abiotic drivers of soil microbial community recovery and ecosystem change during grasslands restoration. **M.Sc.** Thesis. Southern Illinois University, Carbondale.
- Reed†, L. K., 2010. Competitive equivalency of cultivar and non-cultivar dominant grasses in an experimental restoration. **M.Sc.** Thesis. Southern Illinois University, Carbondale.
- Goad, R. K. 2012. Response of regional sources of tallgrass prairie species to variation in climate and soil microbial communities. **M.Sc.** Thesis. Southern Illinois University, Carbondale.
- Klopf, R. K. 2013. Community and ecosystem changes in tallgrass prairie restorations: the effects of population source and diversity. **Ph.D.** Dissertation, Southern Illinois University, Carbondale.
- Mendola, M. M. 2013. Regional-climate and local-microbial controls on ecosystem processes during grassland restoration. **M.Sc.** Thesis. Southern Illinois University, Carbondale.
- Harris, P. T. 2014. The role of deer browsing on plant community development and ecosystem functioning during tallgrass prairie restoration. **M.Sc.** Thesis. Southern Illinois University, Carbondale.
- Willand, J. E. 2014. When do propagules matter? The role of ecological filters and regeneration dynamics during community assembly in tallgrass prairie restoration. **Ph.D.** Dissertation, Southern Illinois University, Carbondale.
- Wodika, B. R. 2015. The effects of time, seed source, and plant composition on macroinvertebrates in restored prairie. **Ph.D.** Dissertation, Southern Illinois University, Carbondale.
- Scott, D. A. 2015. Recovery of whole soil conditions through restoration from agriculture and its role in mediating plant-plant competition. **M.Sc.** Thesis, Southern Illinois University, Carbondale.
- Adams, T. J. defended. The role of soil heterogeneity in the recruitment of new species and interactions with grasshoppers (Acrididae) and Katydid (Tettigoniidae) in restored prairie. **M.Sc.** Thesis, Southern Illinois University, Carbondale.

Current Graduate Students Advised by Sara Baer

Scott, Drew Ph.D. (start 8/15)

Black, Sarah	M.Sc. (start 5/15)
Adams, Tianjiao	M.Sc. (start 8/13)
Manning, George	Ph.D. (start 5/13)

Other Master's and Ph.D. Committees Served (47 total; listed in Appendix B)

Undergraduate Student Mentoring and Training (28 total; listed in Appendix C)

GK12 Mentoring

2013	Mentor	Chris Midden, Noyce Fellow (5 th Grade Earth Science Teacher, Unity Point School, Carbondale, IL)
------	--------	--

V. SERVICE

University (Spring 2012 = Sabbatical)

Department Committees

2014-2016	Awards Committee
2014-2015	Planning Committee
2012-2013	Recruitment Committee
2011-2012	Recruitment Committee
2009-2010	Curriculum committee
2009-2010	Community College Relations
2009-2010	Seminar Committee
2008-2010	Recruitment Committee
2007-2008	Five Year Plan Committee
2007-2008	Student Teaching Awards Committee
2005-2007	Curriculum Committee, Chair
2005-2007	Seminar Committee
2006	Search Committee, Mathematical Biologist, Department of Mathematics
2004-2005	Search Committee, Phytochemist
2004-2005	Awards Committee

College Committees

2015-present	Ad-hoc Disease Biology Program Task Force
2014-present	Promotion and Tenure Advisory Committee
2005-2011	College of Science Doctoral Research Assistantship Selection Committee

University Committees

2014-present	Outstanding Master's Thesis Selection Committee
2011-present	Director, Core Facility for Ecological Analyses
2013-2016	Graduate School Doctoral Fellowship Selection Committee

2006-2016	Board of Directors: Middle Mississippi River Wetland Research Field Station
2010-present	Advisor – Saluki Gymnastics Club
2009-present	RSO Advisor – SIUC Restoration Club
2012-2013	Law School LLM/MLS Program Review Committee
2009-2014	Office of the Vice Chancellor for Research - Research Advisory Committee
2009-2012	Vice Chancellor for Research Extended Staff Advisory Committee
2011	University Strategic Planning Committee, Climate Lens Focal Group
2010-2011	Graduate Council Executive Committee
2010-2011	Graduate Council Research Committee (Chair)
2009-2011	Graduate Council
2009-10	Ombudsman Advisory Panel (Graduate Council Representative)
2009-10	Screening Committee: Associate Provost of Academic Affairs
2009-10	Screening Committee: Associate Provost of Academic Administration
2009	Center for Ecology Recruitment: John A. Logan and Southern Illinois College
2007-08	Service Learning Project Faculty Advisor: Restoration of Prairie on Campus
2005-07	RSO Advisor: Plant Biology Graduate Student Organization
2005	Reasonable and Moderate Extension: Establishment of the Southern Illinois University Center for Ecology. D. J. Gibson, M. R. Whiles, and S. G. Baer.
2004	Poster Judge: Third Annual Undergraduate Research Forum
2000-2011	Center for Ecology Departmental Representative

Professional Service

2016- current	<i>Governing Council</i> , Ecological Society of America
2016-current	<i>Publications Committee</i> , Ecological Society of America
2015-current	<i>Chair</i> , Soil Ecology Section of the Ecological Society of America
2013-2015	<i>Vice Chair</i> , Soil Ecology Section, Ecological Society of America

Memberships in Professional Associations

Society for Ecological Restoration (1999-present)
 Ecological Society of America (1998-present)
 Soil Ecology Society (1998-present)
 North American Benthological Society (1992-1995)

Reviewer

Journals American Midland Naturalist
 BioScience
 Biogeochemistry
 Biological Conservation
 Ecology
 Ecological Restoration
 Ecological Applications

Ecosystems
Ecology Letters
Ecosphere
Environmental Management
Functional Ecology
Geoderma
Global Change Biology
International Journal of Vegetation Science
Journal of Applied Ecology
Journal of Ecology
Journal of Plant Ecology
Journal of the American Water Resources Association
New Zealand Journal of Agricultural Research
Oecologia
Plant Ecology
Plant and Soil
Restoration Ecology

