

Andrea R. Litt

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Education

- **Ph.D., Wildlife and Fisheries Science, Statistics** minor, University of Arizona, 2007
Dissertation: Effects of experimental fire and nonnative grass invasion on small mammals and insects
- **M.S., Wildlife Ecology and Conservation**, University of Florida, 1999
Thesis: Herpetofaunal responses to longleaf pine sandhill restoration treatments
- **B.S., Zoology**, University of Wisconsin, 1995
- **Areas of interest:** Effects of human activities on wildlife populations and communities, especially invasive species and changes in land-use, disturbance regimes, and climatic patterns, plant-animal interactions, restoration ecology, quantitative ecology

Experience

- **Assistant Professor** *Department of Ecology, Montana State University (MSU), 2011-present*
Develop and maintain comprehensive research (40%) and teaching programs (50%) with service to the university and profession (10%). Research focuses on assessing effects of anthropogenic impacts on wildlife communities and populations, especially nonnative species, developing strategies for restoration, and examining plant-animal interactions. Currently serve as major advisor for 2 MS students and 3 undergraduate interns, serve on graduate committees for 4 MS and 5 PhD students; graduated 6 MS students, served on numerous graduate committees, supervised 4 undergraduate internships
- **Assistant Professor** *Caesar Kleberg Wildlife Research Institute, Texas A&M University-Kingsville (TAMUK), 2009-10*
Develop research (25%) and teaching programs (25%) and provide statistical expertise on data analysis and study design (50%). Research program focused on assessing effects of nonnative grasses and restoration methods on wildlife communities and populations. Served as major advisor for 3 MS students, served on graduate committees for 3 PhD and 1 MS students, supervised 2 undergraduate internships
- **Post-Doctoral Research Associate** *Colorado State University, 2008*
Develop strategies to optimize selection of ecological parameters for large-scale monitoring programs
- **Research Associate** *University of AZ, School of Natural Resources, 2007*
Assess efficiency of nationwide monitoring efforts for marsh birds
- **Adjunct Lecturer** *University of AZ, Dept. of Ecology & Evolutionary Biology, 2007*
Sabbatical replacement for Mammalogy; lead lectures and labs, supervise teaching assistants

- **Biostatistics Intern** *BIO5 - Institute for Collaborative Research, 2006*
Develop methods to improve estimates of abundance with sparse data
- **Lecturer** *University of AZ, School of Natural Resources, 2005 and 2006*
Sabbatical replacement for Applied Biostatistics; lead lectures/labs, supervise teaching assistant
- **Graduate Teaching Associate** *University of AZ, 2001 and 2003*
Teaching assistant for Mammalogy and Applied Biostatistics
- **Graduate Research Associate** *University of AZ, School of Natural Resources, 2001-07*
Assess effects of nonnative grasses and fire on populations and communities of small mammals and insects
- **Science Assistant** *The Nature Conservancy, Eglin Air Force Base, FL, 1999-2001*
Evaluate efficacy of restoration treatments on plant and animal communities in sandhills
- **Graduate Research Assistant** *University of FL, Wildlife Ecology & Conservation, 1996-1999*
Assess effects of three restoration treatments on reptiles and amphibians in longleaf pine sandhills

Courses Taught

Montana State University, Department of Ecology

- BIOO 475** **Mammalogy**, 3 units, undergraduate, fall semesters, ~50 students
Lectures and labs on ecology, evolution, anatomy/physiology, taxonomy, field techniques, identification, and management of mammals
- WILD 401R** **Capstone in Fish and Wildlife Ecology and Management**, 4 units, 1/2 responsibility, undergraduate, spring semesters, ~40 students, required of all majors in Fish and Wildlife Ecology and Management, serves as a Research CORE course
Lectures and laboratories on sampling, study design, developing research questions and proposals, hands-on field techniques, and other topics
- WILD 504** **Wildlife-Habitat Relationships**, 3 units, graduate, spring semesters of even years
Conceptual and practical understanding of wildlife-habitat relationships and the use, application, and limitations of the analytical tools used to analyze these data
- Guest lectures** Introduction to Fish and Wildlife Ecology (WILD 201) – Fall 2011-14, Biodiversity Methods (ENSC 410/LRES 510) – Fall 2011-14; Foundations of Ecology and Management (BIOE 594) – Fall 2011; Community Ecology (BIOL 580) – Spring 2011
- Workshops** Strategies for Analyzing Fisheries Data, co-taught with Megan Higgs (Statistics, MSU), annual meeting of the MT Chapter of the American Fisheries Society, 2015

Previous Courses

Montana State University, Department of Ecology

- BIOB 170** **Principles of Biological Diversity**, 3 units, 1/3 responsibility, undergraduate, every semester (Fall 2011-Spring 2013), 200-325 students
Foundational concepts in organismal biology: evolution, diversity, and ecology

Texas A&M University – Kingsville, Department of Animal and Wildlife Sciences

- RWSC 4383** **Ecology of Arid and Semi-Arid Lands**, 3 units, undergraduate
Principles of ecology of arid systems worldwide including climate, disturbance, biodiversity of plants and animals, evolutionary adaptations, and management
- WSC1 6390** **Applied Regression Analysis**, 3 units, graduate
Regression-based statistical methods for analysis of biological data, with a focus on Generalized Linear Models. Explore assumptions, diagnostic tools, and biological interpretation of results
- WSC1 6390** **Estimation and Analysis of Wildlife Populations**, 3 units, graduate
Conceptual and practical focus on estimating parameters relevant to wildlife populations. Methods used for sampling and estimating population parameters, principles of design and statistical inference, and contemporary software

University of Arizona

- RNR 613** **Applied Biostatistics**, School of Natural Resources, 4 units, graduate
Introductory through advanced statistical methods and their applications in ecology. Focus on the importance of sampling and experimental design, and how these dictate appropriate statistical models for analysis
- ECOL 485/585** **Mammalogy**, Department of Ecology and Evolutionary Biology, 3 units, undergraduate and graduate
Ecology and evolution of mammals of the world, including taxonomy, evolutionary diversification, anatomy, physiology, behavior, and conservation

Refereed Publications (listed reverse chronologically, * = student author)

In review

- Kenison, E.*, **A. R. Litt**, D. S. Pilliod, and T. E. McMahon. Larval long-toed salamanders incur nonconsumptive effects to morphology and life-history traits in the presence of introduced trout. *Ecosphere*.
- Litt, A. R.**, and R. J. Steidl. Complex demographic responses of a common small mammal to a plant invasion. *Wildlife Research*.
- Zabransky, C. J.*, D. G. Hewitt, R. W. DeYoung, S. Gray, C. Richardson, **A. R. Litt**, and C. A. DeYoung. A detection probability model for aerial surveys of mule deer in southwestern rangelands. *Journal of Wildlife Management*.

In revision

- Ayala-A, F.*, J. A. Ortega-S, T. E. Fulbright, G. A. Rasmussen, D. L. Drawe, D. R. Synatzke, and **A. R. Litt**. Effect of previous aeration and prescribed fire on vegetation response to a wildfire. *Rangeland Ecology and Management*.

Ayala-A, F.*, J. A. Ortega-S, T. E. Fulbright, G. A. Rasmussen, D. L. Drawe, and **A. R. Litt**. Is seeding necessary after roller chopping mixed-brush plant communities in southern Texas? *Rangeland Ecology and Management*.

In print

Ray, A., A. Sepulveda, B. Hossack, D. Patla, D. Thoma, R. Al-Chokhachy, and **A. R. Litt**. 2015. Monitoring greater Yellowstone ecosystem wetlands: Can long-term monitoring help us understand their future? *Yellowstone Science* 23(1):44-53. *Special Issue on Ecological Implications of Climate Change on the Greater Yellowstone Ecosystem*

Litt, A. R., E. E. Cord*, T. E. Fulbright, and G. L. Schuster. 2014. Effects of invasive plants on arthropods. *Conservation Biology* 28:1532-1549.

