



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

**Effects of eastern redcedar on capture rates of *Nicrophorus americanus* and other Silphidae.** T. L. Walker and W. W. Hoback. 2007. *Environmental Entomology* 36:297–307. (W. Hoback, Dept of Biology, Univ of Nebraska, 905 West 25th St, Kearney, NE 68849). American burying beetles, an endangered species, prefer open grassland habitats vs grassland sites invaded by eastern redcedar trees.

**Wildfire effects on home range size and fidelity of boreal caribou in Alberta, Canada.** F. Dalerum, S. Boutin, and J. S. Dunford. 2007. *Canadian Journal of Zoology* 85:26–32. (Dept of Zoology and Entomology, Univ of Pretoria, ZA-0002 Pretoria, South Africa). Habitat use, mortality, and reproduction of woodland caribou were largely unaffected in the years following wildfires, despite having up to 76% of individual home ranges burned.

## Grazing Management

**Butterflies and exurban development in southeastern Arizona.** C. E. Bock, R. A. Bailowitz, D. W. Danforth, Z. F. Jones, and J. H. Bock. 2007. *Landscape and Urban Planning* 80:34–44. (5224 Lighthouse Point Court, Loveland, CO 80537). Livestock grazing had little impact on butterfly species richness or abundance.

**Comparison of alfalfa and mixed alfalfa–sainfoin pastures for grazing cattle: effects on incidence of bloat, ruminal fermentation, and feed intake.** Y. Wang, B. P. Berg, L. R. Barbieri, D. M. Veira, and T. A. McAllister. 2006. *Canadian Journal of Animal Science* 86:383–392. (Agriculture and Agri-Food Canada, Lethbridge Research Centre, PO Box 3000, Lethbridge, AB T1J 4B1, Canada). Including 35% sainfoin in mixed alfalfa–sainfoin pastures reduced, but did not eliminate, bloat in grazing cattle.

**Defoliation effects on production and nutritive value of four irrigated cool-season perennial grasses.** J. D. Volesky and B. E. Anderson. 2007. *Agronomy Journal* 99:494–500. (West Central Research and Extension Center, Univ of Nebraska, 461 West University Dr, North Platte, NE 69101). A 6- to 8-inch stubble height appears suitable for multiple harvests per year of irrigated orchardgrass, meadow brome grass, creeping foxtail, or smooth brome grass.

**Grazed stubble height as a criterion for controlling sediment production from grazing lands.** C. B. Marlow, R. Finck, and H. Sherwood. 2006. *Journal of the American*

*Water Resources Association* 42:891–900. (Dept of Animal and Range Sciences, Montana State Univ, Bozeman, MT 59717). In western Montana foothill grassland grazed by cow–calf pairs, grazing to a 3-inch stubble height yielded less sediment than ungrazed paddocks.

**Rangeland management strategies.** L. Schmidt. 2007. (Sustainable Agriculture Network; [www.sare.org/publications/ranching.htm](http://www.sare.org/publications/ranching.htm)). This 16-page bulletin highlights successful ranching practices and educational projects from across the western United States funded by the Sustainable Agriculture Research and Education (SARE) program.

### Plant–Animal Interactions

**Influence of a large herbivore reintroduction on plant invasions and community composition in a California grassland.** B. E. Johnson and J. H. Cushman. 2007. *Conservation Biology* 21:515–526. (J. Cushman, Dept of Biology, Sonoma State Univ, Rohnert Park, CA 94928). In coastal grassland of northern California, grazing and browsing by reintroduced tule elk caused annual plants to increase and native shrubs to decrease. However, elk grazing also reduced common velvetgrass, a highly invasive introduced grass.

### Plant Ecology

**Disturbance persistence in managed grasslands: shifts in aboveground community structure and the weed seed bank.** I. J. Renne and B. F. Tracy. 2007. *Plant Ecology* 190:71–80. (Dept of Crop Sciences, Univ of Illinois, Urbana, IL 61801). Differences in the number of viable weed seeds in the soil seed bank can affect how otherwise similar plant communities may respond to disturbance (eg, livestock trampling).

