

# LANCE B. MCNEW

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## EDUCATION

- 2010 Ph.D., Ecology and Evolutionary Biology, Kansas State University, Manhattan, KS
- 2003 M.S., Zoology, emphasis in Wildlife Ecology. Southern Illinois University, Carbondale, IL
- 2001 B.S., Zoology, Eastern Illinois University, Charleston, IL

## PROFESSIONAL EXPERIENCE

- 2020–present Associate Professor of Wildlife Habitat Ecology, Department of Animal and Range Sciences, Montana State University, Bozeman, MT.
- 2014–2020 Assistant Professor of Wildlife Habitat Ecology, Department of Animal and Range Sciences, Montana State University, Bozeman, MT.
- 2012–2014 Research Wildlife Biologist, U.S. Geological Survey, Alaska Science Center, Anchorage, AK.
- 2010–2012 Postdoctoral Research Associate, Division of Biology, Kansas State University, Manhattan, KS.
- 2006–2010 Graduate Research Assistant (Ph.D.), Division of Biology, Kansas State University, Manhattan, KS. Advisor: Brett Sandercock.
- 2003–2005 Deer Research Biologist, Indiana Department of Natural Resources, Division of Fish and Wildlife, Bloomington, IN.

## TEACHING EXPERIENCE

### Montana State University (2014–present)

- WILD 420: *Range & Wildlife Policy*, primary instructor
  - Average course evaluation score (2016–21): 4.5/5.0
- ARNR 555: *Rangeland Wildlife Ecology*, primary instructor
  - Average course evaluation score (2016–20): 4.8/5.0
- NRSM 490R: *Independent Undergraduate Research*, primary instructor
- Guest lectures: e.g., NRSM 101, WILD 355, ARNR 507, LRES 593

## EDITED BOOKS

McNew, L., D. Dahlgren, and J. Beck (editors). In progress. *Rangeland Wildlife Ecology and Conservation*. Springer, New York, NY, USA.

## PEER-REVIEWED JOURNAL ARTICLES AND BOOK CHAPTERS

(†indicates student co-author; \*indicates corresponding author)

### 2021

- 45) Pulliam, J.P.†, S. Somershoe, M. Sather, and L.B. McNew\*. 2021. Nest density drives productivity in chestnut-collared longspurs: implications for grassland bird conservation. *PlosOne* 16(8) e0256346.
- 44) Milligan, M.C. †\*, and L.B. McNew. 2021. Does researcher activity impact the nest survival of sharp-tailed grouse? *Wildlife Biology*, accepted 6/2021.
- 43) Epstein, K.†\*, D. Wood†, K. Roemer†, B. Currey†, H. Duff†, J.D. Gay†, H. Goemann†, S. Loewen†, M.C. Milligan†, J.A.F. Wendt, E.N. Brookshire, L.B. McNew, D.B. McWethy, B.D. Maxwell, P.C. Stoy, and J.H. Haggerty. 2021. Towards an urgent yet deliberate conservation strategy: sustaining social-ecological systems in rangelands of the Northern Great Plains, Montana. *Ecology and Society* 26(1):10. doi.org/10.5751/ES-12141-260110.

### 2020

- 42) Kurzen, M.†, D. Tyers, J. Rossi, L. McNew, and B. Sowell. 2020. Snowshoe hare use of silviculturally altered conifer forests in the Greater Yellowstone Ecosystem. *Intermountain Journal of Sciences* 21:1-9.
- 41) Wyffels, S.A.†, M.K. Petersen, D.L. Boss, B.F. Sowell, T. DelCurto, L.B. McNew, and J.G. Bowman. 2020. Dormant season grazing on northern mixed grass prairie agroecosystems: does protein supplementation and individual animal variation impact beef cattle resource use, vegetation and residual cover. *PLoSOne* 15(10): e0240629.
- 40) Milligan, M.C.†, L.I. Berkeley, and L.B. McNew\*. 2020. Survival of sharp-tailed grouse under variable livestock grazing management. *Journal of Wildlife Management* 84: 1296–1305.
- 39) Milligan, M.C. †, L.I. Berkeley, and L.B. McNew. 2020. Habitat use of sharp-tailed grouse in rangelands managed for livestock. *PloSOne* 15(6): e0233756.
- 38) Mosley, J., B. Roeder, R. Frost, S. Wells†, L. McNew, and P. Clark. 2020. Mitigating human conflicts with livestock guardian dogs in extensive sheep grazing systems. *Rangeland Ecology and Management* 73:724–732.
- 37) Pulliam, J.P. †, S. Somershoe, M. Sather, and L.B. McNew\*. 2020. Habitat targets for imperiled grassland birds in northern mixed-grass prairies. *Rangeland Ecology and Management* 73:511–519.
- 36) Milligan, M.C.†, L.I. Berkeley, and L.B. McNew\*. 2020. Effects of rangeland management on the nesting ecology of sharp-tailed grouse. *Rangeland Ecology and Management* 73:128–137.
- 35) Ritter, T.D.†, C. Gower, and L.B. McNew\*. 2020. Habitat conditions at beaver settlement sites: implications for beaver restoration projects. *Restoration Ecology* 28:196–205.

## 2019

- 34) Ritter, T.D.†, and L.B. McNew\*. 2019. Age-mass relationships for beavers in Montana. *Intermountain Journal of Sciences* 25:1–10.
- 33) Vold, S.K. †, L.I. Berkeley, and L.B. McNew\*. 2019. Effects of livestock grazing management on grassland birds in a northern mixed-grass prairie ecosystem. *Rangeland Ecology and Management* 72:933–945.
- 32) Wyffels, S.A.†, M. Petersen, J. Bowman, D. Boss, and L.B. McNew. 2019. Dormant season grazing of northern mixed grass prairies: the effect of supplementation strategies on heifer resource utilization and vegetation use. *Rangeland Ecology and Management* 72:878–887.
- 31) Milligan, M.C.†, and L.B. McNew. 2019. Effects of scavenging on assumptions of mortality analyses of radio-marked gamebirds. *Northwestern Naturalist* 100:197–205.
- 30) Wells, S.L. †, L.B. McNew\*, D.B. Tyers, F.T Van Manen, and D.J. Thompson. 2019. Grizzly bear depredation on grazing allotments in the Yellowstone Ecosystem. *Journal of Wildlife Management* 83:556–566.

