



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*.

Animal Ecology

Disturbance by fire frequency and bison grazing modulate grasshopper assemblages in tallgrass prairie. A. Joern. 2005. *Ecology* 86:861–873. (Division of Biology, Kansas State Univ., Manhattan, KS 66506). Fire frequency (1-, 2-, or 4-year intervals and unburned) did not affect grasshopper species diversity. However, bison grazing increased grasshopper species diversity by increasing the heterogeneity in vegetation structure and plant species richness.

Habitat and nesting biology of mountain plovers in Wyoming. R. E. Plumb, S. H. Anderson, and F.L. Knopf. 2005. *Western North American Naturalist* 65:223–228. (Wyoming Cooperative Fish and Wildlife Research Unit, Univ. of Wyoming, 1000 E. University Ave., Laramie, WY 82071). Results substantiate claims that mountain plovers favor disturbed sites for nesting.

Home range and habitat use of coyotes in an area of native prairie, farmland and CRP fields. J. F. Kamler, W. B. Ballard, P. R. Lemons, R. L. Gilliland, and K. Mote. 2005. *American Midland Naturalist* 153:396–404. (W. Ballard, Dept. of Range, Wildlife and Fisheries Management, Texas Tech Univ., Lubbock, TX 79409). In a landscape interspersed with rangeland, cropland and Conservation Reserve Program (CRP) fields, the CRP fields provided foraging habitat for transient coyotes and denning habitat for resident coyotes.

North American grassland birds: an unfolding conservation crisis? L. A. Brennan and W. P. Kuvlesky. 2005. *Journal of Wildlife Management* 69:1–13. (Caesar Kleberg Wildlife Research Institute, Texas A&M Univ., Kingsville, TX 78363). “The current decline of grassland bird populations occurring on the rangelands of North America clearly can mostly be attributed to historic livestock grazing and the woody plant invasions that have resulted from these impacts of livestock on grassland ecosystems.”

Variability in vegetation effects on density and nesting success of grassland birds. M. Winter, D. H. Johnson, and J. A. Shaffer. 2005. *Journal of Wildlife Management* 69:185–197. (Ornithology Lab, Cornell Univ., 159 Sapsucker Woods Rd., Ithaca, NY 14850). Few vegetation features influenced the densities of clay-colored sparrows, Savannah sparrows, and bobolinks, and each species responded differently to those vegetation variables. Land managers at all times need to provide grasslands with different types of vegetation structure.

Grazing Management

Contribution of goats to the sustainability of Edwards Plateau rangelands. C. A. Taylor, Jr. and S. D. Fuhlendorf. Undated. *Texas Agricultural Experiment Station Technical Report 03-01*. (Texas Agricultural Experiment Station, PO Box 918, Sonora, TX 76950). This 24-page

bulletin summarizes how goats should be managed to control woody plant encroachment in central Texas.

Hydrology/Riparian

Effects of managed impoundments and herbivory on wetland plant production and stand structure. L. A. J. Randall and A. L. Foote. 2005. *Wetlands* 25:38–50. (U.S. Geological Survey, National Wetlands Research Center, 700 Cajundome Blvd., Lafayette, LA 70506). Grazing by nutria “may facilitate marsh erosion and ultimately contribute to wetland loss.”

Grassland bird use of riparian filter strips in southeast Iowa. J. C. Henningsen and L. B. Best. 2005. *Journal of Wildlife Management* 69:198–210. (L. Best, Dept. of Natural Resource Ecology and Management, Iowa State Univ., Ames, IA 50011). The most abundant species in filter strips were red-winged blackbirds, dickcissels, song sparrows, and common yellowthroats. Birds and nests were equally abundant in cool-season and warm-season planting mixtures.

Response of herbaceous riparian plants to rain and flooding on the San Pedro River, Arizona, USA. K. J. Bagstad, J. C. Stromberg, and S. J. Lite. 2005. *Wetlands* 25:210–223. (J. Stromberg, School of Life Sciences, Arizona State Univ., Tempe, AZ 85287). Herbaceous plant diversity was greatest with intermediate levels of flooding.

Measurements

Above-ground biomass and carbon and nitrogen content of woody species in a subtropical thornscrub parkland. B. K. Northup, S. F. Zitzer, S. Archer, C. R. McMurtry, and T. W. Boutton. 2005. *Journal of Arid Environments* 62:23–43. (USDA–ARS, Grazinglands Research Lab, 7207 W. Cheyenne St., El Reno, OK 73036). Regression equations were developed to predict above-ground biomass, carbon, and nitrogen content from stem and canopy dimensions for 10 shrub species of southern Texas.

Relationships among indices suggest that richness is an incomplete surrogate for grassland biodiversity. B. J. Wilsey, D. R. Chalcraft, C. M. Bowles, and M. R. Willig. 2005. *Ecology* 86:1178–1184. (Dept. of Ecology, Evolutionary and Organismal Biology, Iowa State Univ., Ames, IA 50011). Concludes that measures of species diversity should be based on combined measures of relative abundance and numbers of species.

Plant/Animal Interactions

Compatibility of delayed cutting regime with bird breeding and hay nutritional quality. J. J. Nocera, G. J. Parsons, G. R. Milton, and A. H. Fredeen. 2005. *Agriculture Ecosystems and Environment* 107:245–253. (Dept. of Biology, Univ. of New Brunswick, Fredericton, NB E3B 6E1, Canada). In Nova Scotia, postponing hay harvest 2.5 weeks (from June 20 until July 7) allowed maximum fledg-

ing rates for grassland birds while lowering the crude protein content of the hay 3.5%.