Andrews, T. M.*, B. B. Shepard, **A. R. Litt**, C. G. Kruse, A. V. Zale, and S. T. Kalinowski. 2013. Juvenile movement among different populations of cutthroat trout introduced as embryos to vacant habitat. *North American Journal of Fisheries Management* 33:795-805.

Donohue, R. N.*, D. G. Hewitt, T. E. Fulbright, C. A. DeYoung, **A. R. Litt**, and D. A. Draeger. 2013. Aggressive behavior in white-tailed deer at concentrated food sites as affected by population density. *Journal of Wildlife Management* 77:1401-1408.

Fulbright, T. E., A. Lozano-Cavazos*, D. C. Ruthven, and **A. R. Litt**. 2013. Plant and small vertebrate composition and diversity 36-39 years after root plowing. *Rangeland Ecology and Management* 66:19-25.

Kalinowski, S. T., M. J. Leonard, T. M. Andrews*, and **A. R. Litt**. 2013. Six classroom exercises for teaching natural selection to undergraduate biology students. *CBE Life Sciences Education* 12:483-493.

Litt, A. R., and D. E. Pearson. 2013. Invasive plants and wildlife in the Intermountain West. Invited contribution, special issue of *The Wildlife Society Bulletin* 37:517-526.

Steen, D. A., L. L. Smith, L. M. Conner, **A. R. Litt**, L. Provencher, J. K. Hiers, S. Pokswinski, and C. Guyer. 2013. Reptile assemblage response to restoration of fire-suppressed longleaf pine sandhills. *Ecological Applications* 23:148-158.

Steen, D. A., L. L. Smith, G. Morris, L. M. Conner, **A. R. Litt**, S. Pokswinski, and C. Guyer. 2013. Response of *Aspidoscelis sexlineatus* (six-lined racerunner) to habitat restoration in fire-suppressed *Pinus palustris* (longleaf pine) sandhills. *Restoration Ecology* 21:457-463.

Steidl, R. J., C. J. Conway, and **A. R. Litt**. 2013. Power to detect trends in abundance of secretive marsh birds: Effects of species traits and sampling effort. *Journal of Wildlife Management* 77:445-453.

Steidl, R. J., **A. R. Litt**, and W. J. Matter. 2013. Effects of plant invasions on wildlife in desert grasslands. Invited contribution, special issue of *The Wildlife Society Bulletin* 37:527-536.

Ayala-A, F.*, J. A. Ortega-S, T. E. Fulbright, G. A. Rasmussen, D. L. Drawe, D. R. Synatzke, and **A. R. Litt**. 2012. Long-term effects of aeration and fire on invasion of exotic grasses in mixed-brush plant communities. *Rangeland Ecology and Management* 62:153-159.

Kahl, S. S.*, S. E. Henke, M. A. Hall, **A. R. Litt**, G. Perry, and D. Britton. 2012. Examining a potential brown treesnake transport pathway: Shipments from Guam. *Human-Wildlife Interactions* 6:204-211. *Special Issue on Brown Treesnakes*

Litt, A. R., and R. J. Steidl. 2011. Interactive effects of fire and nonnative plants on small mammals in grasslands. *Wildlife Monographs* 176:1-31. **Outstanding Monograph – The Wildlife Society 2012**

Litt, A. R., and R. J. Steidl. 2010. Insect assemblages change along a gradient of invasion by a nonnative grass. *Biological Invasions* 12:3449-3463.

- Litt, A. R.**, and R. J. Steidl. 2010. Improving estimates of abundance by aggregating sparse capture-recapture data. *The Journal of Agricultural, Biological, and Environmental Statistics* 15:228-247.
- Steidl, R. J., and **A. R. Litt**. 2009. Do plant invasions change the effects of fire on animals? *Fire Ecology* 5:56-66.
- Provencher, L., **A. R. Litt**, and D. R. Gordon. 2003. Predictors of species richness in northwestern Florida longleaf pine sandhills. *Conservation Biology* 17:1660-1671.
- Litt, A. R.**, B. J. Herring, and L. Provencher. 2001. Herbicide effects on ground-layer vegetation in southern pinelands, USA: A review. *Natural Areas Journal* 21:177-188.
- Litt, A. R.**, L. Provencher, G. W. Tanner, and R. Franz. 2001. Herpetofaunal responses to restoration treatments of longleaf pine sandhills in Florida. *Restoration Ecology* 9:462-474.
- Provencher, L., B. J. Herring, D. R. Gordon, L. H. L. Rodgers, G. W. Tanner, J. L. Hardesty, L. A. Brennan, and **A. R. Litt**. 2001. Longleaf pine and oak responses to hardwood reduction techniques in fire-suppressed sandhills in northwest Florida. *Forest Ecology and Management* 148:63-77.
- Provencher, L., **A. R. Litt**, D. R. Gordon, H. L. Rodgers, B. J. Herring, K. E. M. Galley, J. P. McAdoo, S. J. McAdoo, N. M. Gobris, and J. L. Hardesty. 2001. Restoration fire and hurricanes in longleaf pine sandhills. *Ecological Restoration* 19:92-98.
- Litt, A. R.**, L. Provencher, D. R. Gordon, B. J. Herring, J. P. McAdoo, S. J. McAdoo, J. L. Hardesty, G. W. Tanner, and L. A. Brennan. 2000. How are longleaf pines affected by different methods of hardwood reduction? *Journal of Forestry Focus Section* 98:3.
- Litt, A. R.** 1998. Response of the herpetofaunal community to three sandhill restoration treatments. *Bulletin of the Gopher Tortoise Council* 18:4.

Manuscripts in Preparation

- Andrews, T. M.*, B. B. Shepard, **A. R. Litt**, C. G. Kruse, L. M. Nelson, P. Clancy, A. V. Zale, M. L. Taper, and S. T. Kalinowski. Performance of juvenile Cutthroat Trout translocated as embryos from five populations into a common habitat. *North American Journal of Fisheries Management*.
- Bachen, D. A.*, **A. R. Litt**, C. Gower, and M. D. Higgs. Effects of cheatgrass invasion on food accessibility for small mammals in sagebrush steppe.
- Bielfelt, B.*, and **A. R. Litt**. The tangled issue of native invasive species: Understanding the effects of increased dominance of *Heteropogon contortus* (tanglehead).
- Cord, E. E.*, **A. R. Litt**, T. E. Fulbright, and G. L. Schuster. Changes in arthropod communities with native and nonnative invasive grasses.
- Kenison, E.*, **A. R. Litt**, D. S. Pilliod, and T. E. McMahon. The role of habitat complexity in predator-prey dynamics between an introduced fish and larval salamander. *Canadian Journal of Zoology*.
- Litt, A. R.**, and R. J. Steidl. Restoring fire to ecosystems invaded by nonnative plants: consequences for insects.
- Mitchell, A. B.*, and **A. R. Litt**. Nonnative plant shifts arthropod functional groups following drought.

- Shanahan, E. K.*, D. Roberts, K.M. Irvine, **A. R. Litt**, and K. Legg. White pine blister rust in whitebark pine stands: Infection and infection transition probability.
- Tierney, K. R.*, B. E. Olson, J. Mosley, and **A. R. Litt**. Can cattle be trained to graze weeds?
- Tierney, K. R.*, B. E. Olson, J. Mosley, and **A. R. Litt**. Do cattle graze similar amounts of spotted knapweed?
- Witecha, M. J.*, **A. R. Litt**, T. E. Fulbright, S. M. Cooper, and D. P. Walker. Interactive effects of wildfire and precipitation on small mammals in semi-arid shrublands. *Journal of Wildlife Management*.

Book Reviews

- Litt, A. R.** 2005. Mammal community dynamics: management and conservation in the coniferous forests of western North America. *Journal of Wildlife Management* 69:440-441.

