By Jeff Mosley

Browsing the Literature

This section reviews new publications available about the art and science of rangeland management. Personal copies of these publications can be obtained by contacting the respective publishers or senior authors (addresses shown in parentheses). Suggestions are welcomed and encouraged for items to include in future issues of *Browsing the Literature*. Contact Jeff Mosley, jmosley@montana.edu.

Animal Ecology

Restoration of grasslands and nesting success of dickcissels (*Spiza americana*). C. M. Lituma, M. L. Morrison, and J. D. Whiteside. 2012. *Southwestern Naturalist* 57:138–143. (Institute of Renewable Natural Resources, Texas A&M Univ, College Station, TX 77843, USA). Abundance and nest success of dickcissels did not differ between exotic-grass and restored native-grass sites in east-central Texas.

Winter resource selection by female mule deer *Odocoileus hemionus*: functional response to spatio-temporal changes in habitat. E. D. Anderson, R. A. Long, M. P. Atwood, J. G. Kie, T. R. Thomas, P. Zager, and R. T. Bowyer. 2012. *Wildlife Biology* 18:153–163. (R. Long, Dept of Biological Sciences, Idaho State Univ, Pocatello, ID 83209, USA). In southeastern Idaho, mule deer population decline during the past 20 years appears linked to the conversion of cropland to grassland.

Grazing Management

Impact of cattle grazing on the occupancy of a cryptic, threatened rail. O. M. W. Richmond, J. Tecklin, and S. R. Beissinger. 2012. *Ecological Applications* 22:1655–1664. (US Fish and Wildlife Service, Don Edwards San Francisco Bay National Wildlife Refuge, 1 Marshlands Rd, Fremont, CA 94555, USA). Monitoring of marsh vegetation cover, particularly at nonirrigated marshes, is recommended to prevent negative impacts from winter–spring cattle grazing to the California black rail, a bird that relies on dense vegetative cover in marshes of the northern Sierra Nevada foothills.

Influence of repeated fertilization and cattle grazing on forest ecosystems: abundance and diversity of forest-floor small mammals. T. P. Sullivan, D. S. Sullivan, and P. M. F. Lindgren. 2012. *Forest Ecology and Management* 277:180–195. (Dept of Forest Sciences, Univ of British Columbia, Vancouver, BC V6T 1Z4, Canada). In south-central British Columbia, heavy cattle grazing did not reduce the abundance or diversity of forest-floor small mammals.

Managing livestock using animal behavior: mixed-species stocking and flerds. D. M. Anderson, E. L. Fredrickson, and R. E. Estell. 2012. *Animal* 6:1339–1349. (USDA-ARS Jornada Experimental Range, PO Box 30003, MSC 3JER, Las Cruces, NM 88003, USA). The creation, maintenance, and advantages of flerds (i.e., the mixing of sheep and/or goats with a herd of cattle) are discussed.

Well-managed grazing systems: a forgotten hero of conservation. A. J. Franzluebbers, L. K. Paine, J. R. Winsten, M. Krome, M. A. Sanderson, K. Ogles, and D. Thompson. 2012. *Journal of Soil and Water Conservation* 67:100A–104A. (USDA-ARS, 3127 Ligon St, Raleigh, NC 27607, USA). Discusses the potential and barriers for expanding well-managed pasture grazing systems to provide ecosystem services in the eastern United States.

Hydrology/Riparian

Runoff and sediment responses to grazing native and introduced species on highly erodible Southern Great Plains soil. M. L. Wine, C. B. Zou, J. A. Bradford, and S. A. Gunter. 2012. *Journal of Hydrology* 450:336–341. (Dept of Natural Resource Ecology and Management, Oklahoma State Univ, Stillwater, OK 74078, USA). Sediment yield was low from moderately grazed native prairie and from heavily grazed Old World bluestem pasture, indicating that both treatments were hydrologically sustainable.