Proposals National Science Foundation
Ecosystems, Population and Community Ecology, PIRE, CAREER
United States Department of Agriculture
Environmental Protection Agency (STAR Fellowship Program)
NASA/Department of Energy (Carbon Cycle Science)
Nebraska Environmental Trust
National Research Foundation, South Africa (2010)
Northern Illinois University Research and Artistry Grant Program (2013)

Book Chapters

Grassland Ecosystems & Grassland Restoration chapters in Grassland Ecology by
D. J. Gibson (author)
Methods in Comparative Plant Population Ecology, D. J. Gibson (author)
Conservation Biology: Concepts and Applications, G. Cox (editor)

External Tenure Dossiers (2)

External Thesis Reviewer: University of the Free State, South Africa (2013)

External Dissertation Assessor: University of the Free State, South Africa (2015)

International Assessor: South Africa Research Foundation

Synergistic Activities

2007-current Coordinating Editor: *Restoration Ecology* (international journal)

- 2016 Symposium Organizer: Soil – A Manageable Filter, Critical Threshold, or Irreversible Tipping Point in Ecological Restoration? Annual Meetings of the Ecological Society of America, Fort Lauderdale, FL.
- 2016 Strategic Planning Workshop Coordinator: Soil Ecology Section. Ecological Society of America Long-Range Planning Grant.
- 2015 Participant: Involving Girls in Science, Technology, Engineering, Agriculture and Math
- 2015 Student Presentation Judge: SIU Undergraduate Research Forum
- 2015 Consultant: Grassland Ecosystems, Redline Editorial (children's text book)
- 2014 Mentor Coordinator: Student and professional soil ecologists. Soil Ecology Section of the Ecological Society of America annual meeting, Sacramento, CA.
- 2014 Student Presentation Judge: Soil Ecology Section of the Ecological Society of America, annual meeting, Sacramento, CA.
- 2013 Frontiers in Ecosystem Science: Energizing the Research Agenda: SESYNC, Annapolis, MD, NSF DEB Steering Committee, 1-2 October 2013
- 2013 Long Term Ecological Research (LTER) workshop: Soil Biogeochemistry – Synthesis of Past Data and Development of Protocols for a New Long-Term, Network-Wide Data Stream. The Cary Institute of Ecosystem Studies in Millbrook, NY from March 4 – 6, 2013.
- 2013 NSF Pre-proposal Review Panel: Ecological Biology, April 2013
- 2012 ESA SEEDS Mentor: Strategy for Ecology Education, Development and Sustainability (*SEEDS*), Ecological Society of America meeting, Portland, OR.
- 2012 USDA/ARS Site Review: Northern Great Plains Agricultural Research Lab, Mandan, ND
- 2011 NSF Proposal Review Panel: Ecological Biology, April 2011
- 2008 ESA Mentor: Strategy for Ecology Education, Development and Sustainability (*SEEDS*), Ecological Society of America meeting, Milwaukee, WI
- 2007-2014 Scientific Steering Committee: Konza Prairie Long Term Ecological Research Site
- 2007 Chair and Organizer: Soil Ecology Society Professional Achievement Award Committee
- 2007 Invited Scientific Advisor to the US Senate Agriculture Committee: Invasive Species and the 2007 U.S. Farm Bill Workshop, Center for Invasive Plant Species Management, Bozeman, MT
- 2007 Organized Oral Session Coordinator: Grassland Restoration: Ecosystem Recovery across Space and Time. Ecological Society of America Meeting, San Jose, CA.
- 2007 Student Presentation Judge: Soil Ecology Society Section of the Ecological Society of America, San Jose, CA
- 2007 Student Presentation Judge: Soil Ecology Society, Moab, UT
- 2006 Student Presentation Judge: Ecological Society of America, Montreal, Canada
- 2006 NSF Panel Review: Ecological Biology
- 2006 Panel Discussion Participant and Tour Guide: *SEEDS* site visit to the Konza Prairie LTER, June 5-6

- 2005 ESA Mentor: SEEDS, Ecological Society of America, Montreal, Canada
- 2005 Student Presentation Judge: Ecological Society of America
- 2005 EPA Proposal Review Panel: Star Fellowship, Terrestrial Ecosystems, Plants and Soil, College Park, MD
- 2005 Student Presentation Judge: Midwest Ecology and Evolution Conference, Carbondale, IL
- 2004 NASA/DOE/USDA Proposal Review Panel: Carbon Cycle Science, May 23-26, Washington D.C.
- 2004 Student Presentation Judge: Ecological Society of America, Soil Ecology Section, Portland, OR
- 2002 Invited Panel Discussion Participant: Symposium on Ecological Theory and Restoration Ecology. Ecological Society of America, Tucson, AZ
- 2000 Workshop Coordinator: Long-Term Ecological Research All Scientists Meeting, Snowbird, Utah. Soil resource heterogeneity and ecosystem processes: relevance, applications and analysis.

