

NATURAL RESOURCE ECOLOGY & MANAGEMENT DEPARTMENT

PUBLICATIONS 2016

--Bold denotes NREM faculty

--Asterisk denotes post-doc or graduate student as senior author mentored by NREM faculty

2016 (86)

Acharya, B.S.*, Y. Hao, T.E. Ochsner, and **C.B. Zou**. 2016. Woody plant encroachment alters soil hydrological properties and impedes downward flux of water in tallgrass prairie. *Plant and Soil* 2016: 1-13.

Acharya, B.S.*, E. Stebler, and **C.B. Zou**. 2016. Monitoring litter interception of rainfall using leaf wetness sensor under controlled and field conditions. *Hydrological Processes* 31: 240-249.

Amimi Mohamad, M.H., R. Hashim, N.S. Sulaiman, **S. Hiziroglu**, O. Sulaiman, M. Mohamed, S.N. Sarmin, M. Masri, M.A. Sulaiman, and M.B. Abu Bakar. 2016. Effect of urea formaldehyde addition to the dimensional stability of particleboard made using glutardialdehyde modified corn starch as binder with FT-IR analysis. *Materials Science Forum* 840: 108-111.

Atuo, F.A.*, S.T. Ivande, J.W. Zingfa, S. Manu, and **T.J. O'Connell**. 2016. Current distribution, breeding population and habitat use of the globally threatened Grey-necked Picathartes *Picathartes oreas* in south-east Nigeria: a call for conservation action. *Ostrich: Journal of African Ornithology*: doi: 10.2989/00306525.2016.1179229

Becerra, T.A., **D.M. Engle**, **S.D. Fuhlendorf**, and **R.D. Elmore**. 2016. Preference for Grassland Heterogeneity: Implications for Biodiversity in the Great Plains, *Society & Natural Resources*, doi: 10.1080/08941920.2016.1239293 (November 2016)

Bekhata, P., P. Lyutyty, **S. Hiziroglu**, and G. Ortynska. 2016. Properties of composite panels made from tetra-pak and polyethylene waste material. *Journal of Polymers and the Environment*. doi: 10.1007/s10924-016-0758-7.

Bendixsen, D.P., **S.W. Hallgren**, and J.A. Burton. 2016. Ecological succession following forest decline in a xeric oak forest of south-central United States. *J. Plant Ecology* 9: 402-409.

Beston, J.A., J. Diffendorfer, **S.R. Loss**, and D.H. Johnson. 2016. Prioritizing avian species for their risk of population level consequences from wind energy development. *PLoS ONE* 11: e0150813.

Bowman, D.M.J.S., G.L.W. Perry, S.I. Higgins, C.N. Johnson, **S.D. Fuhlendorf**, B.P. Murphey. 2016. Pyrodiversity is the coupling of biodiversity and fire regimes in food webs. *Philosophical Transactions of the Royal Society* 371: 20150169.

Bradley, J.C. *, **R.E. Will**, J.F. Stewart, C.D. Nelson, and J.M. Guldin. 2016. Post-fire resprouting of shortleaf pine is facilitated by a morphological trait but fire eliminates shortleaf x loblolly pine hybrid seedlings. *Forest Ecology and Management* 379: 146-152.

Brewer, S.K., R.A. McManamay, A.D. Miller, R. Mollenhauer, T. Worthington, and T. Arsuffi. 2016. Advancing environmental flow science: Developing frameworks for altered landscapes and integrating efforts across disciplines. *Environmental Management* 58: 175-192.

Bried, J.T. *, A.M. Siepielski, D. Dvoretz, S.K. Jog, M.A. Patten, X. Feng, and **C.A. Davis**. 2016. Species residency status affects model selection and hypothesis testing in freshwater community ecology. *Freshwater Biology* 61: 1568-1579.

Bried, J.T. *, S.K. Jog, **C.A. Davis**, and A.R. Dzialowski. 2016. Rapid buffer assessment fails to predict and classify wetland floristic quality in Oklahoma. *Wetlands* 36: 799-805.