## 2018

- 29) Milligan, M.C.†, S.L. Wells†, and L.B. McNew\*. 2018. A population viability analysis of sharp-tailed grouse to inform reintroductions. *Journal of Fish and Wildlife Management* 9:565–581.
- 28) Gregory, A.J., S.M. Wisely\*, L.B. McNew, and B.K. Sandercock. 2018. A landscape perspective on rates of multiple paternity and brood parasitism among greater prairie-chickens across Kansas. *Wilson Journal of Ornithology* 130:626–638.
- 27) Schroff, S.R.†, K.A. Cutting, C.A. Carr, M.R. Frisina, L.B. McNew, and B.F. Sowell\*. 2018. Characteristics of shrub morphology on nest site selection of greater sage-grouse in high-elevation sagebrush habitat. *Wilson Journal of Ornithology* 130:730–738.
- 26) Winder, V.L.\* , L.B. McNew, J.C. Pitman, and B.K. Sandercock. 2018. Effects of rangeland management on survival of female greater prairie-chickens. *Journal of Wildlife Management* 82:113–122.

## 2017

- 25) Thompson, S.J.\* , C.M. Handel, and L.B. McNew. 2017. Autonomous acoustic recorders reveal complex patterns in avian detection probability. *Journal of Wildlife Management* 81:1228–1241.
- 24) Vold, S.†, C.M. Handel, and L.B. McNew\*. 2017. Comparison of acoustic recorders and field observers for monitoring tundra bird communities. *Wildlife Society Bulletin* 41:566–576.
- 23) Winder, V.L.\* , L.B. McNew, J.C. Pitman, and B.K. Sandercock. 2017. Space use of greater prairie-chickens in response to fire and grazing interactions. *Rangeland Ecology and Management* 70:165–174.

≤2016

- 22) Thompson, S.J.\*, C.M. Handel, R. Richardson, and L.B. McNew. 2016. When winners become losers: Arctic birds demonstrate non-linear responses to gradients of woody vegetation. *PLoS ONE* 11(11): e0164755. doi:10.1371/journal.
- 21) Ganser, C., A.J. Gregory, L.B. McNew, L.M. Hunt†, B.K. Sandercock, and S.M. Wisely\*. 2016. Fine-scale distribution modeling of avian malaria vectors in north-central Kansas. *Journal of Vector Ecology* 31:114–122.
- 20) Winder, V.L., M.R. Herse†, L.M. Hunt†, A.J. Gregory, L.B. McNew, and B.K. Sandercock\*. 2016. Patterns of nest attendance by female greater prairie-chickens in northcentral Kansas. *Journal of Ornithology* 157:733–745.
- 19) McNew, L.B.\*, V.L. Winder, J.C. Pitman, and B.K. Sandercock. 2015. Alternative rangeland management and the nesting ecology of greater prairie-chickens. *Rangeland Ecology and Management* 68:298–304.
- 18) Winder, V.L.\*, K.M. Carrlson, A.J. Gregory, C.A. Hagen, D.A. Haukos, D.C. Kesler, L.C. Larsson, L.B. McNew, M.A. Patten, J.C. Pitman, L.A. Powell, J.Smith, T. Thompson, D.H. Wolfe, and B.K. Sandercock. 2015. Factors affecting female space use in ten populations of prairie chickens. *Ecosphere* 6:166. [Wildlife Publications Award - Outstanding Article, The Wildlife Society].
- 17) Winder, V.L.\*, A.J. Gregory, L.B. McNew, and B.K. Sandercock. 2015. Responses of male greater prairie-chickens to wind energy development. *Condor* 117:284–296.
- 16) McNew, L.B.\*, and C.M. Handel. 2015. Evaluating species richness: biased ecological inference results from spatial heterogeneity in detection probabilities. *Ecological Applications* 25:1669–1680.
- 15) Winder, V.L.\*, L.B. McNew, A.J. Gregory, L.M. Hunt, S.M. Wisely, and B.K. Sandercock. 2014. Space use of female greater prairie-chickens in response to wind energy development in north-central Kansas. *Ecosphere* 5:art3.
- 14) McNew, L.B.\*, L.M. Hunt, A.J. Gregory, S.M. Wisely, and B.K. Sandercock. 2014. Effects of wind energy development on the nesting ecology of greater prairie-chickens. *Conservation Biology* 28:1089–1099.
- 13) Winder, V.\*, L.B. McNew, L.M. Hunt, A.J. Gregory, S.M. Wisely, and B.K. Sandercock. 2014. Effects of wind energy development on seasonal survival of greater prairie-chickens. *Journal of Applied Ecology* 51:395–405.
- 12) Blanco-Fontao, B.\*, B.K. Sandercock, J.R. Obeso, L.B. McNew, and M. Quevedo. 2013. Effects of sexual dimorphism and landscape composition on the trophic behavior of greater prairie-chickens. *PLoS ONE* 8(11): e79986. doi: 10.1371/journal.pone.0079986.
- 11) McNew, L.B.\*, A.J. Gregory, and B.K. Sandercock. 2013. Spatial heterogeneity in habitat selection: nest site selection by prairie-chickens. *Journal of Wildlife Management* 77:791–801.
- 10) McNew, L.B.\*, A.J. Gregory, S.M. Wisely, and B.K. Sandercock. 2012. Demography of greater prairie-chickens: regional variation in vital rates, sensitivity values, and population

dynamics. *Journal of Wildlife Management* 76:987–1000. [Wildlife Publications Award - Outstanding Article, The Wildlife Society].