Community Service

- 2011 Schoolyard prairie restoration: Giant City School, Carbondale, IL
- 2009 Invited speaker: Biological Consequences of Global Warming, Southern Illinois Sierra Club, Carbondale, IL
- 2008 Invited Speaker and Panel Discussion Participant: Symposium on “The Cascading Effects of Global Warming” sponsored by the League of Women Voters of Jackson County, United Nations Association USA Southern Illinois Chapter, Shawnee Group Sierra Club, SIU Student Environmental Center, Paul Simon Public Policy Institute, September 16, 2008, Carbondale, IL
- 2007 Student Presentation Judge: 29th Illinois Junior Science & Humanities Symposium, Carbondale, IL
- 2005 Student Presentation Judge: Illinois Junior Academy of Science Region 8 Science Fair, Carbondale, IL
- 2004-2010 Board of Directors and Treasurer – Green Earth Inc., a local land trust non-profit organization

APPENDIX A. Contributed Presentations Since 2005

- Manning, G. and S. G. **Baer**. **2016**. Effects of grazing and fire frequency on floristic quality and soil structure and function in tallgrass prairie. Annual meetings of the Ecological Society of America, Fort Lauderdale, FL.
- Johnson, L., M. Galliard, J. Alsdurf, S. G. **Baer**, B. R. Maricle, and D. C. Hartnett. **2016**. Linking evolution and ecosystem processes: Testing for rapid evolution in dominant grasses in response to grazing. Annual meetings of the Ecological Society of America, Fort Lauderdale, FL.
- Galliard, M., P. St Amand, J. Poland, N. M. Bello, M. Knapp, S. G. **Baer**, D. Gibson, B. R. Maricle, L. Johnson. **2016**. Adaptive Ecotypic Variation and Genetic Divergence of a Widespread Grass, Big Bluestem, across a Great Plains' Climate Gradient. American Genetic Association Local Adaptation Symposium.
- Galliard, M., L. Johnson, B. R. Maricle, and S. G. **Baer**. **2016**. Adaptive ecotypic variation and genetic divergence of a widespread grass, big bluestem, across a great plains' climate gradient. Annual meetings of the Ecological Society of America, Fort Lauderdale, FL.
- Galliard, M. P. St. Amand, J. Poland, N. M. Bello, M. Knapp, S. G. **Baer**, B. R. Maricle, L. Johnson. **2016**. Experimental natural selection of big bluestem ecotypes across the Great Plains: A novel test for the strength of local adaptation. Ecogen Conference
- Scott, D. A., S. G. **Baer**, S. T. Rosenzweig, and J. M. Blair. **2016**. Soil nitrous oxide emissions reduced with cropland to grassland restoration. Annual meetings of the Ecological Society of America, Fort Lauderdale, FL.
- Johnson, L., M. Galliard, N. Bello, J. Poland, P. St. Amand, M. Knapp, B. Maricle, S. **Baer**, and D. Gibson. **2016**. Adaptive ecotypic variation and genetic divergence of an ecologically dominant prairie grass across the Great Plains' precipitation gradient. Annual Meetings of the Botanical Society of America, Savannah, GA.
- Pittenger, M., Caudle, K., S. **Baer**, L. Johnson, and B. Maricle. **2016**. Herbivory preferences among ecotypes of big bluestem (*Andropogon gerardii*). Annual Meetings of the Botanical Society of America, Savannah, GA.
- Caudle, K., C. Hilt, C. Smart, A. Urban, D. Kramer, N. Martin, S. **Baer**, L. Johnson, and B. 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. Annual Meetings of the Botanical Society of America, Savannah, GA.
- Varvel, N., C. Hilt, S. **Baer**, L. Johnson, and B. Maricle. **2016**. Genetic and environmental influences on stomates of big bluestem (*Andropogon gerardii*) ecotypes. Annual Meetings of the Botanical Society of America, Savannah, GA.
- Nessler, R.W., M. M. Anderson-Riechman, D. A. Evans, J. E. Schoonover, S. G. **Baer**, J. J. Zaczek. **2016**. Practical management tools for the rehabilitation and expansion of canebrake ecosystems. Missouri Natural Resources Conference, Osage Beach, MO.
- Adams, T., S. G. **Baer**, J. M. Blair, S. L. Collins. **2015**. The role of soil heterogeneity in the recruitment of new species in restored prairie. Annual meetings of the Ecological Society of America, Baltimore, MD *and* Konza Prairie Annual Investigator meeting, Manhattan, KS.
- Manning, G. C. and S. G. **Baer**. **2015**. Processes influencing community assembly in grassland restoration. Annual Meetings of the Ecological Society of America, Baltimore, MD *and* Konza Prairie Annual Investigator meeting, Manhattan, KS.