Carroll, J.M. *, **C. A. Davis**, **S. D. Fuhlendorf**, and **R.D. Elmore**. 2016. Landscape pattern is critical for the moderation of thermal extremes. *Ecosphere* 7(7): doi:10.1002/ecs2.1403.

Carter, T.S., M. Superina, and **D.M. Leslie, Jr.** 2016. *Priodontes maximus* (Cingulata: Dasypodidae). *Mammalian Species* 48(932): 21-34.

Chaudhary V.B., M.A. Rúa, A. Antoninka, J.D. Bever, J. Duchicela, M. Gardes, C.A. Gehring, M. Hart, J. Hopkins, B. Ji, N.C. Johnson, W. Kaonongbua, J. Karst, R. Koide, L.J. Lamit, J. Meadow, B.G. Milligan, J. Moore, T.H. Pendergast, B. Piculell, B. Ramsby, S. Simard, J. Umbanhowar, W. Viechtbauer, L. Walters, **G.W.T. Wilson**, P.C. Zee, and J. Hoeksema. 2016. MycoDB: A global database of plant response to mycorrhizal fungi. *Nature:Scientific Data* 3: 160028 DOI: 10.1038/sdata.2016.28.

Chen, W. *, S. Thanapal, K. Annamalai and **R.J. Ansley**. 2016. Kinetics of pyrolysis of mesquite biomass fuel from TGA data. *International Journal of Green Energy*. Doi:10.1080/15435075.2016.1171225

Chotikhun, A., and **S. Hiziroglu**. 2016. Measurement of dimensional stability of heat-treated southern red oak (*Quercus falcate* Michx.). *Measurement* 87: 99-103.

Cobb, A.B. *, **G.W.T. Wilson**, C.L. Goad, S.R. Bean, R.C. Kaufman, T.J. Herald, and J.D. Wilson. 2016. The role of arbuscular mycorrhizal fungi in grain production and nutrition of sorghum genotypes: Enhancing sustainability through plant-microbial partnership. *Agriculture, Ecosystems, and Environment* 233: 432-440.

Craige, C.C., M.D. Buser, R.S. Frazier, **S. Hiziroglu**, R. Holcomb, and R. Huhnke. 2016. Conceptual design of a biofeedstock supply chain model for eastern redcedar. *Computers and Electronics in Agriculture* 121: 12-24.

Craven, D., M.P. Thakur, E.K. Cameron, L.E. Frelich, R. Beausejour, J. Burtis, A. Choi, T.J. Fahey, N. Fisichelli, K. Gibson, I.T. Handa, K. Hopfensperger, **S.R. Loss**, V. Nuzzo, J. Maerz, B. Scharenboch, M. Vellend, L.G. Umek, and N. Eisenhauer. 2016. The unseen invaders: introduced earthworms as drivers of change in plant communities in North American forests (a meta-analysis). *Global Change Biology* doi: 10.1111/gcb.13446.

Dahlgren, D.K., M.R. Guttery, T.A. Messmer, D. Caudill, **R.D. Elmore**, R. Chi, and D.N. Koons. 2016. Evaluating vital rate contributions to greater sage-grouse population dynamics to inform conservation. *Ecosphere* 7(3): art e01249.

Davis, C.A., R.T. Churchwell, **S.D. Fuhlendorf**, **D.M. Engle**, and T.J. Hovick. 2016. Effect of pyric herbivory on source-sink dynamics in grassland birds. *Journal of Applied Ecology* 53: 1004-1012.

Delaney, J.T., R.A. Moranz, D.M. Debinski, **D.M. Engle**, and J.R. Miller. 2016. Exotic-dominated grasslands show signs of recovery with the application of cattle grazing and fire. *PLoS ONE* 11:e0165758.

Duchardt, C.J., J.R. Miller, D.M. Debinski, and **D.M. Engle**. 2016. Adapting the fire-grazing interaction to small pastures in a fragmented landscape for grassland bird conservation. *Rangeland Ecology and Management* 69: 300-309.

Duell, E.B.*, **G.W.T. Wilson**, and **K.R. Hickman**. 2016. Above- and belowground responses of native and invasive prairie grasses to future climate scenarios. *Botany* 94: 471-479 (Special Edition: Mycorrhiza and Climate Change).

