



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](mailto:jmosley@montana.edu).

## Animal Ecology

**Influence of moisture on density and distribution of grassland birds in North Dakota.** N. D. Niemuth, J. W. Solberg, and T. L. Shaffer. 2008. *Condor* 110:211–222. (US Fish and Wildlife Service, 3425 Miriam Ave, Bismarck, ND 58401, USA). Grassland birds were more abundant in years with abundant moisture, and the number of ponds containing water in May was a reliable index of the region's annual moisture conditions.

**Pasteurellosis transmission risks between domestic and wild sheep.** M. W. Miller, D. P. Knowles, and M. S. Bulgin. 2008. Council for Agricultural Science and Technology (CAST) Commentary QTA2008-1. 8 p. (<http://pdf.cast-science.org/websiteUploads/publicationPDFs/Sheep%20Pasteurellosis%20Commentary156.pdf>). This commentary reviews current knowledge on pneumonic pasteurellosis in domestic and wild sheep, the risks of transmission between these species, and approaches for lowering the overall risk of epidemics in wild sheep.

**Responses of desert bighorn sheep to removal of water sources.** J. W. Cain, P. R. Krausman, J. R. Morgart, B. D. Jansen, and M. P. Pepper. 2008. *Wildlife Monographs* 171:1–32. (Dept of Biological and Environmental Sciences, Texas A&M Univ, Commerce, TX 75429, USA). Habitat use patterns of desert bighorn sheep were affected more by forage conditions than by the presence of water catchments.

**Sequence of food presentation influences intake of foods containing tannins and terpenes.** T. E. Mote, J. J. Villalba, and F. D. Provenza. 2008. *Applied Animal Behaviour Science* 113:57–68. (J. Villalba, Dept of Wildland Resources, Utah State Univ, Logan, UT 84322, USA). Intake of terpene-containing food by lambs was greater when a nutritious food was consumed after the terpenes than when the nutritious food was consumed before the terpenes. Intake of tannin-containing food was unaffected by whether the nutritious food was consumed before or after the tannins.

**Shift in location of pygmy rabbit (*Brachylagus idahoensis*) habitat in response to changing environments.** E. S. Larrucea and P. F. Brussard. 2008. *Journal of Arid Environments* 72:1636–1643. (Dept of Biology, Univ of Nevada, Reno, NV 89557, USA). Encroachment of pinyon pine and juniper trees into sagebrush habitat decreased pygmy rabbit populations.

**Using human-imprinted chicks to evaluate the importance of forbs to sage-grouse.** S. L. Huwer, D. R. Anderson, T. E. Remington, and G. C. White. 2008. *Journal of Wildlife Management* 72:1622–1627. (Colorado Division of Wildlife, 4207 West County Road 16E, Loveland, CO 80537, USA). Sage-grouse chick growth was positively related to forb canopy cover.

**Water quality for Wyoming livestock and wildlife: a review of the literature pertaining to health effects of inorganic contaminants.** M. F. Raisbeck, S. L. Riker, C. M. Tate, R. Jackson, M. A. Smith, K. J. Reddy, and J. R. Zygmunt. 2008. Univ of Wyoming Extension Service Bulletin B-1183; 94 p. (<http://www.uwyo.edu/CES/PUBS/B1183.pdf>). Summarizes how individual toxicants (e.g., arsenic, selenium, sulfur, etc.) affect livestock and wildlife and identifies the levels in water that are toxic to animals.

**Yellowstone pronghorn alter resource selection after sagebrush decline.** S. J. Boccadori, P. J. White, R. A. Garrott, J. J. Borkowski, and T. L. Davis. 2008. *Journal of Mammalogy* 89:1031–1040. (P. White, National Park Service, PO Box 168, Yellowstone National Park, WY 82190, USA). The amount of sagebrush cover in northern Yellowstone National Park has declined during the last 100 years, largely due to excessive browsing by mule deer, pronghorns, and elk. Pronghorns have responded by eating much more rabbitbrush. In a recent 15-yr period, percent composition of sagebrush in winter diets of pronghorns decreased from 67% to less than 10%, while rabbitbrush in the diets increased from 5% to 60%.