Influence of grassland type, nest type, and shrub encroachment on predation of artificial nests in Chihuahuan desert grasslands. L. C. Mason, M. J. Desmond, and M. S. Agudelo. 2005. *Western North American Naturalist* 65:196–201. (M. Desmond, Dept. of Fishery and Wildlife Sci., New Mexico State Univ., Las Cruces, NM 88003). Shrub encroachment into tobosagrass and black grama grasslands of southern New Mexico leads to increased predation of grassland bird nests.

The measurement of chronic disturbance and its effects on the threatened cactus *Mammillaria pectinifera*. C. Martorell and E. M. Peters. 2005. *Biological Conservation* 124:199–207. (Dept. of Ecology and Recursos Nacional, Univ. de Nacional Autonoma Mexico, Mexico City 04510, DF, Mexico). Moderate livestock grazing creates the amount of disturbance required by a threatened species of cactus.

Plant Ecology

Repeat photography in the ancient Cross Timbers of Oklahoma, USA. R. D. Griffin, D. W. Stahle, and M. D. Therrell. 2005. *Natural Areas Journal* 25:176–182. (Tree Ring Lab, 113 Ozark Hall, Univ. of Arkansas, Fayetteville, AR 72701). In the ecotone between deciduous forests and grasslands in the southern Great Plains, repeat photography vividly illustrates that rangeland has been invaded by shrubs and trees during the 20th century.

Response of semi-desert grasslands invaded by non-native grasses to altered disturbance regimes. E. L. Geiger and G. R. McPherson. 2005. *Journal of Biogeography* 32:895–902. (School of Natural Resources, Univ. of Arizona, Tucson, AZ 85721). Reintroduction of fire and removal of livestock grazing have not increased native plant species diversity nor decreased Lehmann lovegrass or mesquite after 15 years in southern Arizona.

Rehabilitation/Restoration

Residual effects of NPK fertilization on shrub growth in a Yukon boreal forest. M. C. Melnychuk and C. J. Krebs. 2005. *Canadian Journal of Botany* 83:399–404. (Dept. of Zoology, Univ. of British Columbia, Vancouver, BC V6T 1Z4, Canada). Willow shrubs had greater growth rates and twigs had higher nitrogen content 4 to 8 years after fertilization had ceased.

Restoring biodiversity to pinon-juniper woodlands. S. Albert, N. Luna, R. Jensen, and L. Livingston. 2004. *Ecological Restoration* 22:18–23. (Parametrix, Inc., PO Box 1473, Zuni, NM 87327). In western New Mexico, mechanical thinning of pinon-juniper trees to a basal density of 30 square feet per acre benefited understory vegetation, deer, elk, small mammals, wild turkeys, and songbirds.

Simulation of vegetation dynamics and management strategies on South Texas, semi-arid rangeland. S. N. Glasscock, W. E. Grant, and D. L. Drawe. 2005. *Journal of Environmental Management* 75:379–397. (Welder Wildlife Foundation, PO Box 1400, Sinton, TX 78387). Prescribed burns in summer or winter are equally effective for removing brush canopy when precipitation is near the long-term average, but winter burns are more effective during periods of low precipitation.

Subalpine meadow restoration in Yosemite National Park. S. Eagan, P. Newman, S. Fritzsche, and L. Johnson. 2004. *Ecological Restoration* 22:24–29. (US Forest Service,

2081 E. Sierra Avenue, Fresno, CA 93710). Where 30 years of trail closure had failed to reestablish vegetation, trail ruts were successfully restored by a 4-year project that used imported soil and transplanted vegetation.

The effects of prescribed burning on wet prairie lichen communities. E. A. Holt and P. M. Severns. 2005. *Natural Areas Journal* 25:130–136. (Dept. of Botany and Plant Pathology, Oregon State Univ., Corvallis, OR 97331). Prescribed burning to minimize woody plant encroachment and to benefit rare vascular plants is harmful to a boreal–arctic lichen growing in western Oregon.

Using historic data to assess effectiveness of shrub removal in southern New Mexico. A. Rango, L. Huenneke, M. Buonopane, J. E. Herrick, and K. M. Havstad. 2005. *Journal of Arid Environments* 62:75–91. (USDA–ARS, PO Box 30003, MSC 3JER, New Mexico State Univ., Las Cruces, NM 88003). Following grubbing treatments for shrub removal in the late 1930s, canopy of creosotebush and tarbush recovered in less than 65 years.

Woody plant encroachment and removal in mesic grassland: production and composition responses of herbaceous vegetation. M. S. Lett and A. K. Knapp. 2005. *American Midland Naturalist* 153:217–231. (A. Knapp, Dept. of Biology, Colorado State Univ., Fort Collins, CO 80523). Authors recommend frequent burning to prevent woody plant encroachment into tallgrass prairie ecosystems.

Socioeconomics

Why compensating wildlife damages may be bad for conservation. E. H. Bulte and D. Rondeau. 2005. *Journal of Wildlife Management* 69:14–19. (Dept. of Economics, Tilburg Univ., PO Box 90153, NL-5000 LE Tilburg, Netherlands). Authors conclude that incentive mechanisms (eg, payments based on the size of the wildlife population) should be considered instead of wildlife damage compensation payments.

Author is Professor of Range Science and Extension Range Management Specialist, Department of Animal and Range Sciences, Montana State University, Bozeman, MT 59717.

QUICKGUARD®
STERILE TRITICALE HYBRID

Stabilize soil with QuickGuard® Sterile Triticale

- Non-reseeding annual provides superior quick cover
- Large root mass and upright growth stabilize soil and protect developing native perennials
- Cold tolerant, drought tolerant, adapted to a wide range of soil and moisture conditions
- Hardy & durable, but not persistent or invasive

The one-stop source for reclamation seed and erosion control materials is Granite Seed.

granite SEED

ph. 801-768-4422
fax 801-768-3967
www.graniteseed.com