

NATURAL RESOURCE ECOLOGY & MANAGEMENT DEPARTMENT

PUBLICATIONS 2019

--Bold denotes NREM faculty

--Asterisk denotes lead author who is a post-doc, graduate student or research support staff
mentored by NREM faculty

--Double asterisk denotes undergraduate student mentored by NREM faculty

2019 (79)

Allison, T.D., J.E. Diffendorfer, E.F. Baerwald, J.A. Beston, D. Drake, A.M. Hale, C.D. Hein, M.M. Huso, **S.R. Loss**, J.E. Lovich, M.D. Strickland, K.A. Williams, and V.L. Winder. 2019. Impacts to wildlife of wind energy siting and operation in the United States. *Issues in Ecology Report No. 21.* 23 pages.

Ansley, R.J., C. Cooper, and T. Zhang. 2019. Invasion promotes invasion: Facilitation of C₃ perennial grass dominance in mixed C₃/C₄ grassland by an invasive C₃ woody sprouter (*Prosopis glandulosa*). *Ecology and Evolution* 9: 13438-13449. doi:10.1002/ece3.5800.

Brandt, D., J.D. Wormington, **J.M. Long**, W.W. Hoback, and B.H. Noden. 2019. Differences in mosquito communities in six cities in Oklahoma. *Journal of Medical Entomology*. doi:10.1093/jme/tjz039.

Cady, S.M.* **T.J. O'Connell, S.R. Loss**, N.E. Jaffe, and **C.A. Davis**. 2019. Species-specific and temporal scale-dependent response of birds to drought in the U.S. Great Plains. *Global Change Biology* 25: 2691-2702. doi:10.1111/gcb.14668.

Carroll, M.J.* **R.D. Elmore, C.A. Davis**, and **S.D. Fuhlendorf**. 2019. Propagation of shinnery oak as a framework for restoration. *Rangeland Ecology and Management* 72: 632-634.

Crane, D.P., D.H. Ogle, and **D.E. Shoup**. 2019. Use and misuse of a common growth metric: guidance for appropriately calculating and reporting specific growth rate. *Reviews in Aquaculture*. doi:10.1111/raq.12396. (print version in press)

Dattilo, J.* **D.E. Shoup**, and **S.K. Brewer**. 2019. Age and growth of Freshwater Drum and Gizzard Shad occupying two reservoir-river complexes with different groundwater contributions. *North American Journal of Fisheries Management* 39: 1132-1142.

Diffendorfer, J.E., J.A. Beston, M.D. Merrill, J.C. Stanton, M.D. Corum, **S.R. Loss**, W.E. Thogmartin, D.H. Johnson, R.A. Erickson, and K.W. Heist. 2019. A methodology to assess the national and regional impacts of wind energy development on birds and bats. U.S. Geological Survey, Scientific Investigations Report p2018-5157. doi:10.3133/sir20185157.

Dorning, M.A., J.E. Diffendorfer, **S.R. Loss**, and K.J. Bagstad. 2019. Review and synthesis of indicators for comparing environmental impacts across energy sources. *Environmental Research Letters* 14: 103002.

Duell, E.B.* , K. Zaiger, J.D. Bever, and **G.W.T. Wilson**. 2019. Climate affects plant-soil feedbacks of native and invasive grasses: Negative feedbacks in stable but not variable environments. *Frontiers in Ecology and Evolution* 7: 419. doi:10.3389/fevo.2019.00419. (IF 2.69).

Duquette, C.A.* , **C.A. Davis, S.D. Fuhlendorf**, and **R.D. Elmore**. 2019. Northern bobwhite (*Colinus virginianus*) space use minimally affected by oil and gas development. *Rangeland Ecology and Management* 72: 484-491.

Duquette, C.A.* , **C.A. Davis, S.D. Fuhlendorf**, and **R.D. Elmore**. 2019. Associations between oil and gas wells and arthropod and vegetation communities in the Southern Plains. *Rangeland Ecology and Management* 72: 749-756.

Eck, C., K. Wagner, B. Chapagain, and **O. Joshi**. 2019. A survey of perceptions and attitudes about water issues in Oklahoma: A comparative study. *Journal of Contemporary Water Research and Education* 168: 66-77.

Elkiran, G., F. Aslanova, and **S. Hiziroglu**. 2019. Effluent water reuse possibilities in Northern Cyprus. *Water MDPI* 11: 191. doi:10.3390/w11020191. (IF 2.52).