## Grazing Management

**A landowner's guide to wildlife friendly fences: how to build fence with wildlife in mind.** C. Paige. 2008. Montana Dept of Fish, Wildlife and Parks; 44 p. (<http://fwp.mt.gov/content/getItem.aspx?id=34461>). Illustrates ways for landowners to tailor their fence designs and placement to prevent harming wildlife and to reduce wildlife damage to fences.

**Long-term cattle gain responses to stocking rate and grazing systems in northern mixed-grass prairie.** J. D. Derner, R. H. Hart, M. A. Smith, and J. W. Waggoner. 2008. *Livestock Science* 117:60–69. (USDA-ARS, High Plains Grassland Research Station, 8408 Hildreth Rd, Cheyenne, WY 82009, USA). During a 16-yr study, individual animal weight gains of yearling steers were less at heavy stocking rates than light or moderate stocking rates, but total gain per acre was greatest at heavy stocking rates.

**Water for wildlife: a handbook for ranchers and range managers.** D. A. R. Taylor and M. D. Tuttle. 2007. 18 p. (Bat Conservation International, PO Box 162603, Austin, TX 78716, USA). Describes proven methods for increasing

wildlife safety and accessibility at watering tanks, troughs, and ponds maintained for livestock.

## Hydrology/Riparian

**Does harvesting sustain plant diversity in central Mexican wetlands?** S. J. Hall, R. Linding-Cisneros, and J. B. Zedler. 2008. *Wetlands* 28:776–792. (Nelson Institute of Environmental Studies, Univ of Wisconsin, Madison, WI 53706, USA). Harvesting wetland plants (for subsequent use for weaving, fodder, and fertilizer) increased and sustained plant species diversity in cattail wetlands.

**Factors influencing species richness and community composition of breeding birds in a desert riparian corridor.** L. A. Brand, G. C. White, and B. R. Noon. 2008. *Condor* 110:199–210. (Dept of Hydrology and Water Resources, Univ of Arizona, PO Box 210158-B, Tucson, AZ 85721, USA). Bird diversity was greater in cottonwood-willow and mesquite riparian communities than in salt cedar or grassland riparian communities.

**Grazed riparian management and stream channel response in southeastern Minnesota (USA) streams.** J. A. Magner, B. Vondracek, and K. N. Brooks. 2008. *Environmental Management* 42:377–390. (Minnesota Pollution Control Agency, 520 Lafayette Rd, Saint Paul, MN 55155, USA). Continuous grazing by cattle increased soil compaction and lowered streambank stability compared with ungrazed sites. Short duration grazing effects were intermediate to continuous grazing and exclusion.

**Influence of small ruminant grazing systems in a semi-arid range in the State of Zacatecas (Mexico): II. Soil changes.** F. G. E. Chairez, A. S. Perez, and R. B. Valenzuela. 2007. *Tecnica Pecuaria en Mexico* 45:177–194. (INIFAP, Campo Experimental Zacatecas, Apartado Postal 18 Calera de V.R., Zacatecas, 98500, Mexico). Soil loss and runoff were less under rotational than continuous mixed species grazing by sheep and goats.

**Reconstructing historical riparian conditions of two river basins in eastern Oregon, USA.** L. S. McAllister. 2008. *Environmental Management* 42:412–425. (Oregon Dept of State Lands, 775 Summer St, Suite 100, Salem, OR 97301, USA). Describes a procedure for reconstructing 19th-century riparian conditions by synthesizing historical documentary records.

## Measurements

**Facts from feces: nitrogen still measures up as a nutritional index for mammalian herbivores.** D. M. Leslie, R. T. Bowyer, and J. A. Jenks. 2008. *Journal of Wildlife Management* 72:1420–1433. (US Geological Survey, Oklahoma Cooperative Fish and Wildlife Research Unit, Oklahoma State Univ, Stillwater, OK 74078, USA).