Dulsang, N., P. Kasemsiri, P. Posi, **S. Hiziroglu**, and P. Chindapasirt. 2016. Characterization of an environment friendly lightweight concrete containing ethyl vinyl acetate waste. *Materials and Design* 96: 350-356.

Dvoretz, D.*, **C.A. Davis**, and M. Papes. 2016. Mapping and hydrologic attribution of temporary wetlands using recurrent Landsat imagery. *Wetlands* 36: 431-443.

Dyer, J.J., J. Mouser, and **S.K. Brewer**. 2016. Habitat use and growth of the Western Painted Crayfish *Orconectes palmeri longimanus*. *Journal of Crustacean Biology* 36: 172-179.

Earl, J.E.*, **S.D. Fuhlendorf**, D. Haukos, A.M. Tanner, **R.D. Elmore**, and S.A. Carleton. 2016. Characteristics of lesser prairie-chicken (*Tympanuchus pallidicinctus*) long-distance movements across their distribution. *Ecosphere* 7(8): art e01441.

Earl, J.E.*, and **S.D. Fuhlendorf**. 2016. Relative importance of climate variables to population vital rates: A quantitative synthesis for the Lesser prairie-chickens. *PLoS ONE* 11(9): e0163585.

Elizondo, E.*, and **S.R. Loss**. 2016. Using trail cameras to estimate free-ranging domestic cat abundance in urban areas. *Wildlife Biology* 22: 246-252.

Feltrin R.*, **R.E. Will**, C.R. Meek, R. Masters, J. Waymire and D.S. Wilson. 2016. Relationship between photosynthetically active radiation and herbaceous layer productivity across a forest-grassland continuum. *Forest Ecology and Management* 374: 51-60.

Foster, A.J., V.G. Kakani, J. Ge, **M. Gregory** and J. Mosali. 2016. Discriminant analysis of nitrogen treatments in switchgrass and high biomass sorghum using leaf and canopy-scale reflectance spectroscopy. *International Journal of Remote Sensing* 37(10): 2252-2279.

Fuhlendorf, S.D., and J.R. Brown. 2016. Future directions for usable rangeland science: From plant communities to landscapes. *Rangelands* 38: 75-78.

Ganguli, A.C., **D.M. Engle**, P.M. Mayer, and L.F. Salo. 2016. Influence of resource availability on *Juniperus virginiana* expansion in a forest-prairie ecotone. *Ecosphere* 7(8):e01433. 10.1002/ecs2.1433

Goodman, L.E., A.F. Cibils, R.L. Wesley, J.T. Mulliniks, M.K. Petersen, E.J. Scholljegerdes, and S.H. Cox. 2016. Temperament affects rangeland use patterns and reproductive performance of beef cows. *Rangelands* 38:292-296.

Gosch, N.J.C., M.L. Miller, T.R. Gemeinhardt, T.A. Starks, A.P. Civiello, **J.M. Long**, and J.L. Bonneau. 2016. Prey consumption and preference of age-0 sturgeon in the lower Missouri River. *River Research and Applications*. doi: 10.1002/rra.3003USERDEF

Hovick, T.J., B.W. Allred, D.A. McGranahan, M.W. Palmer, **R.D. Elmore**, and **S.D. Fuhlendorf**. 2016. Informing conservation by identifying range shift patterns across breeding habitats and migration strategies. *Biodiversity and Conservation*. doi: 10.1007/s10531-016-1053-6.

Joshi, O., N.C. Poudyal, and L. Larson. 2016. The influence of socio-political, natural and cultural factors on international tourism growth: A cross-country panel analysis. *Environment, Development and Sustainability* 18(1): 1-14.

Johnson, D.H., **S.R. Loss**, K.S. Smallwood, and W.P. Erickson. 2016. Avian fatalities at wind energy facilities in North America: a comparison of recent approaches. *Human-Wildlife Interactions* 10: 7-18.