Popular Publications

- Tjelmeland, A., **A. Litt**, and F. Smith. 2010. Tanglehead: A new threat to south Texas wildlife? *Texas Wildlife, Magazine of the Texas Wildlife Association*, February 2010, p. 10, San Antonio, TX.
- Litt, A. R.**, B. J. Bielfelt, E. E. Cord, and M. J. Witecha. 2009. Invasive plants and wildlife diversity. *South Texas Wildlife Newsletter*, Caesar Kleberg Wildlife Research Institute, Kingsville, TX.

Book Chapters

- Litt, A. R.** 2010. Population. *Encyclopedia of Research Design*. SAGE Publications, Inc., Thousand Oaks, CA.

Published Technical Reports

- Shanahan, E., K.M. Irvine, D. Roberts, **A. Litt**, K. Legg, and R. Daley. 2014. Status of whitebark pine in the Greater Yellowstone Ecosystem: A step-trend analysis comparing 2004-2007 to 2008-2011. *Natural Resource Technical Report NPS/GRYN/NRTR—2014/917*. National Park Service, Fort Collins, CO.
- Conway, C. J., C. P. Nadeau, R. J. Steidl, and **A. R. Litt**. 2008. Relative abundance, detection probability, and power to detect population trends of marsh birds in North America. *Wildlife Research Report 2008-02*. US Geological Survey, Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.
- Provencher, L., K. E. M. Galley, **A. R. Litt**, D. R. Gordon, L. A. Brennan, G. W. Tanner, and J. L. Hardesty. 2002. Fire, herbicide, and chainsaw felling effects on arthropods in fire-suppressed longleaf pine sandhills at Eglin Air Force Base, Florida. Pp. 24-33 in W. M. Ford, K. R. Russell, and C. E. Moorman, editors. *Proceedings: the role of fire for nongame wildlife management and community restoration: traditional uses and new directions*. General Technical Report NE-288. USDA USFS, Northeastern Research Station.
- Gordon, D. R., L. Provencher, **A. R. Litt**, G. W. Tanner, and L. A. Brennan. 2001. Comparative effects of different hardwood control methods for restoration of fire-suppressed longleaf pine sandhills. *Proceedings of the annual meeting of the Southern Weed Science Society* 54:224-224.

Grants and Contracts

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| 2015-18 | Survival and reproduction of Merriam's wild turkeys in the Northern Black Hills, South Dakota, <i>Principal Investigator</i> , South Dakota Game, Fish, and Parks, \$191,671 |
| 2015-18 | Cattle grazing strategies to sustain and enhance sage-grouse habitat, <i>Co-Principal Investigator</i> , National Institute of Food and Agriculture, Agriculture and Food Research |

- Initiative, Critical Agricultural Research and Extension, \$149,924
- 2015-18 Targeted cattle grazing strategies to enhance sage-grouse brood-rearing habitat, Co-Principal Investigator, Bair Ranch Foundation, \$56,746
- 2014-16 Occupancy, genetics, and management of the hoary marmot (*Marmota caligata*) in Montana, Co-Principal Investigator, Montana Fish, Wildlife, and Parks, \$108,386
- 2014-15 Status and trends of bat populations in southeastern Arizona: Analysis of a long-term data set and recommendations for future monitoring, Principal Investigator, National Park Service, Southern Arizona Group, \$21,031
- 2013-15 Population ecology and landscape use of the Chiricahua leopard frog (*Lithobates chiricahuensis*), Principal Investigator, Turner Enterprises, Inc., \$89,350
- 2013-14 Soil modification to restore areas dominated by Old World Bluestems, Principal Investigator, Texas Parks and Wildlife Department, \$28,553
- 2012 Direct and indirect responses to herbivory in semi-arid ecosystems: Indicators of vulnerability to climate and land-use changes in the High Plains region of Montana, Co-Principal Investigator, Montana Institute on Ecosystems, Incubation grant, \$7,500 plus \$3,300 to support an undergraduate fellowship, total = \$10,800
- 2011-13 Soil modification as a restoration tool to reduce Old World bluestems, Principal Investigator, Student Fellowship – Rob and Bessie Welder Wildlife Foundation, \$51,300
- 2010-11 Statistical power and population trends of high conservation priority bird species, Co-Principal Investigator, Gulf Coast Joint Venture, USFWS, \$79,456
- 2010 Understanding a native invader: Effects of tanglehead (*Heteropogon contortus*) on flora and fauna, Principal Investigator, ExxonMobil Foundation Summer Jobs Program, \$2,500
- 2010 Understanding a native invader: Effects of tanglehead (*Heteropogon contortus*) on grassland birds, Principal Investigator, George and Mary Josephine Hamman Foundation, \$10,000
- 2010 Understanding a native invader: Effects of tanglehead on grassland birds, Principal Investigator, Harvey Weil Sportsman Conservation Award, \$7,500
- 2009 Understanding a native invader: Effects of tanglehead on grassland birds, Principal Investigator, University Research Awards, TAMUK, \$25,000
- 2009-11 Small mammal and avian response to high-intensity wildfire, Principal Investigator, Texas Parks and Wildlife Department, \$204,742
- 2006 Biostatistical Internship, BIO5 Institute for Collaborative Research, University of AZ, \$8,000
- 2003-6 Fire as a tool to restore biodiversity in ecosystems dominated by invasive grasses, Co-PI, Legacy Resource Management Program, Department of Defense, \$437,820

Students

Major advisor – In progress

Ross Hinderer, M.S. student, spring 2013 – present, Habitat selection and movement of Chiricahua leopard frogs during dispersal

Ben Turnock, M.S. student, summer 2014 – present, Occupancy, genetics and management of the hoary marmot in Montana, Co-advised with Steven Kalinowski

- Don C. Quimby Graduate Research Scholarship, MSU

Committee member – In progress

Carson Butler, Ph.D. student, Ecology, MSU, Advised by Robert Garrott.

Kyle Cutting, Ph.D. student, Ecology, MSU, Advised by Jay Rotella.

Adam Mitchell, Ph.D. student, Entomology and Wildlife Ecology, University of Delaware, Advised by Doug Tallamy.

Mike Ebinger, M.S. student, Ecology, MSU, Advised by Robert Garrott.

Andrew Gilham, M.S. student, Ecology, MSU, Advised by Brad Shepard and Al Zale.

Adam Kehoe, M.S. student, Ecology, MSU, Advised by Vicki Saab and Jay Rotella.

Heather Sayine-Crawford, M.S. student, Ecology, MSU, Advised by Robert Garrott.

Internship/Independent Study advisor – In progress

Niall Clancy, undergraduate student, MSU, spring 2015, Amphibians and ecosystems (independent study)

- Co-advisor: Wyatt Cross, MSU

Adam Starecheski, undergraduate student, MSU, spring/summer 2015, Decreasing snowpack and shifting flow regimes in western Montana: Current and future effects on the hoary marmot

- Funding for spring and summer: Undergraduate Scholars Program, MSU
- Collaborators: Ben Turnock, MSU

Cheyenne Stirling, undergraduate student, MSU, summer 2015, Bats in buildings: Assessing human structures as roost sites in Glacier National Park

- Funding: Jerry O'Neal National Park Service Student Fellowship
- Collaborators: Lisa Bate, National Park Service

Major advisor – Completed

Adam Mitchell, M.S. student, summer 2011 – summer 2014, Soil modification as a tool to reduce Old World bluestems and restore vegetation and arthropod communities

- Welder Wildlife Fellow, Welder Wildlife Foundation
- Graduate Enhancement Grant, Montana Institute on Ecosystems
- *Current position*: Ph.D. Student, University of Delaware

Daniel Bachen, M.S. student, fall 2011 – spring 2014, Cheatgrass invasion of sagebrush steppe: Impacts of vegetation structure on small mammals