- 9) McNew, L.B.\*, and W.J. White. 2012. First case of renesting after the loss of a brood by greater prairie-chicken. *Wilson Journal of Ornithology* 124:185–187.
- 8) McNew, L.B.\*, T.J. Prebyl, and B.K. Sandercock. 2012. Effects of rangeland management on the site occupancy dynamics of prairie-chickens in a protected prairie preserve. *Journal of Wildlife Management* 76: 38–47.
- 7) McNew, L.B.\*, A. J. Gregory, S.M. Wisely, and B.K. Sandercock. 2011. Reproductive biology of a southern population of greater prairie-chickens. Pages 209–221 in B.K. Sandercock, K. Martin, and G. Segelbacher, editors. *Ecology, Conservation, and Management of Grouse (SAB 39)*. University of California Press, Berkeley, CA.
- 6) McNew, L.B.\*, A.J. Gregory, S.M. Wisely, and B.K. Sandercock. 2011. Human-mediated selection on life-history traits of greater prairie-chickens. Pages 255–266 in B.K. Sandercock, K. Martin, and G. Segelbacher, editors. *Ecology, Conservation, and Management of Grouse (SAB 39)*. University of California Press, Berkeley, CA.
- 5) Gregory, A.J., L.B. McNew, T.J. Prebyl, B.K. Sandercock, and S.M. Wisely\*. 2011. Hierarchical modeling of lek habitats of greater prairie-chickens. *Studies in Avian Biology* 39:21–32.
- 4) McNew, L.B.\*, A.J. Gregory, S.M. Wisely, and B.K. Sandercock. 2009. Estimating the stage of incubation for nests of greater prairie-chickens using egg flotation: a float curve for grouse. *Grouse News* 38:12–14.
- 3) McNew, L.B., C.K. Nielsen\*, and C.K. Bloomquist. 2007. Use of snares to live-capture beavers. *Human-Wildlife Interactions* 1:107–112.
- 2) McNew, L.B.\*, and A. Woolf. 2005. Dispersal patterns and survival of juvenile beavers in southern Illinois. *American Midland Naturalist* 154:217–228.
- 1) McNew, L.B., T. A. Nelson\*, and S. T. McTaggart. 2003. Prevalence of *Giardia intestinalis* in Illinois beavers. *Transactions of the Illinois State Academy of Science* 96:113–118.

### **SELECTED TECHNICAL REPORTS, OUTREACH, and OTHER PRODUCTS**

- Lloyd, J.D., C. Aldridge, T. Allison, D. Haukos, C. LeBeau, L. McNew, and V. Winder. 2020. Prairie grouse and wind energy: the state of the science. American Wind Wildlife Institute, Denver, CO. 39 pp.
- Milligan, M.C. and L.B. McNew. 2019. Does cattle grazing affect nesting sharp-tailed grouse? Montana State University College of Agriculture and Extension Research Report 5.
- Mosley, J., R. Frost, B.L. Roeder, S. Wells, L.B. McNew, and P. Clark. 2018. How far do guard dogs roam from their sheep? Montana State University College of Agriculture and Extension Research Report 4:25–27.
- Vold, S.T. and L.B. McNew. 2018. Effects of livestock grazing management on occupancy of mesocarnivores in a northern mixed-grass prairie ecosystem. Montana State University College of Agriculture and Extension Research Report 4:40–44.

- Ritter, T.D. and L.B. McNew. 2018. Beaver-mediated restoration: understanding habitat conditions associated with new colonies. Montana State University College of Agriculture and Extension Research Report 4:32–35.
- McNew, L.B. 2018. It depends: relationships between wildlife and livestock grazing management vary across space and time. Proceedings of the Nebraska Grazing Conference, Kearny, NE: pages 36–41.
- McNew, L.B. 2018. Restoring sharp-tailed grouse to western Montana: MSU graduate students evaluate restoration potential and develop recovery recommendations. Grouse News 48: 12-13.
- McNew, L., M. Milligan, and S. Vold., L. Berkeley, M. Foster, and J. Ensign. 2018. Effects of livestock grazing management on the ecology of sharp-tailed grouse, grassland birds, and their predators in northern mixed-grass prairie habitats. 2017 Annual Report, Project 58308, Montana Fish, Wildlife, and Parks, Helena, MT, USA. Available at: <http://fwp.mt.gov/fishAndWildlife/diseasesAndResearch/research/sharptailedGrouse/populations/default.html>.
- Knight, J. L. Schmidt, and L. McNew. 2017. Electric fencing to exclude deer and elk from recovering burned areas. Pages 28–29 in M. Van Emon, editor. After wildfire: Information for landowners coping with the aftermath of wildfire. Montana State University Extension report 4455.
- McNew, L.B., B. Cascaddan, A. Hicks-Lynch, M. Milligan, A. Netter, S. Otto, J. Payne, S. Vold, S. Wells, and S. Wyffels. 2017. Restoration plan for sharp-tailed grouse recovery in western Montana. Montana State University, Bozeman. DOI: 10.13140/RG.2.2.26189.95204.
- Ragen, D.L., E.E. Nix, L.B. McNew, W.A. Whitehurst, T.M. Liles, R.B. Sager, E.S. Read, B.S. Hauptman, C.G. Hooley, and P.G. Hatfield. 2016. Effects of pasture vs. drylot flushing on ewe body weight change and number of lambs born. College of Agriculture and Extension Research Report, Montana State University, Bozeman.
- McNew, L.B. 2014. *Ranching for Prairie-Chickens*. Kansas Wildlife and Parks Magazine. March/April, pages 17-20.
- McNew, L., C. Handel, J. Pearce, T. DeGange, L. Holland-Bartels, and M. Whalen. 2013. Changing Arctic Ecosystems: the role of ecosystem changes across the boreal-Arctic transition zone on the distribution and abundance of wildlife populations. U.S. Geological Survey Fact Sheet 2013-3054, 2p.
- Sandercock, B.K., S.M. Wisely, L.B. McNew, A.J. Gregory, and L.M. Hunt. 2013. Effects of wind power development on the population biology of greater prairie-chickens in Kansas. Research Brief, National Wind Coordinating Collaborative, American Wind Wildlife Institute, Washington DC.
- McNew, L.B. 2013. New research highlights importance of fire and grazing to prairie-chicken populations. The Lek. Great Plains Fire Science Exchange newsletter, February issue (invited).
- Sandercock, B.K., L.M. Hunt, V. Winder, A.J. Gregory, L.B. McNew, and S.M. Wisely. 2013. Effects of wind power development on greater prairie-chickens in Kansas. Proceedings of