Kasemsiri, P. N. Dulsang, U. Pongsa, **S. Hiziroglu**, and P. Chindaprasit. 2016. Optimization of biodegradable foam composite from cassava starch, oil palm fiber, chitosan and palm oil using taguchi method and gray relational analysis. *Journal Polymers and the Environment*. Doi: 10.1007/s10924-016-0818-z.

Kreuter, U.P., A.D. Iwaasa, G.L. Theodori, **R.J. Ansley**, R.B. Jackson, L.H. Fraser, M.A. Naeth, S. McGillivray, E.G. Moya. 2016. State of knowledge about energy development impact on North American rangelands: an integrative approach. *Journal of Environmental Management* 180: 1-9.

- Krueger, E.S., T.E. Ochsner, J.D. Carlson, **D.M. Engle**, D. Twidwell, and **S.D. Fuhlendorf**. 2016. Concurrent and antecedent soil moisture relate positively or negatively to probability of large wildfires depending on season. *International Journal of Wildland Fire* 25: 657-668.
- Leslie, D.M., Jr.** 2016. An international borderland of concern: conservation of biodiversity in the Lower Rio Grande Valley: an international borderland of concern. U.S. Geological Survey Scientific Investigations Report 2016-5078: 1-120.
- Leslie, D.M., Jr.**, S.L. Collins, and J. Travis. 2016. Enhancing the future of BioScience. *BioScience* 66: 435.
- Limb, R.F., **S.D. Fuhlendorf**, **D.M. Engle**, and R.F. Miller. 2016. Synthesis Paper: Assessment of Research on Rangeland Fire as a Management Practice. *Rangeland Ecology and Management* 69: 415-422.
- Long, J.M.** and R.T. Melstrom. 2016. Measuring the relationship between sportfishing trip expenditures and anglers' species preferences. *North American Journal of Fisheries Management* 36: 731-737.
- Long, J.M.** and R.A. Snow. 2016. Ontogenetic development of otoliths in a living fossil fish species, the Alligator Gar (*Atractosteus spatula*). *Transactions of the American Fisheries Society* 145: 537-544.
- Loss, S.R.**, B.H. Noden, G.L. Hamer, and S.A. Hamer. 2016. A quantitative synthesis of the role of birds in carrying ticks and tick-borne pathogens in North America. *Oecologia* 182: 947-959.
- Loss, S.R.** 2016. Avian interactions with energy infrastructure in the context of other anthropogenic threats. *The Condor: Ornithological Applications* 118: 424-432.
- Lynch, T.B.**, P. Saud, K.C. Dipesh, and **R.E. Will**. 2016. Plantation site index comparisons for shortleaf and loblolly pine in Oklahoma, USA. *Forest Science* 62: 546-552.
- Lynch, T.B.** 2016. Optimal plot size or point sample factor for a fixed total cost using the Fairfield Smith relation of plot size to variance. *Forestry* 2016: 1-8, doi: 10.1093/forestry/cpw038
- Maggard, A.O.*, **R.E. Will**, D.S. Wilson, C.R. Meek and J.G. Vogel. 2016. Fertilization reduced stomatal conductance but not photosynthesis of *Pinus taeda* which compensated for lower water availability in regards to growth. *Forest Ecology and Management* 381: 37-47.
- Maggard, A.O.*, **R.E. Will**, D.S. Wilson, and C.R. Meek. 2016. Response of mid-rotation loblolly pine (*Pinus taeda* L.) physiology and productivity to sustained induced drought on the western edge of the range. *Forests* 7: 203; doi: 10.3390/f7090203.
- McGranahan, D.A.*, T.J. Hovick, **R.D. Elmore**, **D.M. Engle**, **S.D. Fuhlendorf**, S.L. Winter, J.R. Miller, and D.M. Debinski. 2016. Temporal variability in aboveground plant biomass

decreases as spatial variability increases. *Ecology* 97: 555-560.

McManamay, R.A., **S.K. Brewer**, H.I. Jager, and M.J. Troia. 2016. Organizing environmental flow frameworks to meet hydropower mitigation needs. *Environmental Management* 58: 365-385.