Reaffirms that when properly used and interpreted, fecal nitrogen is a useful index for the nutritional status of rangeland herbivores.

### Plant-Animal Interactions

**Weed-biocontrol insects reduce native-plant recruitment through second-order apparent competition.** D. E. Pearson and R. M. Callaway. 2008. *Ecological Applications* 18:1489–1500. (US Forest Service, Rocky Mountain Research Station, 800 E Beckwith Ave, Missoula, MT 59801, USA). Deer mice consume the biocontrol insects (*Urophora* spp.) that were introduced to control spotted knapweed. Deer mice also consume seeds of native plants but avoid consuming spotted knapweed seeds. Therefore, the introduction of the biocontrol insect has increased deer mice populations, thus decreasing the seedbank of desirable native plants and increasing the relative abundance of spotted knapweed seeds in the soil.

### Plant Ecology

**Historical change in coastal sage scrub vegetation in Southern California, USA in relation to fire frequency and air pollution.** M. V. Talluto and K. N. Suding. 2008. *Landscape Ecology* 23:803–815. (4500 Glenwood Dr, Building C, Riverside, CA 92501, USA). Increased fire frequency and air pollution during the past 75 yr have facilitated the conversion of coastal sage shrubland to annual grassland.

### Rehabilitation/Restoration

**Does fall prescribed burning *Artemisia tridentata* steppe promote invasion or resistance to invasion after a recovery period?** K. W. Davies, R. L. Sheley, and J. D. Bates. 2008. *Journal of Arid Environments* 72:1073–1082. (USDA-ARS, Eastern Oregon Agricultural Research Center, 67826-A Hwy 205, Burns, OR 97720, USA). Prescribed fall burning of Wyoming big sagebrush-bunchgrass plant communities stimulated herbaceous production and increased the resistance of the communities to cheatgrass invasion.

**Effects of patch-burn management on dickcissel nest success in a tallgrass prairie.** R. T. Churchwell, C. A.

Davis, S. D. Fuhlendorf, and D. M. Engle. 2008. *Journal of Wildlife Management* 72:1596–1604. (Dept of Biology and Wildlife, Univ of Alaska, Fairbanks, AK 99775, USA). Dickcissel nest success in Oklahoma was greater in patch-burned pastures burned in spring, summer, or fall than in pastures burned annually and homogenously during the dormant season.

**Effects of understory vegetation management on brood habitat for northern bobwhites.** J. D. Burke, M. J. Chamberlain, and J. P. Geaghan. 2008. *Journal of Wildlife Management* 72:1361–1368. (School of Renewable Natural Resources, Louisiana State Univ, Baton Rouge, LA 70803, USA). Prescribed fire and herbicide application (imazapyr) increased arthropod abundance and diversity, and enhanced habitat for bobwhite broods and for the federally endangered red-cockaded woodpecker.

**The adaptive value of remnant native plants in invaded communities: an example from the Great Basin.** E. A. Leger. 2008. *Ecological Applications* 18:1226–1235. (Dept of Natural Resources and Environmental Science, Univ of Nevada, Reno, NV 89512, USA). Where remnant perennial grass plants persist on sites invaded by cheatgrass, long-term adaptation of these grass species to cheatgrass competition may be impeded by artificial introductions of seed from unadapted grass plants.

### Soils

**Soil nitrogen distribution and deposition on shortgrass prairie adjacent to a beef cattle feedyard.** R. W. Todd, N. A. Cole, R. N. Clark, W. C. Rice, and W. X. Guo. 2008. *Biology and Fertility of Soils* 44:1099–1102. (USDA-ARS, PO Drawer 10, Bushland, TX 79012, USA). In northern Texas, soil nitrogen was enriched up to one-third of a mile downwind from an adjacent feedlot, causing the shortgrass prairie vegetation to shift from perennial grasses to annual weeds.

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