**Fire season and simulated grazing differentially affect the stability and drought resilience of a C-4 bunchgrass, C-3 bunchgrass and C-4 lawngrass.** M. J. Castellano and R. J. Ansley. 2007. *Journal of Arid Environments* 69:375–384. (116 Agricultural Science and Industry Building, Pennsylvania State Univ, University Park, PA 16802). In northern Texas, summer fire benefited sideoats grama, whereas Texas wintergrass was favored by no burning. Buffalograss was unaffected by fire or clipping treatments.

**The biology of invasive alien plants in Canada. 6. *Berteroa incana* (L.) DC.** S. I. Warwick and A. Francis. 2006. *Canadian Journal of Plant Science* 86:1297–1309. (Agriculture and Agri-Food Canada, Eastern Cereal and Oilseed Research Centre, 960 Carling Ave, Ottawa, ON K1A 0C6, Canada). Hoary alyssum is an introduced weedy annual that has recently begun to aggressively spread in the Great Lakes region and in the Rocky Mountain foothills of both Canada and the United States.

**Woody vegetation expansion in a desert grassland: prehistoric human impact?** J. M. Briggs, H. Schaafsma, and D. Trenkov. 2007. *Journal of Arid Environments* 69:458–472. (School of Life Sciences, Arizona State Univ, Tempe, AZ 85287–4501). Actions by prehistoric humans (moving rocks to build pueblos or clear fields for crops) influence current patterns of shrub and tree encroachment into desert grasslands of central Arizona.

### Rehabilitation/Restoration

**AC Saltlander green wheatgrass.** H. Steppuhn, R. G. Jefferson, A. D. Iwaasa, and J. G. McLeod. 2006. *Canadian Journal of Plant Science* 86:1161–1164. (Agriculture and Agri-Food Canada, Semiarid Prairie Agricultural Research Centre, PO Box 1030, Swift Current, SK S9H 3X2, Canada). Describes a new, palatable cultivar with salinity tolerance equal to tall wheatgrass.

**Bermudagrass for biofuels: effect of two genotypes on pyrolysis product yield.** A. A. Boateng, W. F. Anderson, and J. G. Phillips. 2007. *Energy and Fuels* 21:1183–1187. (USDA-ARS, 600 E Mermaid Lane, Wyndmoor, PA 19038). There was no difference in biomass fuel potential between two cultivars of bermudagrass, Coastal and Tifton 85.

**Control of medusahead (*Taeniatherum caput-medusae*) and other annual grasses with imazapic.** G. B. Kyser, J. M. DiTomaso, M. P. Doran, S. B. Orloff, R. G. Wilson, D. L. Lancaster, D. F. Lile, and M. L. Porath. 2007. *Weed Technology* 21:66–75. (J. DiTomaso, Dept of Plant Science, Univ of California, 1 Shields Ave, Davis, CA 95616). Pre-emergent applications of imazapic (Plateau) herbicide at 0.06 pounds/acre effectively controlled medusahead and cheatgrass without harming native perennial plant species, but even slight overapplication could cause damage to desirable perennial grasses.

**Evaluating Montana's dyer's woad (*Isatis tinctoria*) cooperative eradication project.** M. L. Pokorny and J. M. Krueger-Mangold. 2007. *Weed Technology* 21:262–269. (Dept of Land Resources and Environmental Sciences, Montana State Univ, Bozeman, MT 59717). "Dyer's woad has been eradicated from 9 of 13 infested counties in Montana, and infestation sizes have decreased in the remaining infested counties."