Frelich, L.E., B. Blossey, E.K. Cameron, A. Davalos, N. Eisenhauer, T. Fahey, P. Groffman, E. Larson, **S.R. Loss**, J. Maerz, V. Nuzzo, P.B. Reich, and K. Yoo. 2019. Side-swiped: Ecological cascades emanating from earthworm invasion. *Frontiers in Ecology and the Environment* 17: 502-510.

Fuhlendorf, S.D. 2019. Saving graze: Forage or fuel and other paradoxes of conservation. *Natural History* 127: 14-16.

Gallaway, S.* , **C.A. Davis**, D. Dvorett, and B. Tramell. 2019. Validation of the Oklahoma Rapid Assessment Method (OKRAM) in depressional wetlands using EPA's three-tiered framework. *Wetlands* 39: doi:10.1007/s13157-019-01238-8.

Gallaway, S.* , **C.A. Davis**, D. Dvorett, and B. Tramell. 2019. Evaluating the effectiveness of floristic quality assessment as a tool for determining the condition of depressional wetlands across ecoregions. *Ecological Indicators* 102: 488-496.

Gemeinhardt, T.R., N.J.C. Gosch, A.P. Civello, N. Chrisman, H. Shaughnessy, T.L. Brown, **J.M. Long**, and J.L. Bonneau. 2019. Evaluating age-0 Shovelnose Sturgeon foraging efficiency at multiple spatial scales: the influence of depth and velocity. *River Research and Applications* 35: 205-215. doi:10.1002/rra.3395.

Gove, J.H., **T.B. Lynch**, and M.J. Ducey. 2019. The Chapman-Richards distribution and its relationship to the generalized Beta. *Forest Ecosystems* (2019) 6:27. <https://doi.org/10.1186/s40663-019-0184-0>.

Hammond, W.M., Y. Kailiang, L.A. Wilson**, **R.E. Will**, W.R.L. Anderegg, and H.D. Adams. 2019. Dead or dying? Point of no return from hydraulic failure in drought-induced tree

mortality. *New Phytologist* 233: 1834-1843.

Hao, Y., Q. Liu, C. Li, G. Kharel, L. An, E. Stebler, Y. Zhong, and **C.B. Zou**. 2019. Interactive effect of meteorological drought and vegetation types on root zone soil moisture and runoff in rangeland watersheds. *Water* 11: 2357.

Islam, N., A. A. Liza, O. Faruk, A. Habib, and **S. Hiziroglu**. 2019. Formulation and characterization of tamarind (*Tamarindus indica* L.) seed kernel powder (TKP) as green adhesive for lignocellulosic composite industry. *International Journal of Biological Macromolecules*. <https://doi.org/10.1016/j.ijbiomac.2019.10.027>. (IF 4.78).

Johnson, G.R.* , **D.E. Shoup**, and K.M. Boswell. 2019. Accuracy and precision of hydroacoustic estimates of Gizzard Shad abundance using horizontal beaming. *Fisheries Research* 212: 81-86.

Johnson, G.R.* , **D.E. Shoup**, and K.M. Boswell. 2019. Incorporating fish orientation into target strength-total length equations: Horizontal-Aspect target-Strength equations for gizzard shad *Dorosoma cepedianum*. *Fisheries Research* 218: 155-165.

Joshi, O., N.C. Poudyal, **J.R. Weir**, **S.D. Fuhlendorf**, and T.O. Ochuodho. 2019. Determinants of perceived risk and liability concerns associate with prescribed burning in the United States. *Journal of Environmental Management* 230: 379-385.

Joshi, O., **R.E. Will**, **C.B. Zou**, and G. Kharel. 2019. Sustaining Cross-timbers forest resources: current knowledge and future research needs. *Sustainability* 11: 4703. doi.org/10.3390/su11174703

Katzner, T.E., D.M. Nelson, J.E. Diffendorfer, A.E. Duerr, C.J. Campbell, D. Leslie, H.B. Vander Zanden, J.L. Yee, M. Sur, M.M.P. Huso, M.A. Braham, M.L. Morrison, **S.R. Loss**, S.A. Poessel, T.J. Conkling, and T.A. Miller. 2019. Wind energy: An ecological challenge. *Science* 366: 1206-1207.

Lao, S.* , B. Robertson, A.W. Anderson, R.B. Blair, J.W. Eckles, R.J. Turner, and **S.R. Loss**. 2019. The influence of artificial light at night and polarized light on bird-building collisions. *Biological Conservation* 241: 108358.

Law, D.J., H.D. Adams, D.D. Breshears, N.S. Cobb, J.B. Bradford, **C.B. Zou**, J.P. Field, A.A. Gardea, A.P. Williams, and T.E. Huxman. 2019. Bioclimatic envelopes for individual demographic events driven by extremes: plant mortality from drought and warming. *International Journal of Plant Sciences* 180: 53-62.