- Scott, D. A. and S. G. **Baer**. **2015**. Soil conditions alter plant-plant competition dynamics of *Andropogon gerardii*. Annual meetings of the Ecological Society of America, Baltimore, MD and Konza Prairie Annual Investigator meeting, Manhattan, KS.
- Luebbers, A., P. Walker, and S. G. **Baer**. **2015**. Influence of dominant grass ecotypes on community diversity and productivity. Southern Illinois University Undergraduate Research Symposium, Carbondale, IL.
- Fralick, K., G. Tyree, and S. G. **Baer**. **2015**. Plant and soil responses to prairie restored with different ecotypes of *Andropogon gerardii*. The Colloquium for Undergraduate Research in Ecology (The CURE), Southern Illinois University, Carbondale, IL.
- Nessler, R. W., M. M. Anderson-Riechman, D. A. Evans, J. E. Schoonover, S. G. **Baer**, J.J. Zaczek. **2015**. Rehabilitation of Native Canebrake Ecosystems in the Cache River Watershed of Southern Illinois. The SIU Natural Sciences Student Research Symposium Annual Meeting. Carbondale, IL. Oct. 16, 2015.
- Anderson, M. M., J. J. Zaczek, J. E. Schoonover, and S. G. **Baer**. **2014**. Effects of fire and fertilization on giant cane: developing management tools for canebrakes. 19th Central Hardwood Forest Conf. 2014 March 10-12; Carbondale, IL.
- Baer**, S.G., J. M. Blair, and S. L. Collins. **2014**. Long-term patterns in species richness, diversity, and community heterogeneity: a test of the environmental heterogeneity hypothesis in the context of community assembly. Annual Meeting of the Ecological Society of America, Sacramento, CA.
- Khalil, M. I., D. J. Gibson and S. G. **Baer**. **2014**. Effect of dominant species on community phylogenetic structure in a grassland restoration. Annual Meeting of the Ecological Society of America, Sacramento, CA.
- Scott, D. A., S. G. **Baer** and J. M. Blair. **2014**. Recovery of ecosystem properties during tallgrass prairie restoration. Annual Meeting of the Ecological Society of America, Sacramento, CA.
- Johnson, L.C., M.M. Gray, P. St. Amand, M. Galliard, S. Brown, J. Poland, K. Garrett, E. Akhunov, N. Bello, T. Morgan, S.G. **Baer**, and B.R. Maricle. **2014**. 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
- Maricle, B.R., K.L. Caudle, J.T. Olsen, J. Bryant, A. DeLa Cruz, A. Jensen, S.G. **Baer**, N.M. Bello, and L.C. Johnson. **2014**. 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.
- Galliard, M., L. Johnson, S. Sabates, H. Tetreault, A. DeLa Cruz, J. Bryant, T.J. Morgan, M. Knapp, N.M. Bello, S.G. **Baer**, D. Gibson, L. Wilson, 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. Presented at the Botanical Society of America Annual Meeting, Boise, ID.
- Galliard, M., L. Johnson, N. M. Bello, S. G. **Baer**, B. R. Maricle, D. Gibson, H. Tetreault, and S. Sabates. 2014. 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 Conference, Raleigh, NC.
- Galliard, M., L. Johnson, S. Sabates, H. Tetreault, A. DeLa Cruz, J. Bryant, T. J. Morgan, M. Knapp, N.M. Bello, S. G. **Baer**, D. Gibson, L. Wilson†, K.L. Caudle, and B. R. Maricle. **2014**. 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.
- Anderson, M. M., J. Zaczek, J. Schoonover, and S. G. Baer. 2013. Fire and fertilization effects on native bamboo: developing management tools for rehabilitation of canebrake habitat. 2013 Society of American Foresters, National Convention, October 23-27, 2013. North Charleston, SC.
- Johnson, L.C., B. Maricle, S. **Baer**, M. Gray, N. Bello and H. Tetreault. **2013**. Genetic differentiation, transcriptome variation, and local adaptation of an ecologically dominant prairie grass *Andropogon gerardii* (Big Bluestem) occurring along the climate gradient in Midwest US grasslands. Society for Molecular Biology and Evolution, July 7-11, Chicago, Illinois; and The Evolution Conference, June 21-25, Snowbird, Utah.
- Bryant, J., A. Jensen, A. DeLa Cruz, 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 common gardens across the Great Plains. Kansas Academy of Science, April 5-6, Overland Park, Kansas.
- Maricle, B. R., K. L. Caudle, K. J. Lindsey, 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. Kansas Academy of Science, April 5-6, Overland Park, Kansas; Botanical Society of America Annual Meeting, July 27-August 1, New Orleans, Louisiana; and America's Grasslands Conference, August 13-14. Manhattan, Kansas.
- Caudle, K. L., K. J. Lindsey, L. C. Johnson, S. G. **Baer**, and B. R. Maricle. **2013**. Genetic and environmental influence on physiological drought tolerance in big bluestem ecotypes in common gardens across Kansas. American Society of Plant Biologists, July 20-24, Providence, Rhode Island.
- 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. Kansas Academy of Science, April 5-6, Overland Park, Kansas.
- Harris, P. T. and S. G. **Baer**. **2013**. The effects of white-tailed deer herbivory on prairie community structure and function. Annual Meetings of the Ecological Society of America, August 4-9, Minneapolis, Minnesota.
- Willand, J. E., S. G. **Baer**, and D. J. Gibson. **2013**. The influence of population source and species pools on propagule supply in an experimental grassland. Annual Meetings of the Ecological Society of America, August 4-9, Minneapolis, Minnesota.
- Wilson, L. R., D. J. Gibson, S. G. **Baer**, and L. Johnson. **2013**. Plant community response to regional sources of dominant grasses restored across a precipitation gradient. Annual Meetings of the Ecological Society of America, August 4-9, Minneapolis, Minnesota.
- Sabates, S., M. Galliard, S. **Baer**, N. Bello, K. Caudle, B. Maricle, E. McCrea, D. Gibson, L. Wilson, and L. Johnson. **2013**. 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. Botanical Society of America Annual Meeting, July 27-August 1, New Orleans, Louisiana.
- Maricle, B. R., M. M. Gray, J. Bryant, A. Jensen, A. DeLa Cruz, K. L. Caudle, J. T. Olsen, S. G. **Baer**, M. Knapp, 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. Botanical