the National Wind Wildlife Research Meeting IX, National Wind Coordinating Collaborative, Broomfield, CO.

- McNew, L.B. and C.M. Handel. 2012. Potential changes in avian distribution, abundance, and demography within a shifting ecotone in northwestern Alaska. Annual Performance Report, U.S. Geological Survey, Alaska Science Center, Anchorage, AK.
- Sandercock, B.K., S.M. Wisely, L.B. McNew, A.J. Gregory, and L.M. Hunt. 2012. Effects of wind power development on the population biology of greater prairie-chickens in Kansas. Final Report. KDWPT Award No. KDWP-T2-7-R, K-State Award No. KS0443.
- McNew, L.B., J.C. Pitman, and B.K. Sandercock. 2011. Impacts of alternative grassland management regimes on the population ecology of grassland birds. Annual Report, Wildlife Aid and Restoration Program W-67, Kansas Department of Wildlife and Parks, Pratt, KS.
- McNew, L.B. Deer damage control. 2005. Annual Federal Aid Performance Report, Project W-26R-37, Indiana Department of Natural Resources, Indianapolis, IN.
- McNew, L.B. Deer-vehicle collisions. 2004. Annual Federal Aid Performance Report, Project W-26R-36, Indiana Department of Natural Resources, Indianapolis, IN.
- McNew, L.B. Biological deer check station analysis. 2004. Annual Federal Aid Performance Report, Project W-26R-36, Indiana Department of Natural Resources, Indianapolis, IN.
- McNew, L.B., and J.M. Mitchell. 2004. Statewide deer hunt recommendations. Annual Federal Aid Performance Report, Project W-26R-36, Indiana Department of Natural Resources, Indianapolis, IN.

## **RESEARCH GRANTS and OTHER SUPPORT RECEIVED**

(† indicates PI; >\$3.5 million)

- Beaver, J. †, T. Bayne, L. McNew, J. Mosley. Bringing Wildlife-Livestock Conflict Mitigation into the 21st Century: Exploring Emerging Technologies to Reduce Wildlife Conflicts on Montana Ranches. Bair Ranch Foundation, \$29,700. January 2022 – January 2023.
- Beaver, J. †, J. Mosley, L. McNew. Bringing Wildlife-Livestock Conflict Mitigation into the 21st Century: Exploring Emerging Technologies to Reduce Wildlife Conflicts on Montana Ranches. MSU College of Agriculture minigrant program, \$49,820. January 2021 – June 2022.
- McNew, L.B. Development of new textbook: Rangeland Wildlife Ecology & Conservation. Faculty Excellence Grant, Montana State University, \$5,000. July 2020 – June 2021.
- McNew, L.B. † and A. Hartshorn. Utility and validation of soil sampling protocols within sage-grouse habitats in Northcentral Montana. Bureau of Land Management, Montana Dakotas Office, \$248,596. July 2020 – June 2025.
- McNew, L.B. †, S. Somershoe, M. Sather, and K. Ellison. Fatal attraction for an imperiled songbird: is cropland in the northern Great Plains an ecological trap for McCown's longspurs? National Fish and Wildlife Foundation. \$194,063. May 2020 – May 2023.
- McNew, L.B. † Suitability of grassland habitat for lesser prairie-chickens after restoration. Turner Enterprises, \$93,271. July 2019–June 2022.

