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

Domestic calf mortality and producer detection rates in the Mexican wolf recovery area: implications for livestock management and carnivore compensation schemes. S. W. Breck, B. M. Kluever, M. Panasci, J. Oakleaf, T. Johnson, W. Ballard, L. Howery, and D. L. Bergman. 2011. *Biological Conservation* 144:930–936. (USDA-APHIS, 4101 LaPorte Ave, Fort Collins, CO 80521, USA.) Beef calves killed by predators were on average 25 days younger than surviving calves. In areas with high predator densities, seasonal calving may limit predator losses compared with year-round calving practices.

Effects of the 1988 fires in Yellowstone National Park, USA, on the ant populations (Hymenoptera: Formicidae). T. Christiansen and R. Lavigne. 2010. *Journal of the Entomological Research Society* 12(3):29–37. (2775 N Roadrunner Parkway, Apt 1003, Las Cruces, NM 88011, USA.) Undisturbed sagebrush sites contained 12 ant species, whereas 1 and 2 years after the fires burned sagebrush sites contained only four species of ants.

Grassland bird use of oak barrens and dry prairies in Wisconsin. S. M. Vos and C. A. Ribic. 2011. *Natural Areas Journal* 31:26–33. (C. Ribic, US Geological Survey, Dept of Forest and Wildlife Ecology, Univ of Wisconsin, Madison, WI 53706, USA.) In native grasslands of west-central Wisconsin, vesper sparrows preferred shorter, less dense vegetation and higher woody cover, whereas dickcissels preferred taller, denser vegetation and low amounts of litter.

Patterns of space and habitat use by northern bobwhites in South Florida, USA. A. Singh, T. C. Hines, J. A. Hostetler, H. F. Percival, and M. K. Oli. 2011. *European Journal of Wildlife Research* 57:15–26. (M. Oli, Dept of Wildlife Ecology and Conservation, Univ of Florida, Gainesville, FL 32611, USA.) Management that maintains a matrix of food plots and dry prairie habitat is optimum for bobwhites in southern Florida.

Grazing Management

An international terminology for grazing lands and grazing animals. V. G. Allen, C. Batello, E. J. Berretta, J. Hodgson, M. Kothmann, X. Li, J. McIvor, J. Milne, C. Morris, A. Peeters, and M. Sanderson. 2011. *Grass and Forage Science* 66:2–28. (Dept of Plant and Soil Science, Texas Tech Univ, Lubbock, TX 79409, USA.) Definitions of terms such as rangeland, animal unit, and many others are presented by an international committee representing the International Grassland Congress and the International Rangeland Congress.

Management-intensive rotational grazing enhances forage production and quality of subhumid cool-season pastures. L. G. Oates, D. J. Undersander, C. Gratton, M. M. Bell, and R. D. Jackson. 2011. *Crop Science* 51:892–901. (Nelson Institute for Environmental Studies, Univ of Wisconsin, 550 N Park St, Madison, WI 53706, USA.) Cool-season seeded pastures under rotational grazing had greater forage production than similar pastures under haymaking, continuous grazing, or no grazing.

Seasonal and interannual variability in surface energy partitioning and vegetation cover with grazing at short-grass steppe. K. Jamiyansharav, D. Ojima, R. A. Pielke, W. Parton, J. Morgan, A. Beltran-Przekurat, D. LeCain, and D. Smith. 2011. *Journal of Arid Environments* 75:360–370. (Natural Resources Ecology Lab, Colorado State Univ, 1231 East Dr, Fort Collins, CO 80523, USA.) Authors conclude that differences in precipitation, not long-term grazing intensity, are responsible for differences in above-ground biomass at the Central Plains Experimental Range in northeastern Colorado.

Hydrology/Riparian

Development of vegetation and aquatic habitat in restored riparian sites of California's North Coast rangelands. M. S. Lennox, D. J. Lewis, R. D. Jackson, J. Harper, S. Larson, and K. W. Tate. 2011. *Restoration Ecology* 19:225–233. (Univ of California Cooperative Extension, 133 Aviat Blvd, Room 109, Santa Rosa, CA 95403, USA.) “Restoration managers should be prepared to maintain or enhance understory diversity by controlling exotic shrubs or planting shade-tolerant native species as much as 10 years after revegetation.”

Early impacts of biological control on canopy cover and water use of the invasive saltcedar tree (*Tamarix* spp.) in western Nevada, USA. R. R. Pattison, C. M. D'Antonio, T. L. Dudley, K. K. Allander, and B. Rice. 2011. *Oecologia* 165:605–616. (USDA-ARS, 920 Valley Rd, Reno, NV 89512, USA.) Water uptake and transpiration by saltcedar trees began declining within 3 years after releasing a biocontrol insect, the saltcedar beetle (*Diorhabda carinulata*).

Effects of cattle grazing during the dormant season on soil surface hydrology and physical quality in a moist-temperate region. I. Stavi, R. Lal, and L. B. Owens. 2011. *Ecohydrology* 4:106–114. (Carbon Management and Sequestration Center, Ohio State Univ, Columbus, OH 43210, USA.) In Ohio, rotational grazing during winter and summer reduced infiltration rates more than rotational grazing in summer alone.