- Society of America Annual Meeting, July 27-August 1, New Orleans, Louisiana and America's Grasslands Conference, August 13-14. Manhattan, Kansas.
- 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 in Great Plains reciprocal gardens. Botanical Society of America Annual Meeting, July 27-August 1, New Orleans, Louisiana and America's Grasslands Conference, August 13-14. Manhattan, Kansas.
- Anderson, M. M., J. J. Zaczek, J. E. Schoonover, and S. G. Baer. 2012. The effects of fire and fertilization on the density, height, and diameter of giant cane. Society of American Foresters National Convention, October 24-26, 2012. Spokane, WA.
- Goad, R. K., S. G. **Baer**, B. Klubek, and D. J. Gibson. **2012**. A test of local adaptation to soil microbial communities in tallgrass prairie plant assemblages. Annual Meetings of the Ecological Society of America, August 5-10, Portland, Oregon.
- Mendola, M., S. G. **Baer**, and L. Johnson. **2012**. Ecotypic variation in a dominant prairie grass affects belowground biomass and ecosystem processes. Annual Meetings of the Ecological Society of America, August 5-10, Portland, Oregon.
- Gustafson, D. J., J. Synovec, D. Jones, C. Major, D. J. Gibson, and S. G. **Baer**. **2012**. *Chamaecrista fasciculata*, *Silphium integrifolium*, and *Sorghastrum nutans* show divergence in genetic structure when grown in a background of wild collected versus cultivars of the dominant grasses. April 2-4, University of Georgia, Athens, Georgia.
- Johnson, L., M. Gray, H. Tetreault, K. Garrett, E. Akhunov, P. St. Amand, N. Bello, J. Bryant, N. An, B. Maricle, J. Olsen, S. G. **Baer**, R. K. Goad, A. DeLa Cruz, T. Morgan, and M. Knapp. **2012**. Ecotypic variation in drought tolerance and genetic diversity of the ecologically dominant grass big bluestem (*Andropogon gerardii*) across the Great Plains precipitation gradient. Annual Meetings of the Ecological Society of America, August 5-10, Portland, Oregon.
- Olsen, J., R. K. Goad, M. Mendola, H. Tetreault, L. Johnson, S. G. **Baer**, B. Maricle. **2012**. Photosynthetic gas exchange of big bluestem (*Andropogon gerardii*) ecotypes across a precipitation gradient of the Great Plains. Annual Meetings of the Botanical Society of America, July 7-11, Columbus, Ohio.
- Sabates, S., M. Galliard, E. McCrea, S. G. **Baer**, L. Wilson, D. Gibson, B. Maricle, K. Caudle, and L. Johnson. **2012**. Phenology and seed production in Big Bluestem (*Andropogon gerardii*) ecotypes in the Great Plains. Ecological Genomics Symposium, October 26-28, Kansas City, Missouri.
- Gaffner, J., S. Sabates, S. G. **Baer**, B. Maricle, E. McCrea, N. Bello, and L. Johnson. **2012**. Variation in polyploidy in Big Bluestem (*Andropogon gerardii*) ecotypes across the Great Plains. Ecological Genomics Symposium, October 26-28, Kansas City, Missouri.
- Baer**, S. G., D. J. Gibson, R. P. Klopff, A. M. Lambert, L. K. Reed, J. Willand, and B. Wodika. **2011**. Hierarchical consequences of propagule source selection on community assembly and recovery of ecosystem functioning during restoration. Annual Meetings of the Ecological Society of America, August 7-12, Austin, Texas.
- Bryant, J., A. DeLa Cruz, K. Price, N. An, M. Knapp, H. Tetreault, B. Maricle, J. Olsen, K. Caudle, E. McCrea, M. Mendola, R. Goad, S. **Baer**, and L. Johnson. **2011**. Remote sensing to detect plant performance in common gardens of big bluestem ecotypes across the Great Plains. 9th Annual Ecological Genomics Symposium, November 4 - 6, Kansas City, Missouri.

- Elsenbroek, K. M. and S. G. **Baer**. 2011. Understanding ecological principles and appreciation of nature in elementary school children. Southern Illinois University Undergraduate Research Forum, Carbondale, Illinois.
- Gray, M., H. Tetreault, C. Rodewald, P. St. Amand, S. G. **Baer**, B. Maricle, T. Morgan, N. Bello, E. McCrea, R. Goad, M. Mendola, J. Olsen, L. Wheeler, E. Akhunov, K. Garrett, G. Bai, and L. Johnson. 2011. Evidence for local adaptation and genetic differentiation across *Andropogon gerardii* (big bluestem) ecotypes occurring along a precipitation gradient. Ecological Genomics Symposium, Kansas State University, Manhattan, Kansas.
- Goad, R. K., S. G. **Baer**, and L. Johnson. 2011. Patterns in aboveground net primary productivity in prairie reciprocally restored with dominant grasses from across a precipitation gradient. Annual Meetings of the Ecological Society of America, August 7-12, Austin, Texas.
- Klopf, R. K. and S. G. **Baer**. 2011. The effect of seed source, seed diversity, and climate on restored prairie communities across five years of restoration. Annual Meetings of the Ecological Society of America, August 7-12, Austin, Texas.
- McCrea, E., R. P. Klopf, and S. G. **Baer**. 2011. The effect of dominance and propagule source on root biomass and ANPP in restored prairie across a precipitation gradient. Annual Meetings of the Ecological Society of America, August 7-12, Austin, Texas; St. Louis Undergraduate Research Symposium, Carbondale, Illinois; Southern Illinois University Undergraduate Research Forum, Carbondale, Illinois.
- Olsen, J.T., H. M. Tetreault, R. K. Goad, M. L. Mendola, L. C. Johnson, S. G. **Baer**, and B.R. Maricle. 2011. Photosynthetic variation of big bluestem and sand bluestem influenced by ecotype and precipitation. Annual meetings of the Botanical Society of America, July 9-13, St. Louis, Missouri.
- Tetreault, H., M. Gray, C. Rodewald, M. Mendola, R. Goad, J. Olsen, E. McCrea, L. Wheeler, N. Bello, T. Morgan, M. Knapp, P. St. Amand, E. Akhunov, K. Garrett, G. Bai, S. **Baer**, B. Maricle, and L. Johnson. 2011. Phenotypic variation and population differentiation of *Andropogon gerardii* along the Great Plains precipitation gradient. Gordon Research Conference on Ecological & Evolutionary Genomics, July 10-15, University of New England, Biddeford, Maine.
- Tetreault, H., C. Rodewald, M. Mendola, R. Goad, J. Olsen, E. McCrea, N. Bello, T. Morgan, R. Wynia, S. G. **Baer**, B. Maricle, and L. Johnson. 2011. Phenotypic variation of big bluestem ecotypes across the Great Plains precipitation gradient. Annual Meetings of the Society for the Study of Evolution, June 17-21, Norman, Oklahoma.
- Willand, J., S. G. **Baer**, D. J. Gibson. 2011. Temporal changes in seed and bud banks as sources of new propagules during prairie restoration. Annual Meetings of the Ecological Society of America, August 7-12, Austin, Texas.
- Sendor, G., J. Donatelli, D. J. Gibson, S. G. **Baer**, and L. Johnson. 2011. Ecotypic Variation in Relative Fitness of *Andropogon gerardii* (Big Bluestem). Southern Illinois University Undergraduate Research Forum, April 12, Carbondale, Illinois.
- Bach, E. M., S. G. **Baer**, and J. Six. 2010. Above and belowground response to high and low diversity plantings through the CRP. North American Prairie Conference, August 1-5, Cedar Falls, Iowa.
- Elsenbroek, K. F., E. M. Bach, and S. G. **Baer**. 2010. Ecotypic responses of Indiangrass (*Sorghastrum nutans*) to varying water regimes. Annual Meetings of the Ecological Society of America, August 1-6, Pittsburg, Pennsylvania.
- Klopf, R.P., S. G. **Baer**, and J. Six. 2010. Effects of plant richness on recovery of ecosystem properties during tallgrass prairie restoration. Annual Meetings of the Ecological Society of America, August 1-6, Pittsburg, Pennsylvania.