- Outstanding Teaching Assistant, Department of Ecology, MSU
- Don C. Quimby Graduate Research Scholarship, MSU
- Kenneth D. Lorang Memorial Award, MSU
- Counter Assault Grant, Montana chapter of The Wildlife Society
- Best Student Poster, Montana chapter of The Wildlife Society
- Graduate Enhancement Grant, Montana Institute on Ecosystems
- Student Travel Grant, College of Letters and Science, MSU
- *Former position*: Wildlife Biologist, Montana Natural Heritage Program
- *Current position*: Biologist, USGS and Montana Institute on Ecosystems

Erin Kenison, M.S., spring 2012 – spring 2014, Investigating predator-prey interactions between introduced trout and long-toed salamanders and ways to mitigate non-consumptive effects

- Wynn Freeman Award, Montana chapter of The Wildlife Society
- Best Student Presentation, Montana chapter of The Wildlife Society
- Nongame Research Stipend, Montana Fish, Wildlife, and Parks
- Matthew F. Clow Memorial Scholarship, MSU
- Counter Assault Grant, Montana chapter of The Wildlife Society
- Student Travel Grant, College of Letters and Science, MSU
- Graduate Enhancement Grant, Montana Institute on Ecosystems
- Best Student Poster, Western Division of the American Fisheries Society
- *Current position:* Ph.D. Student, Purdue University

Brian Bielfelt, M.S., CKWRI, TAMUK, 2009–2012, Invasion by a native grass: Implications of tanglehead (*Heteropogon contortus*) for grassland birds

- Student awards, American Ornithologist's Union, Cooper Ornithological Society
- Scholarship, Houston Safari Club
- *Previous position:* Wildlife Biologist, Sapphos Environmental
- *Current position:* Terrestrial Biologist, Southern California Edison

Mark Witecha, M.S., CKWRI, TAMUK, 2009–2011, Effects of high-intensity wildfire on small mammal communities

- Scholarship, Houston Safari Club
- *Previous position:* Wildlife Biologist, Pheasants Forever
- *Current position:* Wildlife Biologist, Wisconsin Department of Natural Resources

Erin Cord, M.S., CKWRI, TAMUK, 2009–2011, Changes in arthropod abundance and diversity with invasive grasses

- Student presentation award – Third place, Texas Chapter of The Wildlife Society
- President's Award for Best Oral Presentation, TAMUK
- Outstanding Graduate Student – College of Agriculture, TAMUK
- *Previous positions:* Director, Wildlife Austin, Austin Parks & Recreation Department; Natural Resources Biologist, Travis County, TX
- *Current position:* Community Programs Coordinator, Keep Austin Beautiful

Committee member – Completed

Jennifer Korn, Ph.D., 2013, CKWRI, Genetic pedigree and prey dynamics of ocelots and fine-scale movement patterns of bobcats in south Texas, Advised by Mike Tewes.

Michele de Verteuil, M.S., 2011, CKWRI, Texas A&M University – Kingsville, Impacts of wildfire on local avian communities of the Rio Grande Plains, Advised by William Kuvlesky.

Matthew Dresser, M.S., 2015, Ecology, MSU, Demographic responses of three woodpecker assemblages in relation to a mountain pine beetle epidemic in the Elkhorn Mountains of Montana, Advised by Vicki Saab and Jay Rotella.

Ryan Lamb, M.S., 2015, Ecology, MSU, Advised by Billie Kerans and David Roberts.

Megan O'Reilly, M.S., 2013, Ecology, MSU, Development of occupancy surveys for mountain ungulates, Advised by Robert Garrott.

Erin Shanahan, M.S., 2015, Ecology, MSU, Whitebark pine in the Greater Yellowstone Ecosystem, Advised by David Roberts.

Brandi Skone, M.S., 2014, Ecology, MSU, An assessment of the usefulness of winter wheat for nesting dabbling ducks in North and South Dakota, Advised by Jay Rotella.

Katie Tierney, M.S., 2013, Animal and Range Sciences, MSU, Effects of training on cattle grazing spotted knapweed and Canada thistle, Advised by Bret Olson.

Internship advisor – Completed

Noah Bosworth, undergraduate, MSU, spring – summer 2014, Developing and testing a key for Montana shrews based on morphology of dorsal hairs

- Funding: Undergraduate Scholars Program, MSU
- Collaborators: Dan Bachen, MSU

Bryan Cossairt, undergraduate student, MSU, summer 2013, Understanding factors affecting vulnerability of wetlands and associated species in the Greater Yellowstone Area

- Funding: Montana Institute on Ecosystems
- Collaborators: Andy Ray, David Thoma, Rob Daley, and Kristin Legg, NPS

Jayme Feyhl-Buska, undergraduate student, MSU, summer 2012, Examination of current and previous research related to herbivory in semi-arid ecosystems in the High Plains of Montana

- Funding: Montana Institute on Ecosystems
- Collaborators: Ray Callaway and Solomon Dobrowski, University of Montana, Erik Beaver, USGS

Taylor Garrison, undergraduate student, TAMUK, 2011. Avian associations with mesquite motte characteristics

- Funding: Student travel grant, The Wildlife Society
- Collaborators: Brian Bielfelt, CKWRI

Professional Presentations (in reverse chronological order, * = student author, underlined = presenter)

Invited presentations

Litt A. R. 2015. Influence of patch size and neighborhood composition on arthropod communities in the face of plant invasion. *Invited symposium presentation* – Arthropod Mediated Associational Effects Among Native and Non-Native Plants, organized by Sarah O'Neill and Carl Clem, Annual meeting of the Entomological Society of America, Minneapolis, MN.

Mitchell, A. B.*, and A. R. Litt. 2015. Arthropods as indicators of restoration success: lessons from an invaded grassland. *Invited symposium presentation* – Use of Arthropods in Wildlife and Applied Ecology: Recognition of Our Common Goals, organized by Steven Grodsky and Adam Mitchell, Annual meeting of the Entomological Society of America, Minneapolis, MN.

Litt A. R. 2014. Using a mathematical toolbox to understand nature. Girls' Adventures in Mathematics, Engineering, and Science (summer camp for middle school girls), Math Association of America and Montana State University, Bozeman, MT.

Litt A. R. 2014. Nonnative plants have complex effects on animal populations. *Invited seminar*, Science Wednesday, USFWS, Red Rock Lakes National Wildlife Refuge, MT.

Litt, A. R. 2013. Dynamics of animal populations and communities in invaded ecosystems. *Invited departmental seminar*, School of Natural Resources and the Environment, University of Arizona, Tucson, AZ.

- Litt, A. R.** 2013. Plant invasions and disturbance regimes: Complex consequences for wildlife populations and communities. *Invited symposium presentation* – Indirect Effects of Invasive Species, organized by the Invasive Species Working Group, Annual meeting of The Wildlife Society, Milwaukee, WI.
- Litt, A. R.**, and R. J. Steidl. 2013. Restoration in light of ecological changes: Complex consequences for wildlife populations and communities. *Invited symposium presentation* – Challenges and opportunities for western rangeland restoration under a changing climate, organized by Paulette Ford and Justin Derner, Annual meeting of the Society for Ecological Restoration, Madison, WI.
- Litt, A. R.** 2011. Invasive plants: Changing the rules for populations, communities, and ecosystems. *Invited seminar*, EcoLunch seminar series, USGS Northern Rocky Mountain Science Center, Bozeman, MT.
- Litt, A. R.**, and F. C. Bryant. 2009. Invasive plants in south Texas: An ecologist's perspective. *Invited paper*, Annual meeting of the Texas Invasive Plant and Pest Council, San Antonio, TX.
- Litt, A. R.**, and R. J. Steidl. 2008. Restoring fire to grasslands invaded by nonnative plants: consequences for small mammals. *Invited paper*, Mammal Research Symposium, Tucson, AZ.
- Litt, A. R.** 2006. Reliably quantifying wildlife populations with limited information. *Invited paper*, BIO5 Symposium, Tucson, AZ.
- Provencher, L., K. E. M. Galley, **A. R. Litt**, D. R. Gordon, L. A. Brennan, G. W. Tanner, and J. L. Hardesty. 2000. Fire, herbicide, and chainsaw felling effects on arthropods in fire-suppressed longleaf pine sandhills at Eglin Air Force Base, FL. *Invited symposium presentation*, Annual meeting of The Wildlife Society, Nashville, TN.