Nasser, R., M. Salem, **S. Hiziroglu**, H. Al-Mefarrej, M. Alam, and I. Aref. 2016. Chemical analysis of different parts of date palm (*Phoenix dactylifera* L.) using ultimate, proximate and thermo-gravimetric techniques for energy production. *Energies* 9 (5): 374 doi: 10.3390/en9050374.

Orange, J.P.*, **C.A. Davis, R.D. Elmore, and S.D. Fuhlendorf**. 2016. Temporary communal brooding in northern bobwhite and scaled quail broods. *Western North American Naturalist* 76: 122-127.

Orange, J.P.*, **C.A. Davis, R.D. Elmore**, E.P. Tanner, **S.D. Fuhlendorf**, and E.T. Thacker. 2016. Evaluating the efficacy of brood flush counts: a case study in two quail species. *Western North American Naturalist* 76: 485-492.

Parajuli, R., S. Tanger, **O. Joshi**, and J. Henderson. 2016. Modelling prices for sawtimber stumpage in the south-central United States. *Forests* 7(7)-00148.

Paudel, S.*, T. Longcore, B. MacDonald, M.K. McCormick, K. Szlavecz, **G.W.T. Wilson**, and **S.R. Loss**. 2016. Belowground interactions with aboveground consequences: Invasive earthworms and arbuscular mycorrhizal fungi. *Ecology* 97: 605-614.

Paudel, S.*, B. MacDonald, T. Longcore, and **S.R. Loss**. 2016. Predicting spatial extent of invasive earthworms on an oceanic island. *Diversity and Distributions* 22: 1013-1023.

Paudel, S.*, **G.W.T. Wilson**, B. MacDonald, T. Longcore, and **S.R. Loss**. 2016. Predicting spatial extent of invasive earthworms on an oceanic island. *Diversity and Distributions* 1-11. Doi: <http://10.1111/ddi.12472>.

Saud, P., **T.B. Lynch**, Anup K.C., and J.M. Guldin. 2016. Using quadratic mean diameter and relative spacing index to enhance height –diameter and crown ratio models fitted to longitudinal data. *Forestry* 89: 215-229.

Scasta, J.D., C. Duchardt, **D.M. Engle**, J.R. Miller, D.M. Debinski, and R.N. Harr. 2016. Constraints to restoring fire and grazing ecological processes to optimize grassland vegetation structural diversity. *Ecological Engineering* 95: 865-875.

Scasta, J.D., E.T Thacker, T.J. Hovick, **D.M. Engle**, B.W. Allred, **S.D. Fuhlendorf**, and **J.R. Weir**. 2016. Patch-burn grazing (PBG) as a livestock management alternative for fire-prone ecosystems of North America. *Renewable Agriculture and Food Systems* doi: 10.1017/S1742170515000411

Shoup, D.E., and R.G. Ryswyk. 2016. Length selectivity and size-bias correction for the North American Standard Gill Net. *North American Journal of Fisheries Management* 36: 485-496.

Smith, G.W., D.M. Debinski, N.A. Scavo, C.J. Lange, J.T. Delaney, R.A. Moranz, J.R. Miller, **D.M. Engle**, and A.L. Toth. 2016. Bee abundance and nutritional status in relation to grassland management practices in an agricultural landscape. *Environmental Entomology* doi: 10.1093/ee/nvw005

Snow, R.A. and **J.M. Long**. 2016. Effects of a growth check on daily age estimates of age-0 alligator gar. *Journal of the Southeastern Association of Fish and Wildlife Agencies* 3: 6-10.

Stahr, K.J.*, and **D.E. Shoup**. 2016. The effects of macrophyte stem density and structural complexity on foraging return of invertivorous juvenile largemouth bass. *North American Journal of Fisheries Management* 36: 788-792.

Starks, T.A., M.L. Miller, and **J.M. Long**. 2016. Early life history of three pelagic-spawning minnows (*Macrhybopsis* spp.) in the Lower Missouri River. *Journal of Fish Biology* 88: 1335-1349.

