



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

Bison selection of prairie dog colonies on shortgrass steppe. J. G. Chipault and J. K. Detling. 2013. *Western North American Naturalist* 73:168–176. (Turner Endangered Species Fund, 1123 Research Drive, Bozeman, MT 59718, USA.) Bison preferred to graze within black-tailed prairie dog colonies in shortgrass steppe of northern New Mexico.

Greater prairie-chicken nest success and habitat selection in southeastern Nebraska. T. W. Matthews, A. J. Tyre, J. S. Taylor, J. J. Lusk, and L. A. Powell. 2013. *Journal of Wildlife Management* 77:1202–1212. (School of Natural Resources, Univ of Nebraska, Lincoln, NE 68583, USA.) Greater prairie-chickens preferred to nest in Conservation Reserve Program fields rather than adjacent rangeland.

Predicted and observed mortality from vector-borne disease in wildlife: West Nile virus and small songbirds. A. M. Kilpatrick, R. J. Peters, A. P. Dupuis, M. J. Jones, P. Daszak, P. P. Marra, and L. D. Kramer. 2013. *Biological Conservation* 165:79–85. (Dept of Ecology and Evolutionary Biology, Univ of California–Santa Cruz, Santa Cruz, CA 95060, USA.) Authors conclude that West Nile virus may be killing many small-bodied birds.

The effects of a large-scale wind farm on breeding season survival of female mallards and blue-winged teal in the Prairie Pothole region. C. T. Gue, J. A. Walker, K. R. Mehl, J. S. Gleason, S. E. Stephens, C. R. Loesch, R. E. Reynolds, and B. J. Goodwin. 2013. *Journal of Wildlife Management* 77:1360–1371. (Ducks Unlimited, 2525 River Rd, Bismarck, ND 58503, USA.) Wind turbines did not affect survival of female ducks in southeastern North Dakota.

Hydrology/Riparian

Awareness and pro-active adoption of surface water BMPs. J. C. Hadrich and A. Van Winkle. 2013. *Journal of Environmental Management* 127:221–227. (Dept of Agricultural and Resource Economics, Colorado State Univ, Fort Collins, CO 80523, USA.) Awareness of cost-share programs did not increase adoption of best management practices (BMPs) by beef cattle ranchers, but Extension education did increase BMP adoption.

Blazing and grazing: influences of fire and bison on tallgrass prairie stream water quality. D. M. Larson, B. P. Grudzinski, W. K. Dodds, M. D. Daniels, A. Skibbe, and A. Joern. 2013. *Freshwater Science* 32:779–791. (Division of Biology, Kansas State Univ, Manhattan, KS

66506, USA.) In tallgrass prairie of Kansas, grazing by moderate densities of bison increased the amount of bare ground in riparian areas and increased total suspended solids and total phosphorus in streams.

Comparison of bird community indices for riparian restoration planning and monitoring. J. S. Young, E. M. Ammon, P. J. Weisberg, T. E. Dilts, W. E. Newton, D. C. Wong-Kone, and L. G. Heki. 2013. *Ecological Indicators* 34:159–167. (Great Basin Bird Observatory, 1755 East Plumb Lane 256, Reno, NV 89502, USA.) Evaluated three complex indices for characterizing the health of riparian bird communities and concluded that none performed better than species richness.

Comparison of native woody species for use as live stakes in streambank stabilization in the southeastern United States. A. E. Hunolt, E. F. Brantley, J. A. Howe, A. N. Wright, and C. W. Wood. 2013. *Journal of Soil and Water Conservation* 68:384–391. (Dept of Crop and Soil Environmental Sciences, Virginia Tech Univ, Blacksburg, VA 24061, USA.) Black willow, silky willow, silky dogwood, and Virginia sweetspire all can be established from cuttings harvested when these shrubs are dormant. It is not necessary to soak the cuttings in water for 48 hours prior to planting.

Plant Ecology

Elevated nitrogen effects on *Bromus tectorum* dominance and native plant diversity in an arid montane ecosystem. A. L. Concilio and M. E. Loik. 2013. *Applied Vegetation Science* 16:598–609. (Dept of Environmental Studies, Univ of California–Santa Cruz, Santa Cruz, CA 95064, USA.) Increased nitrogen deposition did not affect native plant diversity after 4 years at upper elevations of sagebrush steppe in eastern California. Cheatgrass cover was inversely related to native forb species richness.

Rehabilitation/Restoration

Does seeding a locally adapted native mixture inhibit ingress by exotic plants? A. D. Falk, T. E. Fulbright, F. S. Smith, L. A. Brennan, A. J. Ortega-Santos, and S. Benn. 2013. *Restoration Ecology* 21:474–480. (Caesar Kleberg Wildlife Research Institute, 700 University Blvd MSC 218, Kingsville, TX 78363, USA.) Seeding a mix of 29 native species reduced invasion of nonnative plants on retired cropland in the Lower Rio Grande Valley of Texas.