Lawson, R.* , D. Fogarty, and **S.R. Loss**. 2019. Use of visual and olfactory sensory cues by an apex predator in deciduous forests. *Canadian Journal of Zoology* 97: 488-494.

Long, J.M. and M.J. Porta. 2019. Age and growth of stocked Shoal Bass in a tailwater: environmental variation and accuracy of daily age estimates. *PLoS ONE* 14(10): e0224018. <https://doi.org/10.1371/journal.pone.0224018>.

Londe, D.W.*, **S.D. Fuhlendorf, R.D. Elmore, C.A. Davis**, and J. Rutledge. 2019. Female Greater Prairie-Chicken response to energy development and rangeland management. *Ecosphere* 10(12):e02982.

Londe, D.W.*, **S.D. Fuhlendorf, R.D. Elmore**, and **C.A. Davis**. 2019. Landscape heterogeneity influences the response of grassland birds to energy development. *Wildlife Biology*. doi:10.2981/wlb.00523.

Lorwanishpaisarn, N., P. Kasemsiri, K. Jetsrisuparb, J. Knijnenburg, **S. Hiziroglu**, U. Pongsa, P. Chindaprasit, and H. Uyama. 2019. Dual-responsive shape memory and self-healing ability of a novel copolymer from epoxy/cashew nut shell liquid and polycaprolactone. *Polymer Testing* doi.org/10.1016/j.polymertesting. 2019.106159. (IF 2.94).

Lorwanishpaisarn, N., P. Kasemsiri, N. Srikhao, K. Jetsrisuparb, J.T.N. Knijnenburg, and **S. Hiziroglu**, U. Pongsa, and P. Chindaprasit. 2019. Fabrication of durable super hydrophobic epoxy/cashew nut shell liquid based coating containing flower-like zinc oxide for continuous oil/water separation. *Surface and Coatings Technology* 366: 106-113. (IF 3.19).

Loss, S.R., M.A. Dornig, and J.E. Diffendorfer. 2019. Biases in the research on direct wildlife mortality from energy development. *BioScience* 69: 348-359.

Loss, S.R., S. Lao*, J.W. Eckles, A.W. Anderson, R.B. Blair, and R.J. Turner. 2019. Factors influencing bird-building collisions in the downtown area of a major North American city. *PLOS ONE* 14:e0224164.

Miller, A.*, R. Mollenhauer, and **S.K. Brewer**. 2019. Movement and diel habitat use of juvenile Neosho Smallmouth Bass in an Ozark stream. *North American Journal of Fisheries Management* 39: 240-253.

Mollenhauer, R.*, Y. Zhou, and **S.K. Brewer**. 2019. Multiscale habitat factors explain variability in stream fish occurrence in the Ozark Highlands ecoregion, U.S.A. *Copeia* 107: 219-231.

Mouser, J.B.*, D.C. Ashley, T. Aley, and **S.K. Brewer**. 2019. Subterranean invasion by gapped ringed crayfish: A removal effort and barrier installation. *Diversity* 11: 3. doi.org/10.3390/d11010003.

Mouser, J.B.*, R. Mollenhauer, and **S.K. Brewer**. 2019. The relationship between multiscale controlling factors and the distribution of a native *Faxonius* assemblage. *Diversity and Distributions* 25: 61-73.

Nunes Biral, V.C.*, **R.E. Will**, and **C.B. Zou**. 2019. Establishment of *Quercus marilandica* Muenchh. and *Juniperus virginiana* L. in the Tallgrass Prairie of Oklahoma, USA increases litter inputs and soil organic carbon. *Forests* 10: 329. doi:10.3390/f10040329

Oberhofnerová, E., K. Šimunková, O. Dvorák, I. Šterbová, **S. Hiziroglu**, P. Šedivka, and M. Pánek. 2019. Comparison of exterior coatings applied to oak wood as a function of natural and artificial weathering exposure. *Coatings* 9, 864; doi:10.3390/coatings9120864. 15 pages.

Parajuli, R., **O. Joshi**, N. Poudyal and U. Kreuter. 2019. To insure or not to insure? Factors affecting acquisition of prescribed burning insurance coverage in the United States. *Rangeland Ecology and Management* 72: 968-975.

Parajuli, R., **O. Joshi**, and T. Maraseni. 2019. Do forests reduce carbon dioxide emissions? Incorporating forestry, agriculture, and energy consumption in the framework of Environmental Kuznets Curve. *Sustainability* 11: 2688. doi:10.3390/su11092688.