***Escherichia coli* and *Enterococci* attachment to particles in runoff from highly and sparsely vegetated grassland.** M. L. Soupier and S. Mostaghimi. 2011. *Water and Soil*

Pollution 216:167–178. (Dept of Agricultural and Biosystems Engineering, Iowa State Univ, Ames, IA 50011, USA.) Almost all (87–100%) of fecal bacteria transported in surface runoff were unattached to soil particles.

Measurements

Evaluation of bare ground on rangelands using unmanned aerial vehicles: a case study. R. P. Breckenridge and M. E. Dakins. 2011. *GIScience and Remote Sensing* 48:74–85. (Idaho National Lab, PO Box 1625, Idaho Falls, ID 83415, USA.) Bare ground estimates from digital photography by either unmanned helicopters or unmanned fixed-wing aircraft were within 1% of field estimates in sagebrush steppe of southeastern Idaho.

Plant Ecology

Drought tolerance in two perennial bunchgrasses used for restoration in the Intermountain West, USA. J. R. Mukherjee, T. A. Jones, P. B. Adler, and T. A. Monaco. 2011. *Plant Ecology* 212:461–470. (Dept of Biological Sciences, Florida International Univ, Miami, FL 33199, USA.) Greenhouse experiment indicates that Snake River wheatgrass is more drought tolerant than bluebunch wheatgrass.

Vegetation responses to an animal-generated disturbance (bison wallows) in tallgrass prairie. B. R. McMillan, K. A. Pfeiffer, and D. W. Kauffman. 2011. *American Midland Naturalist* 165:60–73. (Dept of Plant and Wildlife Sciences, Brigham Young Univ, Provo, UT 84602, USA.) In Kansas tallgrass prairie, plant species richness and diversity were lower in bison wallows, but wallows increased landscape plant diversity because 16% of all plant species sampled were found only in the wallows.

Rehabilitation/Restoration

Composting one invasive species to control another. H. E. Lintz, M. Huso, K. C. Stanley, and T. Taylor. 2011. *Restoration Ecology* 19:1–4. (Dept of Botany and Plant Pathology, Oregon State Univ, Corvallis, OR 97331, USA.) Applications of shredded and composted English ivy mulch reduced Robert geranium cover by 92%.

Fire as a restoration tool: a decision framework for predicting the control or enhancement of plants using fire. D. A. Pyke, M. L. Brooks, and C. D'Antonio. 2010. *Restoration Ecology* 18:274–284. (US Geological Survey, 3200 SW Jefferson Way, Corvallis, OR 97331, USA.) “We use a combination of life form and vital plant attributes along with an understanding of fire regime components to suggest a straightforward way to approach the use of fire to either reduce or enhance particular species.”

Herbicides for establishing switchgrass in the central and northern Great Plains. R. B. Mitchell, K. P. Vogel, J. Berdahl, and R. A. Masters. 2010. *Bioenergy Research*

3:321–327. (USDA-ARS, Grain Forage and Bioenergy Research Unit, Biochemistry Hall, East Campus, Univ of Nebraska, Lincoln, NE 68583, USA.) Application of quinclorac and atrazine herbicides in combination effectively controlled grassy and broadleaf weeds.

Preburn history and seasonal burning effects on the soil seed bank in the fescue prairie. J. T. Romo and D. V. Gross. 2011. *American Midland Naturalist* 165:74–90. (Dept of Plant Science, Univ of Saskatchewan, Saskatoon, SK S7N 5A8, Canada.) Species composition of plant seedlings emerging from soil seed banks did not differ between areas burned before, during, or after the growing season.

Promoting native vegetation and diversity in exotic annual grass infestations. K. W. Davies and R. L. Sheley. 2011. *Restoration Ecology* 19:159–165. (USDA-ARS, 67826-A Hwy 205, Burns, OR 97720, USA.) In medusahead infestations that included some residual native bunchgrasses and forbs, spring burning followed by imazapic herbicide in fall, or fall burning followed by imazapic herbicide in spring, controlled medusahead and increased native plant species diversity.

Shrub-steppe early succession following juniper cutting and prescribed fire. J. D. Bates, K. W. Davies, and R. N. Sharp. 2011. *Environmental Management* 47:468–481. (USDA-ARS, 67826-A Hwy 205, Burns, OR 97720, USA.) Western juniper encroachment in southwestern Idaho was controlled

by cutting down 25% of the trees in fall followed by prescribed burning in fall of the next year.

Socioeconomics

Estimation of late twentieth century land-cover change in California. B. M. Sleeter, T. S. Wilson, C. E. Souland, and J. X. Liu. 2011. *Environmental Monitoring and Assessment* 173:251–266. (US Geological Survey, Mail Stop 531, 345 Middlefield Rd, Menlo Park, CA 94025, USA.) During the years 1973 to 2000, the amount of cropland in California remained relatively stable, but the amount of rangelands and forests declined significantly. Developed lands increased by 38% during the 27-year period.

Soils

Near-surface soil property changes over time as affected by grassland management in the Ozark Highlands. K. R. Brye and E. E. Gbur. 2011. *Soil Science* 176:129–135. (Dept of Crop, Soil, and Environmental Sciences, Univ of Arkansas, Fayetteville, AR 72701, USA.) Soil physical and chemical properties in seeded pastures are similar to native prairie, and these pastures serve as sinks for sequestering atmospheric carbon.

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