- McNew, L.B.† Estimating the occupancy and abundance of dusky grouse: developing protocols for unbiased population monitoring in Montana. Montana Fish, Wildlife, and Parks, \$176,050. July 2018–June 2022.
- McNew, L.B.† Greater sage-grouse habitat research in the sagebrush focal area of northcentral Montana. Bureau of Land Management, Montana Dakotas State Office, \$309,917. September 2017 – December 2021.
- McNew, L.B.†, B. Sowell†, and T. DelCurto†. Remote evaluations of wildlife and livestock habitats using UAVs. Bair Ranch Foundation, \$52,073. August 2017 – July 2019.
- McNew, L.B.† 2016. Defining habitat quality for northern grassland birds in Montana. U.S. Fish and Wildlife Service, \$310,872. January 2017 – June 2021.
- Wyffels, S.A., L.B. McNew†, and J. Bowman†. Sustainability of dormant season grazing on northern mixed grass prairie agroecosystems: Does protein supplementation impact beef cattle performance, soil organic matter, vegetation, and residual cover for wildlife? Western SARE Graduate Student Grant, \$24,970. August 2016 – July 2018.
- McNew, L.B.† 2016. Weather data loggers for long-term agro-ecological research and teaching. College of Agriculture/MAES Equipment Grant, \$5,000. October 2015.
- McNew, L.B.†, L. Berkeley, J. Ensign, and M. Foster. 2016. Effects of livestock grazing management on the ecology of sharp-tailed grouse, grassland birds, and their predators in mixed grass prairie habitats of Montana. Wildlife Aid and Restoration Program, Montana Department of Fish, Wildlife, and Parks, \$533,975. August 2015 – December 2019.
- McNew, L.B.† 2015. Distribution of grizzly bears in relationship to Forest Service grazing allotments and moth aggregation sites in the Greater Yellowstone Ecosystem. U.S. Forest Service, \$80,000. August 2015 – December 2019.
- McNew, L.B.† 2015. Effects of electric fences on grizzly bears habitat use in the Blackfoot Valley. Blackfoot Challenge, \$19,000. December 2015 – May 2017.
- Marlow, C.†, E. Glunk, and L. McNew. 2015. The sustainability of grass-based beef production systems: are stocking rates important on winter ranges. Bair Ranch Foundation, \$47,704. September 2015 – June 2018.
- McNew, L.B.† 2015. Developing and evaluating population estimation methods for threatened prairie grouse species. Faculty Excellence Grant, Montana State University, \$5,000. July 2015 – June 2016.
- Mosley, J.†, A. Litt, B. Roeder, T. Mosley, J.P. Tanner, L. McNew, and D. Dahlgren. 2015. Targeted cattle grazing to enhance sage-grouse brood-rearing habitat. Bair Ranch Foundation, \$56,746. July 2015 – June 2018.
- McNew, L.B.† 2015. Effects of electric fence permeability on grizzly bears in the Blackfoot Valley. Montana Outdoor Legacy Foundation, \$26,500. May 2015 – May 2017.
- McNew, L.B.†, and C. Frost. 2015. Habitat selection, movements, and survival of dispersing juvenile beavers in Southwestern Montana. U.S. Forest Service, \$65,000. August 2015 – December 2017.



- Glunk, E.†, L. McNew†, R. Endecott, J. Thomson, J. Boles, D. Boss, and C. Marlow. 2015. Are Feedlot-based performance cattle limiting ecological services for rangeland ecosystems in northern mixed-grass prairies? Western SARE Professional-Producer Grant, \$50,000. May 2015 – August 2017.
- McNew, L.B.† 2015. Range cow adaptive mechanisms to stressors: genetic, metabolic and behavioral. USDA Animal Research Service, \$33,000, April 2015 – March 2016.
- McNew, L.B.† 2014. A mobile telemetry system for wildlife-habitat evaluations in agricultural landscapes. College of Agriculture/MAES Equipment Grant (internal), \$7,315. September 2014.
- McNew, L.B.† 2014. Applied ecosystem studies: bridging geoscience and ecology. NAGT/USGS Cooperative Summer Field Training Program. Cost-shared intern, \$6,500. May–August 2014.
- McNew, L.B.† 2013. Environmental Stewards Summer Intern Program. Conservation Legacy. Received support for 3 summer interns, 2013–2014, \$12,000.
- McNew, L.B.†, B.K. Sandercock, and J.C. Pitman. 2011. Effects of the Conservation Reserve Program (CRP) State Acres for Wildlife Enhancement (SAFE) program on bird populations in Kansas. Wildlife Aid and Restoration Program, Kansas Department of Wildlife and Parks, \$210,631. January 2012 – December 2014.
- McNew, L.B.†, J.C. Pitman, and B.K. Sandercock. 2011. Impacts of alternative grassland management regimes on the population ecology of grassland birds. Wildlife Aid and Restoration Program, Kansas Department of Wildlife and Parks, \$655,626. September 2010 – December 2014.

## **MEDIA COVERAGE**

- *The Progressive Farmer*– Grazing is a Balancing Act, 10 October 2018.
- MFWP Outdoor Report– Researchers use egg-floatation to study grouse productivity. (<https://www.youtube.com/watch?v=TqlNXUBs2GI&feature=youtu.be>, 10 August 2017)
- MFWP Outdoor Report– New research looks at how prairie birds react to wildlife friendly grazing ([https://www.youtube.com/watch?v=B\\_GFfJwxPAw&feature=youtu.be](https://www.youtube.com/watch?v=B_GFfJwxPAw&feature=youtu.be), 1 May 2016)
- NBC Montana – Researchers study how bears interact with electric fences (<http://www.nbcmontana.com/news/researchers-study-how-bears-interact-with-electric-fences/34248720>, 19 July 2015)
- Western Farmer-Stockman – Montana livestock researcher honored (November 2014)
- KNOM – Science in our backyard: biologists study effects of climate change on birds in western Alaska (radio interview, 20 June, 2014)
- RedOrbit – Wind power has minimal impact on greater prairie-chickens (11 July, 2013)
- Science Daily – Wind power does not strongly affect greater prairie-chickens, seven-year study finds (10 July, 2013)
- *Topeka Capital-Journal* – Wildlife researchers study prairie-chickens (24 April, 2011)
- *Wichita Eagle* - Are burning, grazing bad for prairie chickens? (10 April, 2011).