Phillips, H.R.P., **S.R. Loss**, S. Paudel, Eiesenhauer, N. (142 total co-authors). 2019. Global distribution of earthworm diversity. *Science* 366: 480-485.

Phuangngamphan, M., M. Okhawilai, **S. Hiziroglu**, and S. Rimdusit. 2019. Development of highly conductive graphite-/graphene-filled polybenzoxazine composites for bipolar plates in fuels cells. *Journal of Applied Polymer Science*. doi:10.1002/app.47183. (IF 2.18).

Prabakaran, K., J. Li, A. Anandkumar, Z. Leng, **C.B. Zou**, and D. Du. 2019. Managing environmental contamination through phytoremediation by invasive plants: A review. *Ecological Engineering* 138: 28-37.

Rakowski, A.E.* , **R.D. Elmore**, **C.A. Davis**, and **S.D. Fuhlendorf**. 2019. Thermal refuge affects space use and movement of a large-bodied galliform. *Journal of Thermal Biology* 80: 37-44.

Ren, H., Q. Zhou, J. He, Y. Hou, J. Yuehua, J. Rodrigues, A.B. Cobb, **G.W.T. Wilson**, J. Hu, and Y. Zhang. 2019. Determining landscape-level drivers of variability for over fifty soil minerals. *Science of the Total Environment* 257: 279-286. (IF 5.00).

Ren, G.Q., Q. Li, Y. Li, J. Li, M.O. Adomako, Z.C. Dai, G.L. Li, L.Y. Wan, B. Zhang, **C.B. Zou**, and Q. Ran. 2019. The enhancement of root biomass increases the competitiveness of an invasive plant against a co-occurring native plant under elevated nitrogen deposition. *Flora* 261: 151486.

Revillini, D.* , **G.W.T. Wilson**, R.M. Miller, R. Lancione, and N.C. Johnson. 2019. Plant diversity and fertilizer management shape the belowground microbiome of native grass bioenergy feedstocks. *Frontiers in Plant Science* 10:1018. doi:10.3389/fpls.2019.01018. (IF 4.11).

Salca, E., and **S. Hiziroglu**. 2019. Selected properties of overlaid wood composites exposed to high humidity environment. *MDPI Coatings* 9: 711. doi:10.3390/coatings 9110711. (IF 2.33)

Saud, P., **T.B. Lynch**, D.S. Cram, and J.M. Guldin. 2019. Annual basal area growth model with multiplicative climate modifier for shortleaf pine. *Forestry* (in press with 2019 date).

Snow, R.A., **J.M. Long**, and M.J. Porta. 2019. Marking otoliths of Alligator Gar by immersion in oxytetracycline. *North American Journal of Fisheries Management*. doi:10.1002/nafm.10365.

Snow R.A., **D.E. Shoup**, and M.J. Porta. 2019. Effects of wintertime stocking of Rainbow Trout on the forage community of an Oklahoma impoundment. North American Journal of Fisheries Management 39: 289-298.

Srivabut, C., T. Ratanawilai, and **S. Hiziroglu**. 2019. Response surface optimization and statistical analysis of composites made from calcium carbonate filler added recycled polypropylene and rubberwood fiber. Journal of Thermoplastic Composite Materials. doi:10.1177/0892705719889988. (IF 1.30)

Starns, H.D.*, **S.D. Fuhlendorf, R.D. Elmore**, D. Twidwell, E.T. Thacker, T.J. Hovick, and B. Luttbeg. 2019. Recoupling fire and grazing reduces wildland fuel loads on rangelands. Ecosphere 10: e02578. doi:10.1002/ecs2.2578.

Starr, M.*, **O. Joshi, R.E. Will**, and **C.B. Zou**. 2019. Perceptions regarding active management of Cross-timbers resources in Oklahoma, Texas, and Kansas: A SWOT-ANP analysis. Land Use Policy 81: 523-530.

Starr, M.*, **O. Joshi, R.E. Will., C.B. Zou**, and R. Parajuli. 2019. Understanding market opportunities utilizing the forest resources of the Cross-timbers ecoregion. Journal of Forestry 117: 234-243.

Stevenson, D.J.*, P. Saud, C. Miller, C. Stevenson, T. Ward, and **B. Murray**. 2019. Effects of site treatments during 26 years for Ponderosa Pine (*Pinus ponderosa* Lawson and C. Lawson [Pinaceae]) plantings in Colorado's Northern Front Range. Tree Planter's Notes 62: 25-35.

Sun, X., B.P. Wilcox, and **C.B. Zou**. 2019. Evapotranspiration partitioning in dryland ecosystems: a global meta-analysis of in situ studies. Journal of Hydrology 576: 123–136.