- Wodika, B., S. G. **Baer**, and R. P. Klopff. **2010**. Recovery of invertebrate ecosystem engineers during prairie restoration. Annual Meetings of the Ecological Society of America, Pittsburg, Pennsylvania.
- Gibson, D. J., A. Allstadt, and S. G. **Baer**. **2010**. Effects of genetic diversity of foundation species on community diversity: predictions tested by simulation modeling. Annual Meetings of the Ecological Society of America, Pittsburg, Pennsylvania.
- Jones, D., D. J. Gustafson, D. J. Gibson, and S. G. **Baer**. **2010**. *Chamaecrista fasciculata* and *Silphium integrifolium* show divergence in genetic structure when grown in a background of wild collected versus forage cultivars of the dominant grasses. Annual Meetings of the Ecological Society of America, Pittsburg, Pennsylvania.
- Bach, E. M., C. K. Meyer, S. G. **Baer**, and J. Six. **2009**. Soil microbial community recovery in two grassland restoration chronosequences on contrasting soils. Biannual Meetings of the Soil Ecology Society, Burlington, Vermont.
- Baer**, S. G., E. M. Bach, C. C. Du Preez, R. P. Klopff, C. K. Meyer, and J. Six. **2009**. Ecosystem recovery during C₄ grassland development following long-term disturbance: An evaluation at regional and global scales. Annual Meetings of the Ecological Society of America, August 8-10, Albuquerque, New Mexico.
- Gibson, D. J., L. K. Reed, and S. G. **Baer**. **2009**. Facilitation and competition effects among cultivar and non-cultivar sources of the dominant grasses in an experimental restoration. British Ecological Society Annual Symposium, April 2-22, Aberdeen, Scotland.
- Klopff, R. P. and S. G. **Baer**. **2009**. The role of population source and grass dominance on recovery of ecosystem structure and function in tallgrass prairie restorations. Biannual Meetings of the Soil Ecology Society, Vermont.
- Elsenbroek, K., R. McKinney, S. G. **Baer**, L. Battaglia, and R. Jansen. **2009**. Evaluation of mist blower application of glyphosate in the treatment of *Lonicera* Spp. in non-sensitive natural areas. Annual meetings of the Natural Areas Association, Washington.
- Meyer, C. K., M. R. Whiles, and S. G. **Baer**. **2009**. Assessment of ecosystem recovery in restored Platte River Wetlands. Platte River Basin Science and Resource Management Symposium, Kearney, Nebraska.
- Reed, L. K., S. G. **Baer** and D. J. Gibson. **2009**. Competitive equivalency of cultivar and non-cultivar dominant prairie grasses in an experimental restoration. Annual Meetings of the Ecological Society of America, August 8-10, Albuquerque, New Mexico.
- Wodika, B., S. G. **Baer**, and M. R. Whiles. **2009**. Changes in macroinvertebrate community structure across a high diversity chronosequence of restored prairie. Biannual Meetings of the Soil Ecology Society, Vermont.
- Bach, E., C. K. Meyer, S. G. **Baer**, and J. W. Six. **2008**. Soil microbial community changes during grassland restoration. Ecological Society of America, Milwaukee, WI.
- Campbell, R. E. and S. G. **Baer**. **2008**. Effects of arbuscular mycorrhizal fungi on productivity and soil nutrients of cultivar and non-cultivar warm-season prairie grasses. Ecological Society of America, Milwaukee, WI.
- Considine, C., J. Groninger, C. Ruffner, S. G. **Baer**, and M. Therrell. **2008**. Integrating fire history and stand structure: Implications for black oak sand savanna management and restoration. Ecological Society of America, Milwaukee, WI.
- Klopff, R. P., R. E. Campbell, and S. G. **Baer**. **2008**. The role of population source and dominance on plant community diversity and productivity in a prairie restoration. Ecological Society of America, Milwaukee, WI.