Contributed presentations

- Bosworth, N. P.***, D. A. Bachen, and **A. R. Litt**. 2015. Can Montana shrews be identified using morphology of dorsal guard hairs? *Contributed paper*, Annual meeting of the Montana chapter of The Wildlife Society, Helena, MT.
- Hinderer, R.***, **A. R. Litt**, and M. McCaffery. 2015. Dispersal and habitat selection by Chiricahua leopard frogs during summer monsoons, *Contributed paper*, Annual meeting of the Society for the Study of Amphibians and Reptiles, Lawrence, KS.
- Hinderer, R.***, **A. R. Litt**, and M. McCaffery. 2015. Habitat selection by Chiricahua leopard frogs during summer monsoons, *Contributed paper*, Annual meeting of the Montana chapter of The Wildlife Society, Helena, MT.
- Mitchell, A.***, and **A. R. Litt**. 2015. Invasive herbivores dominate arthropod community following plant invasion and drought, *Contributed paper*, Annual meeting of the Entomological Society of America, Minneapolis, MN.
- Mitchell, A.***, and **A. R. Litt**. 2015. Invasive herbivores dominate arthropod community following plant invasion and drought, *Contributed paper*, Annual meeting of the Eastern Branch of the Entomological Society of America, Rehobeth Beach, DE.
- Mitchell, A.***, and **A. R. Litt**. 2015. Modifying soil properties to restore plant communities for arthropods following plant invasion and drought, *Contributed paper*, Annual meeting of the Mid-Atlantic Chapter of the Society for Ecological Restoration, Newark, DE.
- Turnock, B.**, **A. R. Litt**, J. Vore, C. Hammond, and S. Kalinowski. 2015. Investigating habitat characteristics important to hoary marmots (*Marmota caligata*) in Montana, *Contributed paper*, Annual meeting of the Montana chapter of The Wildlife Society, Helena, MT.
- Bachen, D.***, **A. R. Litt**, C. Gower, and M. Higgs. 2014. Indirect effects of nonnative brome grasses on small mammals in sagebrush steppe ecosystems. *Contributed paper*, Annual meeting of the Montana chapter of The Wildlife Society, Bozeman, MT.

- Hinderer, R.*, **A. R. Litt**, M. McCaffery, and R. Garrott. 2014. Understanding movement patterns of Chiricahua leopard frogs (*Lithobates chiricahuensis*) to promote species persistence in desert ecosystems. Contributed paper, Annual meeting of the Montana chapter of The Wildlife Society, Bozeman, MT.
- Kenison, E.*, **A. R. Litt**, D. Pilliod, and T. McMahon. 2014. Investigating direct and indirect effects of introduced fish predators on long-toed salamander larvae. Contributed paper, Joint meeting of Ichthyologists and Herpetologists, Chattanooga, TN.
- Kenison, E.*, **A. R. Litt**, D. Pilliod, and T. McMahon. 2014. Investigating coexistence between trout and long-toed salamanders and the indirect effects of fish predators. Contributed paper, Annual meeting of the Montana chapter of The Wildlife Society, Bozeman, MT. **Received award for Best Student Presentation.**
- Kenison, E.*, **A. R. Litt**, D. Pilliod, and T. McMahon. 2014. Investigating coexistence between trout and long-toed salamanders and the indirect effects of fish predators. Contributed paper, Annual meeting of the Montana chapter of the American Fisheries Society, Chico, MT.
- Shanahan, E.*, D. Roberts, K. M. Irvine, **A. R. Litt**, and K. Legg. 2014. Whitebark pine growth release potential following overstory disturbance. Contributed poster, International Union of Forest Research Organizations Conference, Fort Collins, CO.
- Shanahan, E.*, D. Roberts, K. M. Irvine, **A. R. Litt**, and Greater Yellowstone Whitebark Pine Monitoring Working Group. 2014. Monitoring trends in white pine blister rust infection in the Greater Yellowstone Ecosystem. Contributed paper, International Union of Forest Research Organizations Conference, Fort Collins, CO.
- Bachen, D.*, **A. R. Litt**, C. Gower, and M. Higgs. 2013. Effects of nonnative brome grasses: Moving toward a mechanistic understanding of small mammal declines. Contributed paper, Annual meeting of The Wildlife Society, Milwaukee, WI. **Featured in The Wildlife Society Education Brief – July 2014**
- Bachen, D.*, **A. R. Litt**, and C. Gower. 2013. How do nonnative plants affect small mammals? Effects of vegetation structure on escape ability of small mammals. Contributed paper, Annual meeting of the Montana chapter of The Wildlife Society, Whitefish, MT.
- Cossairt, B.*, **A. R. Litt**, A. Ray, D. Thoma, R. Daley, and K. Legg. 2013. Monitoring wetlands in the Greater Yellowstone Area to assess vulnerability to climate change. Contributed poster, Undergraduate Research Symposium, Bozeman, MT.
- Cossairt, B.*, **A. R. Litt**, A. Ray, D. Thoma, R. Daley, and K. Legg. 2013. Monitoring wetlands in the Greater Yellowstone Area (GYA) to assess vulnerability to climate change. Contributed poster, Montana Institute on Ecosystems Summit, Helena, MT.
- Hinderer, R.*, **A. R. Litt**, M. McCaffery, and R. Garrott. 2013. Understanding movement of Chiricahua leopard frogs (*Lithobates chiricahuensis*) to promote species persistence in desert ecosystems. Contributed poster, Annual meeting of the Montana chapter of the Society for Conservation Biology, Bozeman, MT.
- Kenison, E.*, **A. R. Litt**, D. Pilliod, and T. McMahon. 2013. Investigating coexistence between trout and long-toed salamanders. Contributed poster, Annual meeting of the Montana chapter of the Society for Conservation Biology, Bozeman, MT.