Management Planning

A holistic strategy for adaptive land management. J. E. Herrick, M. C. Duniway, D. A. Pyke, B. T. Bestelmeyer, S. A. Wills, J. R. Brown, J. W. Karl, and K. M. Havstad. 2012. *Journal of Soil and Water Conservation* 67:105A–113A. (USDA-ARS Jornada Experimental Range, PO Box 30003, MSC 3JER, Las Cruces, NM 88003, USA). Discusses how adaptive management can be applied more systematically and holistically using state and transition models and monitoring protocols.

Plant Ecology

Cool-season whole-plant gas exchange of exotic and native semiarid bunchgrasses. E. P. Hamerlynck, R. L. Scott, G. A. Barron-Gafford, M. L. Cavanaugh, M. S. Moran, and T. E. Huxman. 2012. *Plant Ecology* 213:1229–1239. (USDA-ARS Southwest Watershed Research Center, 2000 E Allen Rd, Tucson, AZ 85719, USA). The invasive success of Lehmann lovegrass in southeastern Arizona is not attributable to Lehman lovegrass using cool-season precipitation more effectively than the native perennial grasses.

Invasion or retreat? The fate of exotic invaders on the northern prairies, 40 years after cattle grazing. P. A. Sinkins, and R. Otfinowski. 2012. *Plant Ecology* 213:1251–1262. (Riding Mountain National Park, Wasagaming, MB R0J 2H0, Canada). In plains rough fescue prairie of southwestern Manitoba, areas that were heavily grazed by cattle remain dominated by Kentucky bluegrass and smooth brome and have lower plant species diversity 41 years after livestock removal. Common dandelion, however, is no longer present.

Plant community distribution along water table and grazing gradients in montane meadows of the Sierra Nevada Range (California, USA). S. K. McIlroy and B. H. Allen-Diaz. 2012. *Wetlands Ecology and Management* 20:287–296. (US Geological Survey, Snake River Field Station, 970 Lusk St, Boise, ID 83706, USA). Six mountain meadow plant community types were differentiated by depth to water table. Light to moderate cattle grazing did not affect plant community composition in these wet and mesic meadows.

Trajectories of change in sagebrush steppe vegetation communities in relation to multiple wildfires. G. M. Davies, J. D. Bakker, E. Dettweiler-Robinson, P. W. Dunwiddie, S. A. Hall, J. Downs, and J. Evans. 2012. *Ecological Applications* 22:1562–1577. (School of Interdisciplinary Studies, Crichton Univ Campus, Univ of Glasgow, Dumfries DG1 4ZL, UK). Presents a state and transition model for sagebrush steppe that characterizes sites according to shrub/grass and native/invasive dominance.

Rehabilitation/Restoration

Comparing burned and mowed treatments in mountain big sagebrush steppe. K. W. Davies, J. D. Bates, and A. M. Nafus. 2012. *Environmental Management* 50:451–461. (USDA-ARS, 67826-A Hwy 205, Burns, OR 97720, USA). Mowing or burning increased herbaceous cover, density, and production in mountain big sagebrush sites. Annual forbs, predominately natives, responded better than native perennial forbs.

Effects of a new herbicide (Aminocyclopyrachlor) on buffalograss and forbs in shortgrass prairie. K. R. Harmoney, P. W. Stahlman, P. W. Geier, and R. Rupp. 2012. *Weed Technology* 26:455–459. (Western Kansas Agricultural Research Center, 1232 240th Ave, Hays, KS 67601, USA). Rates of aminocyclopyrachlor as low as 2 ounces per acre provided excellent broadleaf weed control but did not injure buffalograss, a desirable native grass that is often injured by 2,4-D or dicamba.

Socioeconomics

Appreciation, use, and management of biodiversity and ecosystem services in California's working landscapes. T. Plieninger, S. Ferranto, L. Huntsinger, M. Kelly, and C. Getz. 2012. *Environmental Management* 50:427–440. (Ecosystem Services Research Group, Berlin Brandenburg Academy of Science and Humanities, Jagerstr 22-23, D-10117 Berlin, Germany). "Producers [of livestock or timber] were much more active in management for habitat improvement and other environmental goals than residential owners. As the number of production-oriented owners decreases, developing strategies for encouraging environmental-positive management by all types of landowners is crucial."

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