**Greater sage-grouse response to sagebrush management in Utah.** D. K. Dahlgren, R. Chi, and T. A. Messmer. 2006. *Wildlife Society Bulletin* 34:975–985. (Dept of Wildland Resources, Utah State Univ, Logan, UT 84322). Applications of tebuthiuron (Spike) reduced canopy cover of mountain big sagebrush from 32% to 20%, increased canopy cover of forbs, and resulted in greater use by sage-grouse broods.

**Landscape heterogeneity and fire behavior: scale-dependent feedback between fire and grazing processes.** J. D. Kerby, S. D. Fuhlendorf, and D. M. Engle. 2007. *Landscape Ecology* 22:507–516. (Dept of Natural Resource Ecology and Management, Oklahoma State Univ, Stillwater, OK 74078). Grassland fires burn in more diverse ways, shapes, and sizes when selective ungulate grazing creates small patches of vegetation that vary in the amount of plant standing crop and litter.

**Native roadside perennial grasses persist a decade after planting in the Sacramento Valley.** R. E. O'Dell, S. L. Young, and V. P. Claassen. 2007. *California Agriculture* 61(2):79–84. (Dept of Land, Air, and Water Resources, Univ of California, Davis, CA 95616). Native perennial grasses planted along highways can persist for many years, reduce the density of invasive annual species, and require less mowing and herbicide for maintenance.

**Reducing *Euphorbia esula* with a combination of sheep grazing and imazapic.** S. S. Seefeldt, J. B. Taylor, and S. Van Vleet. 2007. *Journal of Arid Environments* 69:432–440. (USDA-ARS, Subarctic Agricultural Research Unit, Room 355 O'Neill Building, Univ of Alaska, Fairbanks, AK 99775). In southeastern Idaho, 2 years of prescribed sheep grazing to reduce leafy spurge increased the canopy cover of grasses and other forbs. However, sheep grazing followed with an imazapic (Plateau) application did not enhance the control of leafy spurge over imazapic alone.

### Socioeconomics

**Experiential learning activities in the weed science classroom.** R. S. Gallagher, E. C. Luschel, E. Gallandt, and A. DiTommaso. 2007. *Weed Technology* 21:255–261. (Dept of Crop and Soil Science, Pennsylvania State Univ, University Park, PA 16802). Outlines several classroom activities used by the authors that focus on weed identification and natural history, weed population processes, and integrated management systems.

**Extirpating the agriculture versus conservation dichotomy.** M. P. Sanford. 2006. *Conservation Biology* 20:253–254. (Biological Resources Research Center, Univ of Nevada, Reno, NV 89557). Essay encourages conservation biologists to work cooperatively with agriculturalists to limit urban sprawl and conserve biodiversity.

**How the West was one: American environmentalists, farmers and ranchers learn to say 'Howdy, partner'.** P. A. Walker. 2006. *Outlook on Agriculture* 35:129–135. (Dept of Geography, Univ of Oregon, Eugene, OR 97403). Discusses how environmental-agricultural partnerships are working to preserve farming and ranching, open space, and the environmental quality of western US landscapes.

**Why grazing permits have economic value.** N. R. Rimbey, L. A. Torell, and J. A. Tanaka. 2007. *Journal of Agricultural and Resource Economics* 32:20–40. (Caldwell Research and Extension Center, Univ of Idaho, 1904 E Chicago St, Suite AB, Caldwell, ID 83605). Current market value of public land livestock grazing permits is inflated above the value justified from livestock production. The inflated value is the amenity value provided by the public land acreage associated with a permit.

### Soils

**Soil heterogeneity and the distribution of desert and steppe plant species across a desert-grassland ecotone.** C. A. Z. Buxbaum and K. Vanderbilt. 2007. *Journal of Arid Environments* 69:617–632. (Dept of Biology, Univ of New Mexico, Albuquerque, NM 87131). In central New Mexico, clay soils with low carbonate favor blue grama, whereas black grama is favored by soils with less clay and more carbonate. Creosotebush is dominant where the petrocalcic horizon is exposed or near the soil surface.

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