- Kenison, E.*, **A. R. Litt**, D. Pilliod, and T. McMahon. 2013. In a game of hide-and-seek with fish, where are long-toed salamanders found? Contributed poster, Annual meeting of the Montana chapter of The Wildlife Society, Whitefish, MT.
- Kenison, E.*, **A. R. Litt**, D. Pilliod, and T. McMahon. 2013. Where are long-toed salamanders found in a game of hide-and-seek with trout? Contributed poster, Annual meeting of the Western Division of the American Fisheries Society, Boise, ID. **Received award for Best Student Poster.**
- Litt, A. R.** 2013. Plant invasions and disturbance regimes: Complex consequences for wildlife populations and communities. Contributed paper, Annual meeting of the Montana chapter of the Society for Conservation Biology, Bozeman, MT.
- Mitchell, A.*, **A. R. Litt**, A. Falk, and F. Smith. 2013. Litter composition and drought severity influence on arthropod communities in Gulf Coastal prairies. Contributed poster, Annual meeting of the Montana chapter of the Society for Conservation Biology, Bozeman, MT.
- Mitchell, A.*, **A. R. Litt**, A. Falk, and F. Smith. 2013. Shifts in plant and arthropod communities following plant invasion and drought: Impacts of Old World bluestem grasses. Contributed paper, Annual meeting of The Wildlife Society, Milwaukee, WI.
- Mitchell, A.*, **A. R. Litt**, A. Falk, and F. Smith. 2013. Decreased plant and arthropod richness in landscapes dominated by Old World bluestem grasses: Implications for wildlife. Contributed paper, Annual meeting of the Montana chapter of The Wildlife Society, Whitefish, MT.
- Bachen, D.*, **A. R. Litt**, and C. Gower. 2012. Mechanisms driving nonnative plant-mediated changes in small mammal populations and communities. Contributed poster, Annual meeting of the Montana chapter of The Wildlife Society, Great Falls, MT. **Received award for Best Student Poster.**
- Mitchell, A.*, **A. R. Litt**, A. Falk, and F. Smith. 2012. Effects of nonnative plants on vegetation and arthropod communities. Contributed poster, Annual meeting of the Montana chapter of The Wildlife Society, Great Falls, MT.
- Mitchell, A.*, **A. R. Litt**, A. Falk, and F. Smith. 2012. A sea of grass: Decreased plant and arthropod richness with Old World bluestem grasses. Contributed paper, Annual meeting of the Montana chapter of the Society for Conservation Biology, Bozeman, MT.
- Ayala-A, F.*, J. A. Ortega-S, T. E. Fulbright, G. A. Rasmussen, D. L. Drawe, D. R. Synatzke, and **A. R. Litt**. 2011. Effect of a wildfire on old aerated and prescribed burned sites: Vegetation diversity and exotic grasses. Contributed poster, Annual meeting of the Society for Range Management, Billings, MT.
- Ayala-A, F.*, J. A. Ortega-S, T. E. Fulbright, G. A. Rasmussen, D. L. Drawe, D. R. Synatzke, and **A. R. Litt**. 2011. Long-term effects of aeration and fire on invasion of exotic grasses in mixed-brush plant communities. Contributed presentation, Annual meeting of the Society for Range Management, Billings, MT.
- Ayala-A, F.*, J. A. Ortega-S, T. E. Fulbright, G. A. Rasmussen, D. L. Drawe, D. R. Synatzke, and **A. R. Litt**. 2011. Long-term effects of aeration and fire on invasion of exotic grasses in mixed-brush plant communities. Contributed presentation, Annual meeting of the Texas Chapter of The Wildlife Society, San Antonio, TX.
- Bielfelt, B. J.*, **A. R. Litt**, F. C. Bryant, L. A. Brennan, and T. Langschied. 2011. A native plant becomes invasive: Wintering birds respond to increased *Heteropogon contortus*. Contributed paper, Annual meeting of the American Ornithologist's Union, Jacksonville, FL.
- Bielfelt, B. J.*, **A. R. Litt**, F. C. Bryant, L. A. Brennan, and T. Langschied. 2011. Are wintering grounds for grassland birds threatened by a native invasive grass? Contributed paper, Annual meeting of the Cooper Ornithological Society, Kearney, NB.
- Bielfelt, B. J.*, **A. R. Litt**, F. C. Bryant, L. A. Brennan, and T. Langschied. 2011. Does a native invasive grass

affect breeding birds in grasslands? Contributed poster, Annual meeting of the Cooper Ornithological Society, Kearney, NB.

- Bielfelt, B. J.*, **A. R. Litt**, F. C. Bryant, L. A. Brennan, and T. Langschied. 2011. Understanding a native invader: Implications of tanglehead (*Heteropogon contortus*) on plants and birds in desert grasslands. Contributed paper, Annual meeting of the Ecological Society of America, Austin, TX.
- Cord, E. E.*, **A. R. Litt**, T. E. Fulbright, and G. L. Schuster. 2011. Changes in abundance and diversity in an arthropod community with invasive grasses. Contributed paper, Annual meeting of the Ecological Society of America, Austin, TX.
- Cord, E. E.*, **A. R. Litt**, T. E. Fulbright, and G. L. Schuster. 2011. Changes in arthropod abundance and diversity with invasive grasses. Cottam competition entry, Annual meeting of the Texas Chapter of The Wildlife Society, San Antonio, TX. **Received third place award – Cottam (student presentation) competition.**
- Cord, E. E.*, **A. R. Litt**, T. E. Fulbright, and G. L. Schuster. 2011. Effects of invasive grasses on vegetation structure and composition. Contributed poster, Annual meeting of the Texas Chapter of The Wildlife Society, San Antonio, TX.
- DeVerteuil, M.*, W. P. Kuvlesky, **A. R. Litt**, L. A. Brennan, J. F. Gallagher, and D. P. Walker. 2011. Impacts of wildfire on avian communities of South Texas. Cottam competition entry, Annual meeting of the Texas Chapter of The Wildlife Society, San Antonio, TX.
- DeVerteuil, M.*, W. P. Kuvlesky, **A. R. Litt**, L. A. Brennan, J. F. Gallagher, and D. P. Walker. 2011. Impacts of wildfire on avian communities of South Texas. Contributed paper, Annual meeting of the Cooper Ornithological Society, Kearney, NB.
- Garrison, T. A.*, B. J. Bielfelt*, and **A. R. Litt**. 2011. Avian associations with mesquite motte characteristics. Contributed poster (undergraduate), Annual meeting of The Wildlife Society, Kona, HI.
- Garrison, T. A.*, B. J. Bielfelt*, and **A. R. Litt**. 2011. Avian associations with mesquite motte characteristics. Contributed poster (undergraduate), Annual meeting of the Texas Chapter of The Wildlife Society, San Antonio, TX.
- Litt, A. R.** 2011. Complex demographic responses of a small mammal to a plant invasion. Departmental seminar, Department of Ecology, MSU.
- Litt, A. R.** 2011. Nonnative plants function as an ecological trap for a native mammal. Contributed paper, Annual meeting of The Wildlife Society, Kona, HI.
- Redd, K.*, M. DeVerteuil*, W. P. Kuvlesky, **A. R. Litt**, and D. P. Walker. 2011. Impacts of wildfire on vegetation in a mixed-brush community in South Texas. Contributed poster (undergraduate), Annual meeting of the Texas Chapter of The Wildlife Society, San Antonio, TX.
- Sands, J. P.*, L. A. Brennan, **A. R. Litt**, S. J. DeMaso, and B. Wilson. 2011. Detecting trends for birds in the Gulf Coast Joint Venture with Breeding Bird Survey and Christmas Bird Count data. Contributed poster, Annual meeting of the Southeastern Working Group of Partners in Flight, Lexington, KY.
- Witecha, M. J.*, **A. R. Litt**, T. E. Fulbright, S. M. Cooper, and D. P. Walker. 2011. Effects of high-intensity wildfire on small mammal abundance and species richness. Contributed paper, Annual meeting of the American Society of Mammalogists, Portland, OR.
- Witecha, M. J.*, **A. R. Litt**, T. E. Fulbright, S. M. Cooper, and D. P. Walker. 2011. Effects of high-intensity wildfire on small mammal abundance and species richness. Contributed paper, Annual meeting of the Texas Society of Mammalogists, Junction, TX.
- Witecha, M. J.*, **A. R. Litt**, T. E. Fulbright, S. M. Cooper, and D. P. Walker. 2011. Effects of wildfire on small mammal communities. Cottam competition entry, Annual meeting of the Texas Chapter of The Wildlife Society, San Antonio, TX.