Tanner, A.M.*, E.P. Tanner, M. Papes, **S.D. Fuhlendorf, R.D. Elmore**, and **C.A. Davis**. 2019. Using aerial surveys and citizen science to create species distribution models for an imperiled grouse. Biodiversity and Conservation. doi:10.1007/s10531-019-01921-6.

Tanner, E.P.*, J.P. Orange, **C.A. Davis, R.D. Elmore**, and **S.D. Fuhlendorf**. 2019. Behavioral modifications lead to disparate demographic consequences in two sympatric species. Ecology and Evolution 9: 9273-9289. doi:10.1002/ece3.5472.

Tasdemir, C.*, and **S. Hiziroglu**. 2019. Achieving cost efficiency through increased inventory leanless: Evidences from oriented strand board (OSB) industry. International Journal of Production Economics 208: 412-433. (IF 4.99)

Taylor, A.T.*., T. Hafen, C.T. Holley, A. Gonzalez, and **J.M. Long**. 2019. Spatial sampling bias and model complexity in stream-based species distribution models: a case study of paddlefish (*Polyodon spathula*) in the Arkansas River basin, U.S.A. Ecology and Evolution. doi:10.1002/ece3.5913.

Taylor, A.T.*., **J.M. Long**, M.D. Tringali, and B.L. Barthel. 2019. Conservation of black bass diversity: an emerging management paradigm. Fisheries 44: 20-36. doi:10.1002/fsh.10187.

Twidwell, D., C.L. Wonkka, H. Wang, W.E. Grant, C.R. Allen, **S.D. Fuhlendorf**, A.S. Garmestani, D.G. Angeler, C.A. Taylor Jr., U.P. Kreuter, and W.E. Rogers. 2019. Coerced resilience in fire management. *Journal of Environmental Management* 240: 368-373.

Wan, L.Y.* , S.S. Qi, **C.B. Zou**, Z.C. Dai, G.Q. Ren, Q. Chen, B. Zhu, and D.L. Du. 2019. Elevated nitrogen deposition may advance invasive weed *Solidago canadensis* in calcareous soils. *Journal of Plant Ecology* 12(5): 846-856. <https://doi.org/10.1093/jpe/rtz019>.

Weir, J.R., U.P. Kreuter, C.L. Wonkka, D. Twidwell, D.A. Stroman, M. Russell, and C.A. Taylor Jr. 2019. Liability and prescribed fire: Perception and reality. *Rangeland Ecology and Management* 72: 533-538.

Weir, J.R., and H.D. Starns. 2019. Grassland fire effects on steel fence posts. *Rangeland Ecology and Management* 72: 411-413.

Wolf, S.* , R. Mollenhauer, and **S.K. Brewer**. (2019). Coldwater periods in warmwater streams: microhabitat shifts from autumn to winter by Smallmouth Bass. Submitted to North American Journal of Fisheries Management. doi:10.1002/nafm.10375.

Wonkka, C.L., D. Twidwell, B.W. Allred, C.H. Bielski, V.M. Donovan, C.P. Roberts, and **S.D. Fuhlendorf**. 2019. Rangeland vulnerability to state transition under global climate change. *Climatic Change* 153 (1-2): 59-78.

Worthington, T.A.* , **S.K. Brewer**, B. Viex, and J. Keenen. 2019. The accuracy of ecological flow metrics derived using a physics-based distributed rainfall-runoff model in the Great Plains, USA. *Ecohydrology*; <https://doi.org/10.1002/eco.2090>.

Zhao, D., J. Westfall, J.W. Coulston, **T.B. Lynch**, B.P. Bullock, and C.R. Montes. 2019. Additive biomass equations for slash pine trees: comparing three modeling approaches. *Canadian Journal of Forestry Research* 49: 27–40.

Zhao, D., **T.B. Lynch**, J. Westfall, J.W. Coulston, M. Kane, and D.E. Adams. 2019. Compatibility, development, and estimation of taper and volume equation systems. *Forest Science* 65: 1–13. doi:10.1093/forsci/fxy036.

Zhou, J.* , **G.W.T. Wilson**, A.B. Cobb, G. Yang, and Y. Zhang. 2019. Alfalfa seeding, phosphorus amendments, and mowing facilitate restoration of diverse and highly productive grasslands. *Landscape Degradation and Development* 30: 647-657. (IF 7.27).

Zhou, J.* , F. Zhang, Y. Huo, **G.W.T. Wilson**, A.B. Cobb, G. Yang, and Y. Zhang. 2019. Following legume establishment, microbial and chemical associations facilitate improved productivity in degraded grasslands. *Plant and Soil* 443: 273-292. (IF 2.97).