Does seeding after wildfires in rangelands reduce erosion or invasive species? D. A. Pyke, T. A. Wirth, and J. L. Beyers. 2013. *Restoration Ecology* 21:415–421. (US Geological Survey, Forest and Rangeland Ecosystem Science Center, 3200 SW Jefferson Way, Corvallis, OR 97331, USA.) Where postfire erosion is a significant threat, treatments such as mulching will probably be more effective than seeding. Sup-

pression of invasive plants will likely require more than one seeding and herbicides.

Preliminary evidence that patch burn–grazing creates spatially heterogeneous structure in old-field grassland. D. A. McGranahan, G. M. Raicovich, W. N. Wilson, and C. K. Smith. 2013. *Southeastern Naturalist* 12:655–660. (Dept of Environmental Studies, Univ of the South, Sewanee, TN 37375, USA.) Results demonstrate that patch burn–cattle grazing is a viable tool for diversifying vegetation structure and species composition in eastern US grasslands.

Sources of variation in the abundance and detection of the endangered Florida grasshopper sparrow. M. F. Delany, R. A. Kiltie, S. L. Glass, and C. L. Hannon. 2013. *Southeastern Naturalist* 12:638–654. (Florida Fish and Wildlife Conservation Commission, 1105 SW Williston Rd, Gainesville, FL 32601, USA.) “The current prairie burn regime of 2- to 3-year intervals should be maintained with preference for increased growing-season burns.”

The rising Great Plains fire campaign: citizens’ response to woody plant encroachment. D. Twidwell, W. E. Rogers, S. D. Fuhlendorf, C. L. Wonkka, D. M. Engle, J. R. Weir, U. P. Kreuter, and C. A. Taylor, Jr. 2013. *Frontiers in Ecology and the Environment* 11:E64–E71. (Dept of Natural Resource Ecology and Management, Oklahoma State Univ, Stillwater, OK 74078, USA.) Authors review the causes and consequences of juniper encroachment into Great Plains grasslands and discuss how prescribed burn cooperatives are enabling private citizens to reintroduce fire and restore these grasslands.

Using prairie restoration to curtail invasion of Canada thistle: the importance of limiting similarity and seed mix richness. D. L. Larson, J. B. Bright, P. Drobney, J. L. Larson, N. Palaia, P. A. Rabie, S. Vacek, and D. Wells. 2013. *Biological Invasions* 15:2049–2063. (US Geological Survey, Northern Prairie Wildlife Research Center, 1561 Lindig St, Saint Paul, MN 55108, USA.) In tallgrass prairie restoration in Minnesota, seed mix richness did not affect cover of the invasive Canada thistle, and planted species of the Asteraceae, the same family as Canada thistle, did not negatively affect Canada thistle. In contrast, planted cool-season grasses and non-Asteraceae forbs did suppress Canada thistle.

Vegetation response to western juniper slash treatments. C. O’Connor, R. Miller, and J. D. Bates. 2013. *Environmental Management* 52:553–566. (J. Bates, US Dept of Agriculture–Agricultural Research Service, Eastern Oregon Agricultural Research Center, 67826-A Hwy 205, Burns, OR 97720, USA.) Four years after western juniper removal treatments, density of untreated small trees and new seedlings that had emerged was 67–75% less than pretreatment density of western juniper.

Socioeconomics

Earth stewardship of rangelands: coping with ecological, economic, and political marginality. N. F. Sayre, R. R. J. McAllister, B. T. Bestelmeyer, M. Moritz, and M. D. Turner. 2013. *Frontiers in Ecology and the Environment* 11:348–354. (Dept of Geography, Univ of California–Berkeley, Berkeley, CA 94720, USA.) Authors discuss how to sustain the world's rangelands in the face of ecological, economic, and political forces that are promoting rangeland degradation and conversion to other land types.

How to sell ecosystem services: a guide for designing new markets. S. Banerjee, S. Secchi, J. Farigone, S. Polasky, and S. Kraft. 2013. *Frontiers in Ecology and the Environment* 11:297–304. (Univ of Stirling, Stirling FK9 4LA, United Kingdom.) Using an example of how payments for ecosystem services could be applied to floodplain restoration, this review article discusses six critical issues for creating effective markets for payments for ecosystem services.

The economics of fuel management: wildfire, invasive plants, and the dynamics of sagebrush rangelands in the western United States. M. H. Taylor, K. Rollins, M. Kobayashi, and R. J. Tausch. 2013. *Journal of Environmental Management* 126:157–173. (Dept of Economics, Univ of

Nevada, Reno, NV 89557, USA.) In sagebrush rangelands of the Great Basin, prefire vegetation treatments to reduce fuel loading save more in wildfire suppression costs only where rangelands are in good ecological health.

Soils

Influence of management and precipitation on carbon fluxes in Great Plains grasslands. M. Riggs, B. Wylie, L. Zhang, and S. P. Boyte. 2013. *Ecological Indicators* 34:590–599. (47914 252nd St, Sioux Falls, SD 57198, USA.) In tallgrass and mixed-grass prairie, sustainable management practices can induce soil carbon to accumulate until a new equilibrium is achieved. In shortgrass prairie, however, management should be considered sustainable if soil carbon levels are merely maintained.

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