- Lambert, A. M., S. G. **Baer** and D. J. Gibson. **2008**. Intraspecific variation in physiology and productivity of dominant C4 grass species in a prairie restoration. Ecological Society of America, Milwaukee, WI.
- Meyer, C. K., S. G. **Baer**, and J. W. Six. **2008**. Ecosystem recovery as affected by soil texture in tallgrass prairie Ecological Society of America, Milwaukee, WI.
- Reed, L., S. G. **Baer** and D. J. Gibson. Competitive equivalency of cultivar and non-cultivar dominant prairie grasses in an experimental restoration 2008. Ecological Society of America, Milwaukee, WI.
- Baer**, S. G., C. K. Meyer, and J. W. Six. **2007**. Ecosystem changes during restoration using an extended chronosequence of restored grasslands. Ecological Society of America, San Jose, CA.
- Campbell, R. E., R. P. Klopff, and S. G. **Baer**. **2007**. The role of population source and dominance on plant community diversity in a newly restored prairie. Ecological Society of America, San Jose, CA.
- Klopff, R.P., and S. G. **Baer**. **2007**. Root dynamics between native and cultivar sources of three dominant prairie grasses during restoration. Ecological Society of America, San Jose, CA.
- Lambert, A.M., S. G. **Baer**, and D. J. Gibson. **2007**. Physiology of dominant grasses in prairie restoration: the effect of population seed source on plant performance. Ecological Society of America, San Jose, CA.
- Meyer, C. K., S. G. **Baer**, and M. R. Whiles. **2007**. Belowground carbon and nitrogen dynamics following wet meadow restoration. Ecological Society of America, San Jose, CA.
- Klopff, R. P., and S. G. **Baer**. **2007**. Root dynamics between native and cultivar population sources of three dominant warm-season grasses during prairie restoration. Soil Ecology Society, Moab, UT.
- Meyer, C. K., S. G. **Baer**, and M. R. Whiles. **2007**. Belowground recovery across a chronosequence of restored wetlands in the Platte River Valley. International meeting of the Soil Ecology Society, Moab, UT.
- Whiting, D.P., M. R. Whiles, K. N. Bertrand, K. B. Gido, W. K. Dodds, and S.G. **Baer**. **2007**. Influence of flooding frequency and fish on invertebrate communities in experimental stream mesocosms. North American Benthological Society, Fairbanks, AL.
- Dalzotto, D., S.G. **Baer**, and J. Zaczek. **2007**. Resource Responses to Restoration and Management of Giant Cane (*Arundinaria gigantea*) in Southern Illinois. St. Louis Undergraduate Research Symposium, St. Louis, MO.
- Zaczek, J. J., J. E. Schoonover, S. G. **Baer**, K. W. J. Williard, J. W. Groninger. **2007**. Cultural methods and restoration ecology of giant cane (*Arundinaria gigantea*). The Sixth North American Forest Ecology Workshop. June 18-20, 2007. Vancouver, British Columbia, Canada.
- Meyer, C. K., M. R. Whiles, and S. G. **Baer**. **2006**. Plant community structure and function in natural and restored Platte River wetlands. Ecological Society of America, Memphis, TN.
- Klopff, R. P., R. E. Campbell, and S. G. **Baer**. **2006**. Above- and belowground production patterns and effects on soil nitrogen availability among species and source populations of dominant prairie grasses. Ecological Society of America, Memphis, TN **and** Soil and Restoration Conference, Chicago, IL.
- Crum, M. L., J. J. Zaczek, J. E. Preece, and S. G. **Baer**. **2006**. The impact of thinning and fertilization on sap sugar concentration and sap volume of silver maple (*Acer saccharinum* L.) *Oral presentation at the 15th Central Hardwood Forest Conference*, Knoxville, TN.
- Romano, S. P., J. J. Zaczek, D. J. Gibson, S. G. **Baer**, and L. L. Battaglia. **2006**. Implications of succession, flood duration, flood frequency, and soil texture for overstory and midstory

- communities of a central floodplain forest, southern Illinois, USA. Poster presentation at the International Conference on Rivers and Civilization: Multidisciplinary Perspectives on Major River Basins, La Crosse, WI.
- Romano, S. P., J. J. Zaczek, D. J. Gibson, S. G. **Baer**, and K. W. J. Williard. **2006**. Radial growth relationships of *Quercus* spp. and *Fraxinus pennsylvanica* to flooding in the Lower Kaskaskia River, Southern Illinois, USA. Oral presentation at 38th Annual Meeting, Mississippi River Research Consortium, La Crosse, WI.
- Yocum, C. M., K.W. J. Williard, S. G. **Baer**, J. J. Zaczek. **2006**. Groundwater nitrogen and phosphorus dynamics in giant cane and deciduous forest riparian buffers. 15th Central Hardwood Forest Conference, Knoxville, TN.
- Baer**, S. G., S. Romano, K. W. J. Williard, and J. Zaczek. **2005**. Long-term changes in disturbance dynamics of a floodplain ecosystem: implications of river regulation for forest community structure and regeneration. Ecological Society of America Meeting, Montreal, Canada.
- Baer**, S. G., J. M. Blair, and R. Garcia. **2005**. Linking resource constraints to aboveground productivity, belowground biomass and soil carbon accrual during seven years of prairie restoration. Soil Ecology Society Meeting, Argonne, IL.
- Church, J. M., S. G. **Baer**, K. W. J. Williard, and R. E. Campbell. **2005**. Comparison of nitrogen dynamics in soil dominated by old-field vegetation and an exotic nitrogen fixing shrub in Illinois. Soil Ecology Society Meeting, Argonne, IL.
- Romano, S. P., J. J. Zaczek, K. W. J. Williard, D. J. Gibson, L. Battaglia, and S. G. **Baer**. **2005**. Soil texture and forest strata relationships of the central floodplain forest, lower Kaskaskia River, Illinois. Mississippi River Research Consortium, 37th Annual Meeting Program. Radisson, La Crosse, WI.
- Romano, S. P., J. J. Zaczek, D. Gibson, L. Battaglia, S. G. **Baer**, and K. W. J. Williard. **2005**. Tree composition and growth response to flooding in a hydrologically modified floodplain forest in southern Illinois, USA. Western Illinois University Biology Department Seminar Series, Macomb, IL.
- Zaczek, J. J., S. G. **Baer**, K. W. J. Williard, J. W. Groninger, and R. L. Sexton. **2005**. Propagation and subsequent survival and growth of giant cane (*Arundinaria gigantea*) rhizomes four years after field planting in southern Illinois. 11th Symposium on the Natural History of Lower Tennessee and Cumberland River Valleys, Sponsored by The Center for Field Biology, Austin Peay State University, Clarksville, TN. Land Between the Lakes National Recreation Area, Brandon Springs TN.