## HONORS AND AWARDS

*Faculty Excellence Grant*, Office of the Provost, MSU, \$5,000, 2015, 2020.  
*Wildlife Publications Award - Outstanding Article*, The Wildlife Society, 2014, 2016  
*Exceptional Performance Award*, U.S. Geological Survey, Alaska Science Center, 2012, 2013  
*Donald H. Rusch Memorial Game Bird Research Scholarship*, The Wildlife Society, 2009  
*Student Travel Grant*, The Wildlife Society, 2003, 2009  
*Outstanding Wildlife Student Scholarship*, Illinois Federation for Outdoor Resources, 2002  
*Errett and Mazie Warner Award in Zoology*. Department of Biological Sciences, Eastern Illinois University, 2001  
*Lowenstein Merit Award for Math and Science*. Wabash Valley College, 1999

## PROFESSIONAL PRESENTATIONS [Invited talks in **bold**, (number of presentations)]

- 2020 **MSU Institute on Ecosystems, Bozeman, MT**  
**Annual Meeting of the Society for Range Management, Denver, CO**  
**American Wind and Wildlife Institute, Denver, CO**  
Annual Conference of the Montana Chapter of the Wildlife Society, Butte, MT (4)  
Prairie Grouse Technical Council, Bartlesville, OK
- 2019 Joint Meeting of the American Fisheries Society and The Wildlife Society, Reno, NV (3)  
Annual Conference of the Montana Chapter of the Wildlife Society, Helena, MT (5)  
Annual Meeting of the Ecological Society of America, Louisville, KY  
Prairie Grouse Technical Council, Bartlesville, OK
- 2018 **Montana Range Tour, Sidney, MT**  
**18<sup>th</sup> Great Plains Grazing Conference, Kearney, NE.**  
14<sup>th</sup> Biennial Scientific Conference on the Greater Yellowstone Ecosystem, Jackson, WY.\*  
International Grouse Symposium, Logan, UT\*  
**College of Agriculture Connects, Montana State University, Bozeman, MT**  
**Annual Meeting of the Society for Range Management, Sparks, NV.\*(4)**
- 2017 **24<sup>th</sup> Annual Meeting of the Wildlife Society, Albuquerque, NM.**  
Prairie-grouse Technical Council, Dickinson, ND\*(2)  
24<sup>th</sup> Annual Conference of The Wildlife Society, Albuquerque, NM.\*(3)  
Annual Conference of the Montana Chapter of the Wildlife Society (3)  
Annual Meeting of the Society for Range Management, St. George, UT.(2)
- 2016 Annual Conference of the Montana Chapter of The Wildlife Society, Missoula, MT (5)  
Biennial Greater Yellowstone Ecosystem Conference, Jackson, WY (2)  
**U.S. Geological Survey, Northern Rocky Mountain Science Center, Bozeman, MT**
- 2015 Annual Conference of the Montana Chapter of The Wildlife Society, Helena, MT  
International Grouse Symposium, Reykjavik, Iceland (2)\*  
Prairie-grouse Technical Council, Nevada, Missouri (2)\*  
**Montana Cattle Producer School, Miles City, MT**
- 2014 **Montana Woolgrowers Convention, Billings, MT**  
**Annual Meeting of the International Mountain Section of the Society of Range Management, Bozeman, MT**

- Blackfoot Challenge Board Meeting, Missoula, MT**  
**Montana State University Northern, Havre, MT**  
**Department of Animal & Range Sciences, Montana State University, Bozeman, MT**  
**Annual Meeting of the Alaska State Chapter of the Wildlife Society, Anchorage, AK**  
 Joint Meeting of the American Ornithologists' Union, Cooper Ornithological Society,  
 and Society for Canadian Ornithologists, Estes Park, CO\*  
 North America Congress for Conservation Biology, Missoula, MT\*  
 Midwest Fish and Wildlife Conference, Kansas City, KS\*(2)  
**University of Alaska Fairbanks – Northwest Campus, Nome, AK**
- 2013 131<sup>st</sup> Meeting of the American Ornithologists' Union, Chicago, IL\*  
 Annual Meeting of the Alaska State Chapter of the Wildlife Society, Fairbanks, AK  
 66<sup>th</sup> Annual Meeting of the Society for Range Management, Oklahoma City, OK\*  
**Alaska Pacific University, Anchorage, AK**  
 6<sup>th</sup> Kansas Natural Resources Conference, Wichita, KS\*(4)  
**U.S. Geological Survey, Anchorage, AK**
- 2012 9<sup>th</sup> Wind Wildlife Research Meeting, Denver, CO.\*  
**U.S. Geological Survey, Anchorage, AK**  
 5<sup>th</sup> Kansas Natural Resources Conference, Wichita, KS\*(2)  
 29<sup>th</sup> Meeting of the Prairie Grouse Technical Council, Hayes, KS (2, 2 coauthored)  
 5<sup>th</sup> North American Ornithological Conference, Vancouver, CA\* (2)  
 15<sup>th</sup> Alaska Bird Conference, Anchorage, AK  
 19<sup>th</sup> Annual Conference of The Wildlife Society, Portland, OR\*  
 Patch-burn Grazing Working Group Annual Conference, Elmdale, KS\* (2)
- 2011 129<sup>th</sup> American Ornithologists' Union Meeting, Jacksonville, FL.\*  
**Department of Fish, Wildlife and Conservation Ecology, New Mexico State University, Las Cruces, NM.**  
 Merial-NIH National Veterinary Scholars Symposium. Orlando, FL.\*  
**Annual banquet of the Kansas Wildlife Federation, Great Bend, KS.**  
 4<sup>th</sup> Annual Kansas Natural Resources Conference, Wichita, KS. (2)  
**Annual meeting of the Kansas Upland Bird Partnership, Topeka, KS.**
- 2010 **Ecology Seminar Series, Department of Biology, Emporia State University, Emporia, KS.**  
 3<sup>rd</sup> Annual Kansas Natural Resources Conference, Wichita, KS.
- 2009 28<sup>th</sup> Meeting of the Prairie Grouse Technical Council, Portales, NM (2, 1 coauthored)  
 16<sup>th</sup> Annual Conference of the Wildlife Society, Monterey, CA. (2, 1 coauthored)  
 2<sup>nd</sup> Annual Kansas Natural Resources Conference, Wichita, KS.  
 4<sup>th</sup> International Biogeography Conference, Merida, Mexico.\*
- 2008 60<sup>th</sup> annual meeting of the Kansas Ornithological Society, Hayes, KS.\*  
 XI<sup>th</sup> International Grouse Symposium, Whitehorse, Yukon, Canada. (2, 1 coauthored)  
**126<sup>th</sup> Stated Meeting of the American Ornithologists' Union, Portland, OR.**  
**NRCS Range Management Rodeo, Dexter, KS.**  
**Ecology and Evolutionary Biology Seminar Series, Kansas State University, Manhattan, KS**