- Cord, E. E.*, **A. R. Litt**, T. E. Fulbright, and G. L. Schuster. 2010. Effects of invasive grasses on arthropod abundance and diversity. Contributed paper, First Annual Javelina Research Symposium, Kingsville, TX. **Received President's Award (top award) for Oral Presentation.**
- Cord, E. E.*, **A. R. Litt**, T. E. Fulbright, and G. L. Schuster. 2010. Effects of invasive grasses on arthropod abundance and diversity. Contributed poster, Texas A&M AgriLife Conference, College Station, TX.
- Cord, E. E.*, **A. R. Litt**, T. E. Fulbright, and G. L. Schuster. 2010. Effects of invasive grasses on arthropod abundance and diversity. Contributed paper, Annual meeting of Texas Chapter of The Wildlife Society, Galveston, TX.
- De Verteuil, M. L.*, W. P. Kuvlesky, L. A. Brennan, **A. R. Litt**, J. F. Gallagher, and M. Richardson. 2010. Effects of wildfire on avian community of south Texas. Contributed paper, Annual meeting of Texas Chapter of The Wildlife Society, Galveston, TX.
- De Verteuil, M. L.*, W. P. Kuvlesky, L. A. Brennan, **A. R. Litt**, J. F. Gallagher, and M. Richardson. 2010. Effects of wildfire on avian community of south Texas. Contributed paper, First Annual Javelina Research Symposium, Kingsville, TX.
- Korn, J. M.*, M. E. Tewes, L. I. Grassman, J. H. Young, and **A. R. Litt**. 2010. Modeling seasonal changes in rodent abundance with varying population demographics. Contributed paper, First Annual Javelina Research Symposium, Kingsville, TX.
- Korn, J. M.*, M. E. Tewes, L. I. Grassman, J. H. Young, and **A. R. Litt**. 2010. Modeling seasonal changes in rodent abundance with varying population demographics. Contributed paper, Annual meeting of the Texas Chapter of The Wildlife Society, Galveston, TX.
- Litt, A. R.**, and R. J. Steidl. 2010. Factors influencing richness of fauna in grasslands. Contributed poster, Annual meeting of The Wildlife Society, Snowbird, UT.
- Moore, S. F.*, T. E. Fulbright, L. A. Brennan, F. Hernandez, and **A. R. Litt**. 2010. Effects of guineagrass on northern bobwhite habitat selection. Contributed paper, Annual meeting of The Wildlife Society, Snowbird, UT.
- Moore, S. F.*, T. E. Fulbright, L. A. Brennan, F. Hernandez, and **A. R. Litt**. 2010. Effects of guineagrass on northern bobwhite nesting habitat. Contributed paper, Annual meeting of the Texas Chapter of The Wildlife Society, Galveston, TX.
- Sanders, D. L.*, L. A. Brennan, and **A. R. Litt**. 2010. Evaluating habitat management practices of northern bobwhite quail in south Texas. Contributed poster, Annual meeting of the Texas Chapter of The Wildlife Society, Galveston, TX.
- Witecha, M. J.*, **A. R. Litt**, T. E. Fulbright, S. M. Cooper, and M. L. Richardson. 2010. Effects of wildfire on small mammal communities. Contributed paper, First Annual Javelina Research Symposium, Kingsville, TX.
- Witecha, M. J.*, **A. R. Litt**, T. E. Fulbright, S. M. Cooper, and M. L. Richardson. 2010. Effects of wildfire on small mammal communities. Contributed paper, Annual meeting of Texas Chapter of The Wildlife Society, Galveston, TX.
- Litt, A. R.**, and R. J. Steidl. 2009. Plant invasions alter demographic fitness of small mammals in grasslands. Contributed paper, Annual meeting of The Wildlife Society, Monterey, CA.
- Mazzotti, F. J., M. L. Brien, M. S. Cherkiss, **A. R. Litt**, and K. G. Rice. 2008. Front or Rear, Top or Bottom: Measuring Snout-Vent Length to Determine Condition in Crocodilians. Contributed poster, 19th Working Meeting of the IUCN-SSC Crocodile Specialist Group, Santa Cruz de la Sierra, Bolivia.
- Litt, A. R.**, R. J. Steidl, B. F. Powell, S. L. Mann, and B. R. Noon. 2008. Choosing parameters for large-scale monitoring programs. Contributed paper, Annual meeting of The Wildlife Society, Miami, FL.

- Litt, A. R.**, and R. J. Steidl. 2008. Consequences of restoring fire to ecosystems invaded by nonnative plants. Contributed paper, Fire in the Southwest: Integrating Fire into Management of Changing Ecosystems, Association for Fire Ecology, Tucson, AZ.
- Litt, A. R.**, and R. J. Steidl. 2007. Changes in a small mammal community across a gradient of invasion by nonnative grass. Contributed paper, Annual meeting of The Wildlife Society, Tucson, AZ. **Received award for Best Student Presentation.**
- Litt, A. R.**, and R. J. Steidl. 2007. Effects of nonnative plants and restoration fires on small mammals. Contributed paper, Annual meeting of the AZ/NM chapters of The Wildlife Society, Albuquerque, NM.
- Litt, A. R.**, and R. J. Steidl. 2006. Restoring ecological drivers in altered ecosystems: effects on small mammal communities. Contributed paper, Annual meeting of The Wildlife Society, Anchorage, AK.
- Litt, A. R.** 2005. Estimating abundance with sparse capture-recapture data. Departmental seminar, School of Natural Resources, University of Arizona, Tucson, AZ.
- Litt, A. R.**, and R. J. Steidl. 2005. Generating reliable estimates of abundance with limited capture-recapture data. Contributed paper, Annual meeting of The Wildlife Society, Madison, WI.
- Litt, A. R.**, and R. J. Steidl. 2003. Restoring ecological processes in light of ecological changes. Contributed poster, 3rd International Wildlife Management Congress, Christchurch, New Zealand.
- Litt, A. R.**, and R. J. Steidl. 2002. Effects of nonnative grasses and fire on small mammal populations and communities. Contributed paper, Joint annual meeting of the Ecological Society of America and the Society for Ecological Restoration, Tucson, AZ.
- Litt, A. R.**, and R. J. Steidl. 2002. Effects of nonnative grasses on small mammal populations and communities. Contributed paper, Annual meeting of the AZ/NM Chapters of The Wildlife Society, Safford, AZ.
- Provencher, L., **A. R. Litt**, and D. R. Gordon. 2001. Correlates of species richness in northwestern Florida longleaf pine sandhills. Contributed paper, Annual meeting of the Ecological Society of America, Madison, WI.
- Gordon, D. R., L. Provencher, **A. R. Litt**, G. W. Tanner, L. A. Brennan, and J. L. Hardesty. 2000. Comparing restoration methods using similarity metrics in Florida longleaf pine sandhills. Contributed paper, Annual meeting of the Ecological Society of America, Snowbird, UT.
- Provencher, L., D. R. Gordon, **A. R. Litt**, G. W. Tanner, L. A. Brennan, and J. L. Hardesty. 2000. Testing restoration success in fire-suppressed longleaf pine sandhills of NW Florida. Contributed paper, Annual meeting of the Society for Conservation Biology, Missoula, MT.
- Litt, A. R.** 1999. Herpetofaunal responses to longleaf pine sandhill restoration treatments on Eglin Air Force Base, FL. Contributed paper, All Florida Herpetofaunal Conference, Gainesville, FL.
- Litt, A. R.** 1999. Herpetofaunal responses to longleaf pine sandhill restoration treatments on Eglin Air Force Base, FL. Departmental seminar, Department of Wildlife Ecology and Conservation, University of Florida, Gainesville, FL.
- Litt, A. R.** 1998. Herpetofaunal responses to longleaf pine sandhill restoration treatments on Eglin Air Force Base, FL. Contributed poster, Longleaf Alliance Conference, Charleston, SC.
- Litt, A. R.** 1998. Herpetofaunal responses to longleaf pine sandhill restoration treatments on Eglin Air Force Base, FL. Contributed poster, Natural Resources Forum. University of Florida, Gainesville, FL.
- Litt, A. R.** 1998. Herpetofaunal responses to longleaf pine sandhill restoration treatments on Eglin Air Force Base, FL. Contributed paper, Joint annual meeting of the Society for the Study of Amphibians and Reptiles, Herpetologist's League, and American Society of Ichthyologists and Herpetologists, Guelph, Ontario, Canada.

Litt, A. R. 1998. Herpetofaunal responses to longleaf pine sandhill restoration treatments on Eglin Air Force Base, FL. Contributed poster, All Florida Herpetofaunal Conference, Gainesville, FL.