APPENDIX B. Graduate Student Committees

Current

1. Jeremy Hartsock	Plant Biology	Ph.D. current
2. Birge, Hannah	Biology	Ph.D. current University of Nebraska
3. Minor, Ashlee	Wildlife	Ph.D. current
4. Krings, Josh	Plant Biology	Ph.D. current
5. Fritz, Kelly	Zoology/IGERT	Ph.D. current
6. Hayes, Ciara	Plant Biology	Ph.D. current
7. Krings, Brooklyn	Plant Biology	Ph.D. current
8. Hazen, Renee	Plant Biology	M.Sc. current
9. Glazer, Lily	Plant Biology	M.Sc. current
10. Schmidt, Kimberly	Zoology/Wildlife	M.Sc. current
11. Erin, Mendevez	Plant Biology	M.Sc. current

Graduated

12. Shew, Justin	Zoology/Wildlife	Ph.D. 2015
13. Bennet, Mica	Zoology/IGERT	Ph.D. 2015
14. Nelson, Amanda	Forestry/IGERT	Ph.D. 2015
15. Anderson, Margaret	Forestry	M.Sc. 2014
16. Stanton, Nicole	Biology	M.Sc. 2014, Kansas State University
17. Rugenski, Amanda	Zoology	Ph.D. 2014
18. Mountjoy, Natalie	Zoology	Ph.D. 2014
19. Chupp, Adam	Plant Biology	Ph.D. 2014
20. Hsu, C.K.	Plant, Soil & Ag.	Ph.D. 2014
21. Benavides, Juan	Plant Biology	Ph.D. 2013
22. Carter, Dan	Biology	Ph.D. 2013, Kansas State University
23. Paudel, Shishir	Plant Biology	Ph.D. 2013
24. Dalzotto, David	Forestry	M.Sc. 2013
25. Donetelli, Juliette	Plant Biology	M.Sc. 2013
26. Wilson, Laurel	Plant Biology	M.Sc. 2013
27. Fruchter, Jesse	Plant Biology	M.Sc. 2012
28. Vandermyde, Jodi	Zoology	M.Sc. 2012
29. Martin, Emily	Plant Biology	M.Sc. 2012
30. Haffele, Ryan	Zoology/Wildlife	M.Sc. 2012
31. Xu, Bin	Plant Biology	Ph.D. 2011
32. Frauendorf, Therese	Zoology	M.Sc. 2011
33. Schwartz, Lauren	Plant Biology	M.Sc. 2011
34. House, Melissa	Plant Biology	M.Sc. 2011
35. Heinrich, Kaleb	Zoology	M.Sc. 2011
36. Osborn, Doug	Zoology/Wildlife	Ph.D. 2010
37. Tikassis, Paul	Forestry	M.Sc. 2010
38. Whiting, Dan	Zoology	M.Sc. 2010
39. Urban, Jared	Plant Biology	M.Sc. 2010
40. Alford, Aaron	Zoology/Wildlife	Ph.D. 2009
41. McCain-Schmitt, K.	Biology	Ph.D. 2008, Kansas State University
42. Hansen, Michael	Plant Biology	M.Sc. 2008
43. Marten, Darren	Zoology	M.Sc. 2008

44. Berendecke, William	Forestry	M.Sc. 2008
45. Meyer, Clinton	Zoology	Ph.D. 2007
46. Walther, Denise	Zoology	Ph.D. 2007
47. Goldstein, Christine	Forestry	M.Sc. 2007
48. Bill, Michael	Forestry	M.Sc. 2005
49. Yeagle, Jessica	Forestry	M.Sc. 2005
50. Church, Jennifer	Forestry	M.Sc. 2004
51. Blattel, Chris	Forestry	M.Sc. 2004
52. Crum, Michelle	Forestry	M.Sc. 2004
53. Mount, Justin	Forestry	M.Sc. 2004

APPENDIX C. Undergraduate Student Mentoring and Training

2016	Training	Mark Sandwick (BIOL)
2015	Training	Juliet Fitzgibbon (PLB)
2015	Mentor	Kasey Fralick (REU)
2014-15	Training	Hunter Swift (FOR)
2014-15	Mentor	Alicia Luebbers (ZOOL) – Undergraduate Assistantship
2014-16	Mentor	Patricia Walker (BIO) – Undergraduate Assistantship
2014	Mentor	Christina Johnson (ZOOL) – Center for Ecology Intern
2013-14	Mentor	Austen Slone (FOR) – Undergraduate Assistantship
2013-14	Training	Alicia Luebbers (ZOOL)
2013	Mentor	Kyle Kaszynski (REU)
2013	Mentor	Allison Breeding (REU)
2013	Mentor	Benjamin Clevinger (FOR) – Center for Ecology Intern
2013	Training	Nick Lowman (ENG)
2013-15	Mentor	Sam Anandel (PLB)
2012	Mentor	Austen Slone (FOR), Center for Ecology Intern
2012	Training	Austen Slone (FOR)
2011	Training	Nick Leloneck (BIOL)
2011	Training	Michael Beck (ZOOL)
2011-2012	Mentor	Evan McCrea (PLB) – Undergraduate Assistantship
2011-2012	Mentor	Kim Elsenbroek (PLB) – Undergraduate Assistantship
2010-11	Mentor	Kim Elsenbroek (PLB) – Research Enriched Academic Challenge (REACH) Award
2010-11	Mentor	Evan McCrea (PLB) – Undergraduate Assistantship
2009-10	Training	Evan McCrea (BIOL) – Student worker
2009-10	Mentor	Kim Elsenbroek (PLB) – Saluki Scholar Award
2008-	Mentor & Training	Jacob Jefferies (PHIL) – Undergraduate Assistantship
2008-09	Mentor	Candace Marner (FOR) – IDNR Intern
2008-09	Training	Lori Barrow (FOR)
2007	Advisor	Joe Batir – Service Learning Project “Restoration of Prairie”
2006-	Training	Dana Carpenter (FOR/PLB) – student worker
2006-08	Training	Stephanie Welsh (BIOL) – student worker
2006-08	Mentor & Training	Meredith Mendola (FOR) – Undergraduate Assistantship and student worker
2005-07	Mentor & Training	Dave Dalzotto (FOR) – Research Enriched Academic Challenge (REACH) Award and student worker
2006-07	Training	Luke Koett (FOR) – student worker
2006	Training	Ryan Pankau (FOR) – student worker
2004-05	Training	Ryan Campbell (PLB) – student worker
2006	Training	Paul Curtis, Carbondale High
2004-06	Mentor & Training	Robin Garcia (ZOOL) – Undergraduate Assistantship Award