- 1<sup>st</sup> Annual Kansas Natural Resources Conference, Wichita, KS.
- 2007 27<sup>th</sup> Meeting of the Prairie Grouse Technical Council, Chamberlain, SD (2, 1 coauthored)  
 59<sup>th</sup> annual meeting of the Kansas Ornithological Society, Manhattan, KS.  
 14<sup>th</sup> Annual Conference of the Wildlife Society, Tucson, AZ.\*  
 125<sup>th</sup> Stated meeting of the American Ornithologists' Union, Laramie, WY.\*
- 2006 National Wind Coordinating Committee Wind-Wildlife Workgroup Meeting, San Antonio, TX (2, 1 coauthored)
- 2005 **Ducks Unlimited, Ann Arbor, MI.**  
 Midwest Fish and Wildlife Conference, Grand Rapids, MI.  
 Indiana Fish and Wildlife Staff Meeting, Edinburgh, IN. (2)  
 Indiana Deer Advisory Committee, Indianapolis, IN.
- 2004 **Student Chapter of the Wildlife Society, Ball State University, Muncie, IN**  
 Indiana Deer Advisory Committee, Indianapolis, IN.
- 2003 10<sup>th</sup> Annual Conference of the Wildlife Society, Burlington, VT.
- 2002 **Illinois Trappers Association Annual Meeting, Benton, IL.**  
 105<sup>th</sup> Annual Meeting of the Illinois State Academy of Science, Normal, IL
- 2001 12<sup>th</sup> Annual EIU Research Conference, Charleston, IL.

## **STUDENT ADVISING & SUPERVISION**

### **Graduate Students and Post-doctoral Fellows Supervised**

- Hunter Stier (M.S.). Utility and validation of soil sampling protocols within sage-grouse habitats. Montana State University, 2020–present.
- Amber Swicegood (M.S.). Agricultural fields as ecological traps of McCown's longspurs. Montana State University, 2020–present.
- Morgan Solomon (M.S.). Quantifying habitat availability and quality for lesser prairie-chicken translocations. Montana State University, 2019–present.
- Elizabeth Leipold (Ph.D.). Estimating occurrence and abundance of dusky grouse populations. Montana State University, 2018–present.
- Robert Haynam (Ph.D.). Seasonal space use and demography of greater sage-grouse in northern Montana. Montana State University, 2018–present.
- Amanda Lipinski (Post-doc). Population ecology of prairie-grouse. Montana State University, 2020–2021.
- John Pulliam (M.S.). Habitat associations of grassland birds in northern mixed-grass ecosystems. Montana State University, 2017–2020.
- Megan Milligan (Ph.D.). Effects of livestock grazing management on the nesting ecology of sharp-tail grouse in northern mixed-grass prairie habitats. Montana State University, 2016–2019.
- Sam Wyffels (Ph.D.). Effects of winter grazing strategies on animal performance and rangeland ecosystems. Montana State University, 2015–2019.

Brittani Johnson (M.S.). Effectiveness and ecological impacts of electric fencing on grizzly bears in Montana. Montana State University, 2015–2018.

Torrey Ritter (M.S.). Ecosystem pioneers: Beaver dispersal and settlement site selection in the context of habitat restoration. Montana State University, 2015–2018.

Skyler Vold (M.S.). Effects of grazing systems on the abundance and diversity of grassland birds and mesocarnivores in northern mixed-grass prairie habitats. Montana State University, 2016–2018.

Smith Wells (M.S.). Livestock depredation by grizzly bears on Forest Service grazing allotments in the Greater Yellowstone Ecosystem. Montana State University, 2015–2017.

### **Graduate Student Committees Served**

David Wood (Ph.D.). Ecology and Environmental Sciences, Department of Land Resources and Environmental Sciences, Montana State University, 2017–present.

Savannah Grace (M.S.). Animal and Range Sciences, Montana State University, 2019–2021.

Elizabeth Flesch (Ph.D.). Bighorn sheep genetics. Department of Animal & Range Sciences, Montana State University, 2016–2020.

Neto Garcia (Ph.D.). Generalizing and transferring GIS-based bison distribution models. Department of Animal & Range Sciences, Montana State University, 2016–2020.

Mark Kurzen (M.S.). Snowshoe hare population and habitat selection in the Bear Creek drainage. Department of Animal & Range Sciences, Montana State University, 2016–2019.

Blake Lowrey (Ph.D.). Spatial ecology of mountain ungulates in the Greater Yellowstone Area. Department of Ecology, Montana State University, 2015–2019.

Jarrett Payne (M.S.). Targeted grazing to improve sage-grouse brood-rearing habitat. Department of Animal & Range Sciences, Montana State University, 2015–2018.

Brooke Regan (M.S.). Ecological factors influencing the use of ungulate carcasses by grizzly bears in the Yellowstone ecosystem. Department of Animal & Range Sciences, Montana State University, 2015–2016.

Joao Rossi (M.S.). Bear response to mine reclamation and road construction in the Cooke City Basin, MT. Department of Animal & Range Sciences, Montana State University, 2014–2016.

### **Undergraduate Students Advised**

2015 – present          Montana State University          *~15 Advisees per year*

### **Undergraduate student research projects supervised**

O. Jakobosky. The effects of human activity on dusky grouse occurrence and detection. Montana State University, 2020–present.

L. Macon. Effects of rangeland management on brood habitat selection of sharp-tailed grouse. Montana State University, 2018–20.