Honors, Awards, and Scholarships

- Research Enhancement Award College of Letters and Science, MSU, \$2,155, 2014
- Academic Advising Excellence Award MSU, *nominated* - 2013
- Faculty Excellence Grant Office of the Provost and ADVANCE Project TRACS, MSU, \$2,050, 2013
- Outstanding Alumnus School of Natural Resources and the Environment, University of AZ, 2013
- Outstanding Monograph Litt and Steidl (2011), The Wildlife Society, 2012
- Chancellor's Teaching Excellence Award Estimation and Analysis of Wildlife Populations (WSC1 6390), Texas A&M University System, 2009
- Presidential Travel Award TAMUK, \$800, 2009
- Outstanding Dissertation School of Natural Resources, University of AZ, 2007
- Best Student Presentation AZ/NM Chapters of The Wildlife Society, 2007
- International Wildlife Foundation Scholarship University of AZ, 2006, \$500
- Professional Development Grant Graduate and Professional Student Council and Institute for the Study of Planet Earth, University of AZ, \$2,260, 2006
- Continuing Education Grant Arizona Chapter of The Wildlife Society, \$550, 2006
- Travel Grant Graduate and Professional Student Council, University of AZ, \$500, 2003; \$300, 2006

Service Activities

Reviewer:

- Reviewer for American Midland Naturalist, Biological Conservation, Ecological Applications, Ecological Restoration, Intermountain Journal of Sciences, Journal of Agricultural, Biological, & Environmental Statistics, Journal of Arid Environments, Journal of Herpetology, Journal of Mammalogy, Journal of Wildlife Management, Nature Education – Knowledge Project, Rangeland Ecology & Management, Restoration Ecology, Southeastern Naturalist, Wildlife Society Bulletin, Wildlife Monographs
- Panelist, National Science Foundation, 2014-15
- Abstracts for the 5th International Wildlife Management Congress, Sapporo, Japan, 2015
- Abstracts for the 4th International Wildlife Management Congress, Durban, South Africa, 2012
- Proposals for International Arid Lands Consortium, 2010
- Abstracts for the annual meeting of The Wildlife Society, 2008, 2010, 2013

Reviewer (University, College, or Department-level):

- Applications for graduate scholarships (Jim Belsey and Matthew F. Clow Memorial Awards), Department of Ecology, MSU, 2014
- Applications for graduate scholarships (Kenneth D. Lorang and Matthew F. Clow Memorial Awards), Department of Ecology, MSU, 2013
- Applications for undergraduate scholarships (T. B. Holker Memorial Award and Madison-Gallatin Trout Unlimited Undergraduate Fisheries Award), Department of Ecology, MSU, 2012
- Proposals for the Undergraduate Scholars Program, MSU, 2011, 2012

Committee membership, editorships, advisor positions:Profession

- Member, Honorary Membership and Special Recognition Awards Committee, The Wildlife Society, 2014-15
- Board Member, Invasive Species Working Group, The Wildlife Society, elected to 2 terms, 2013-present
- Executive Committee, North America Congress for Conservation Biology, Society for Conservation Biology, 2013-14
- Chair, Symposium Subcommittee and Program Committee member, The Wildlife Society, 2013-14
- Judge, Student presentations, Annual meeting of The Wildlife Society, 2013-14
- Member, Wildlife Committee, 2013 Envirothon (annual competition for high school students), 2012-13
- Invited to be Associate Editor, Wildlife Society Bulletin, 2012 – declined
- Member, Don Rusch Memorial Game Bird Research Scholarship Committee, The Wildlife Society, 2012
- Member, Panel Discussion and Roundtable Committee, The Wildlife Society, 2012
- Board Member, Biometrics Working Group, The Wildlife Society, elected to 2 terms, 2011-13
- Invited to be Associate Editor, Journal of Wildlife Management, 2011 – declined
- Member, Program Committee, 4th International Wildlife Management Congress, 2011-12
- Member, Technical Review Committee – Prescribed Fire & Wildlife, The Wildlife Society, 2010-present
- Member, Subunit Awards Committee, The Wildlife Society, 2010-12
- Member, Domain Science & Education Coordination Committee–Southern Plains, National Ecological Observatory Network (NEON), 2009-11
- Member, Academic Program Review Committee, School of Natural Resources, University of AZ, 2009
- Member, Science & Technical Monitoring Subcommittee, Sonoran Desert Conservation Plan, 2007

University

- Equity Advocate, MSU, 2013-15 (now Emeritus status)
- Graduate Representative, Dissertation committees, 2015

- Member, Advisory Board, Statistical Consulting Center, MSU, 2014-15
- Member, Search Committee, Director of Statistical Consulting, MSU, 2013-14
- Member, Women's Faculty Caucus, MSU, 2011-present
- Member, Distance Learning Committee, TAMUK, 2010
- Member, Honors Council, TAMUK, 2009-10
- Mentor, University of AZ, Conservation Biology Internship Program, 2004

Department

- Member, Executive Committee, Department of Ecology, MSU, 2015
- Member, Search Committee, Aquatic Ecologist, MSU, 2014-15
- Member, Executive Committee/Promotion and Tenure, Department of Ecology, MSU, 2011-13
- Member, Faculty Search Committee, Restoration Ecologist, TAMUK, 2010
- Co-Advisor, Wildlife & Animal Science Graduate Student Organization, TAMUK, 2009-10
- Department Representative, Graduate Student Council, University of FL, 1998

Professional Development

- New Faculty Forum, College of Letters and Science, MSU, 2011-12
- Transculturation program, TAMUK, 2010
- New Faculty Investment program, TAMUK, 2010
- Workshops and Short Courses
 - Effective Research Mentoring, Suzanne Christopher, MSU, 2015
 - Grant Writing Boot Camp 2.0, ADVANCE Project TRACS, MSU, 2015
 - Estimating resource selection using R, Trent McDonald and Fawn Hornsby, 2014
 - Analyses of wildlife spatial behaviors & habitat use with 'Adehabitat' R packages, Clément Calenge and James Sheppard, 2013
 - Spatial capture-recapture, Integrated population models, N-mixture models, and Multimodel inference and model averaging, Beth Gardner, Takis Besbeas, Marc Kery, Richard Barker, and others, EURING Analytical Meeting and Workshop, 2013
 - Spatial statistics in R, Robin Russell, Mevin Hooten, and others, 2012
 - Advanced Program MARK, Evan Cooch and others, 2011
 - Bayesian survival analysis using WINBUGS, Dennis Heisey and Christine Bunck, 2009
 - Model selection and multi-model inference, David Anderson, 2009
 - Occupancy estimation using Program Presence, Darryl MacKenzie and others, 2008
 - Estimation of population parameters using Program MARK, Gary White, 2008
- Webinars
 - Unmarked: An R package for hierarchical models of species abundance and occurrence, Andy Royle and Richard Chandler, 2012
 - Learn to use R, US Geological Survey, 2010
 - Estimation of population change from survey data, US Geological Survey, 2010

- Modeling species distributions, Tom Stohlgren, Ecological Society of America, 2010

Professional Affiliations

- Society for Ecological Restoration, 2009-present
 - Northwest chapter, 2012-present
- Ecological Society of America, 2004-present
- Society for Conservation Biology, 2004-present
 - Montana chapter, 2012-present
- The Wildlife Society, 2004-present
 - Invasive Species Working Group, 2011-present
 - Biometrics Working Group, 2004-present
 - State chapters: Montana, 2011-present; Texas, 2009-10; Arizona/New Mexico, 2004-08
- American Society of Ichthyologists and Herpetologists, 1997-2000
- Herpetologist's League, 1997-2000
- Society for the Study of Amphibians and Reptiles, 1997-2000

References

David Roberts, Ph.D., Professor and Department Head (current supervisor)
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Bozeman, MT 59717
(406) 994-4548, droberts@montana.edu

Fred C. Bryant, Ph.D., Professor and Director (former supervisor)
Caesar Kleberg Wildlife Research Institute
Texas A&M University – Kingsville
700 University Boulevard, MSC 218
Kingsville, TX 78363
(361) 593-4025, fred.bryant@tamuk.edu

Robert J. Steidl, Ph.D., Professor (Ph.D. major professor)
School of Natural Resources and the Environment
University of Arizona
325 Biological Sciences East
Tucson, AZ 85721
(520) 626-3164, steidl@ag.arizona.edu

William J. Matter, Ph.D., Professor and Associate Director (Ph.D. committee member)
School of Natural Resources and the Environment
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