Stevenson, D.J.*, **T.B. Lynch**, P. Saud, R. Heinemann, R. Holeman, D. Wilson, K. Anderson, C. Cerny, and J.M. Guldin. 2016. Winter in the Ouachitas - a severe winter storm signature in *Pinus echinata* in the Ouachita Mountains of Oklahoma and Arkansas, USA. *Dendrochronologia* 37: 107-115.

Stewart, D.R. and **J.M. Long**. 2016. Using hierarchical Bayesian multi-species mixture models to estimate tandem hoop-net based habitat associations and detection probabilities of fishes in reservoirs. *Transactions of the American Fisheries Society* 145: 450-461.

Stewart, D.R., **J.M. Long**, and **D.E. Shoup**. 2016. Simulation modeling to explore the effects of length-based harvest regulations for *Ictalurus* fisheries. *North American Journal of Fisheries Management* 36: 1190-1204.

Stewart, F.F., **R.E. Will**, B.S. Crane and C.D. Nelson. 2016. The genetics of shortleaf pine (*Pinus echinata* mill.). *Tree Genetics and Genomes* 12: 98; doi:10.1007/s 11295-016-1052-5.

Sulaiman, N.S., R. Hashim, **S. Hiziroglu**, M.H. Mohamed Amini, O. Sulaiman, and M.E. Selamat. 2016. Rubberwood particleboard manufactured using epichlorohydrin-modified rice starch as a binder. *Cellulose Chemistry and Technology* 50: 329-338.

Tanner, E.P.*, **R.D. Elmore**, **S.D. Fuhlendorf**, **C.A. Davis**, D.K. Dahlgren, and J.P. Orange. 2016. Extreme climatic events contain space use and survival of a ground-nesting bird. *Global Change Biology* 22. doi: 10.1111/gcb.13505.

Tanner, E.P.*, **R.D. Elmore**, **C.A. Davis**, **S.D. Fuhlendorf**, D.K. Dahlgren, E.T. Thacker, and J.P. Orange. 2016. Does the presence of oil and gas infrastructure potentially increase risk of harvest in northern bobwhite? *Wildlife Biology* 22: 294-304.

Thacker, E.T.*, R.L. Hamm, J. Hagen, **C.A. Davis**, and **F. Guthery**. 2016. Evaluation of the Surrogator[®] System to increase pheasant and quail abundance. *Wildlife Society Bulletin* 40: 310-315.

Twidwell, D., A.S. West, W.B. Hiatt, A.L. Ramirez, J.T. Winter, **D.M. Engle**, **S.D. Fuhlendorf**, and J.D. Carlson. 2016. Plant invasions or fire policy: which has altered fire behavior more in tallgrass prairie? *Ecosystems* 19: 356-368.

West, A.L.*, **C.B. Zou**, E. Stebler, **S.D. Fuhlendorf**, and B. Allred. 2016. Pyric-herbivory and hydrological responses in Tallgrass Prairie. *Rangeland Ecology and Management* 69: 20-27.

Worthington, T.A., T. Zhang, D.R. Logue, A.R. Mittelstet, and **S.K. Brewer**. 2016. Landscape and flow metrics affecting the distribution of a federally-threatened fish: Improving management, model fit, and model transferability. *Ecological Modelling* 342: 1–18.

Xiong, D.P., P.L. Shi, X.Z. Zhang, and **C.B. Zou**. 2016. Fencing increases ecosystem carbon sequestration in China's grasslands - a meta-analysis. *Ecological Engineering* 94: 647-655.

Zhang, Y., J. Vogel, C. Meek, **R.E. Will**, D. Wilson and J. West. 2016. Wood decomposition by microbes and macroinvertebrates, and soil CO₂ efflux vary in response to throughfall reduction and fertilization in a loblolly pine (*Pinus taeda* L.) plantation. *Forest Ecology and Management* 382: 10-20.

Zhong, Y.*, L. Lei, Y. Liu, Y. Hao, **C.B. Zou**, and H. Zhan. 2016. The influence of large-scale climate phenomena on precipitation in the Ordos Basin, China. *Theoretical and Applied Climatology* 2016: 1-5. doi: 10.1007/s00704-016-1904-9.