E. Krieger. Effects of grazing management and habitat conditions on invertebrate biomass. Montana State University, 2017–18.

- A. Micklewright. Estimating the age of live-captured beavers from morphometrics. Montana State University, *First Year Research Experience Intern*, 2015–16.
- M. McDermott. Spatial and temporal patterns of invertebrate abundance and diversity in the western boreal-Arctic. University of Alaska Fairbanks / U.S. Geological Survey, 2014–15.
- S Vold. Spatial and temporal heterogeneity in detection of landbirds using remote song meters. Bemidji State University / U.S. Geological Survey, 2014–15.

## **PROFESSIONAL ACTIVITIES & SERVICE**

**Current Member:** Prairie Grouse Technical Council (Chair), Society for Range Management (National, Intermountain West chapter, Wildlife Habitat Working Group), The Wildlife Management Institute, The Wildlife Society (National, Northwestern Section, Montana state chapter, Rangeland Wildlife Working Group (secretary), International Union for Conservation of Nature, Species Survival Commission, Galliformes Specialist Group

**Past Member:** American Ornithologists' Union, American Society of Mammalogists, Boreal Partners in Flight, Cooper Ornithological Society, Ecological Society of America, Illinois State Academy of Science, Kansas Ornithological Society, The Wildlife Society (Alaska, Illinois, Indiana, Kansas, and Michigan state chapters)

**Invited Speaker:** CMR workgroup (Montana), Montana Department of Natural Resources Conservation, American Prairie Reserve (Montana), Alaska Chapter of the Wildlife Society, Alaska Pacific University, Ball State University (Indiana), Ducks Unlimited (Michigan), Emporia State University (Kansas), Illinois Federation for Outdoor Resources, Illinois Trappers Association, International Mountain Section of the Society of Range Management, Kansas State University, Kansas State University Extension, Kansas Upland Bird Partnership, Kansas Wildlife Federation, Montana State University, Montana State University Northern, New Mexico State University, Southern Illinois University, USDA NRCS (Indiana, Kansas), University of Alaska, U.S. Geological Survey (Alaska, Montana)

**Book Editor:** Rangeland Wildlife Ecology and Conservation (2020-present)

**Reviews for Scientific Periodicals:** Rangeland Ecology and Management (Associate Editor 2015–2018), *Auk*, *Condor*, *Ecography*, *Ecosphere*, *Forest Ecology and Management*, *Human-Wildlife Interactions*, *Ibis*, *Intermountain Journal of Science*, *Journal of Field Ornithology*, *Journal of Fish and Wildlife Management*, *Journal of Mammalogy*, *Journal of Wildlife Management*, *Northeastern Naturalist*, *Northeast Wildlife*, *PloSONE*, *Studies in Avian Biology*, *Wildlife Biology*, *Wildlife Society Bulletin*.

**Reviews for Funding Agencies:** Indiana Department of Natural Resources (2003–05), U.S. Geological Survey (2012–14)

**Permits held:** Institutional Animal Care and Use Committee (KSU, MSU, USGS), Kansas Department of Wildlife and Parks Collecting and Use Permit (2006–12), Montana Department of Fish, Wildlife, and Parks Scientific Collectors Permit (2014–present), North Dakota Scientific Collection Permit (2015–present), National Park Service Research Permit (2011–2014; 2015–2018)

**University Service:** MSU Institutional Animal Care and Use Committee (2019–present), COA-MAES Awards of Excellence Selection Committee (2020–present), Dan Scott Ranch

Management Advisory Committee (2019–present), MSU Ecology and Environmental Science Advisory Board (2019–present), Department of Animal & Range Sciences (A&RS) Graduate Assessment Committee (Chair; 2017–present), A&RS Promotion and Tenure Committee (2020–present), A&RS Graduate Teaching Committee (2019–present), First Year Research Experience Faculty Mentor (2015–2020), A&RS Awards Nomination Committee (Chair; 2016–present), Bair Ranch Foundation Seminar Committee (2018–present), Ruminant Nutritionist search committee (2019–present), Extension Wildlife Specialist search committee (2016, 2018–2019), COA-MAES Hatch project review committees (3, 2016–2018), , Indigenous Mentoring Program (2016–present), ADVANCE Work-Life Integration Advisory Committee (2015), MAES/CoA grant committee (2015), CoA Ranching Systems Program Workgroup (2015–16), Montana State University Research Initiatives (2016–2018)

**Other Service:** TWS Rangeland Wildlife Working Group (Nominations and Elections Chair, 2018–present), Montana Wildlife Society (annual conference student paper judge, quiz bowl committee, session moderator), Alaska Bird Conference student presentation judge (2013), Alaska Chapter of the Wildlife Society (program coordinator, 2014), Biometrics Working Group (TWS, 2010–14), Boreal Partners in Flight (2012–15), Citizen Advisory Committee on Captive Cervids (Indiana, technical advisor, 2003–05), Conservation Leaders for Tomorrow (instructor and recruiter, 2009–present), Donald H. Rusch Memorial Game Bird Research Scholarship Selection Committee (TWS; 2010, 2015), Graduate Affairs Committee (KSU, student representative, 2008–10), Comprehensive Wildlife Strategy Technical Committee (IDNR, species expert, 2003–05), Deer Advisory Committee (Indiana, technical advisor, 2003–05), Montana Ag Live (guest expert, 2015), Midwest Fish and Wildlife Conference (2004, 2011, wildlife technical committee, session organizer and moderator), National Park Service Arctic Parks Network (species expert, Biological Review Team, 2014), Prairie Grouse Technical Council (member: 2007–present; Chair 2019–2021), Rangeland Wildlife Working Group (TWS; Secretary, 2014–16), START Federal Emergency Response Team (2012–14), The Wildlife Society 2009 Annual Conference Program Committee (contributed and special posters subcommittee, contributed paper session moderator).