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


Grazing Management

Relationships between grazing and waterfowl production in the Canadian prairies. P. M. Bloom, D. W. Howerton, R. B. Emery, and L. M. Armstrong. 2013. *Journal of Wildlife Management* 77:534–544. (Ducks Unlimited Canada, Institute of Wetland and Waterfowl Research, Box 1160, Stonewall, MB R0C 2Z0, Canada). In waterfowl nesting habitat, authors recommend moderate livestock stocking rates (0.8 to 1.0 animal unit months/acre), postgrazing residual stubble heights greater than 11 inches, and delaying livestock grazing until after the breeding season.

Using livestock to manage plant composition: a meta-analysis of grazing in California Mediterranean grasslands. K. A. Stahlheber and C. M. D’Antonio. 2013. *Biological Conservation* 157:300–308. (Dept of Ecology, Evolution, and Marine Biology, Univ of California, Santa Barbara, Santa Barbara, CA 93106, USA). “These results lend support to the use of grazing to enhance native forb richness and native grass cover in some settings although this must be weighed against increases in the cover of exotic forbs.”

Hydrology/Riparian

Effects of drought on birds and riparian vegetation in the Colorado River Delta, Mexico. O. Hinojosa-Huerta, P. L. Nagler, Y. K. Carrillo-Guererro, and E. P. Glenn. 2013. *Ecological Engineering* 51:275–281. (E. Glenn, Environmental Research Lab, Univ of Arizona, 1601 East Airport Dr, Tucson, AZ 85706, USA). A 7-year drought reduced cottonwoods and willows, but total vegetative cover was unchanged because saltcedar increased. Bird density and diversity also were unchanged, but riparian-obligate species decreased in abundance while generalist bird species and diversity also were unchanged, but riparian-obligate species decreased in abundance while generalist bird species and diversity also were unchanged, but riparian-obligate species decreased in abundance while generalist bird species and diversity also were unchanged, but riparian-obligate species decreased in abundance while generalist bird species and diversity also were unchanged, but riparian-obligate species decreased in abundance while generalist bird species and diversity also were unchanged, but riparian-obligate species decreased in abundance while generalist bird species and diversity also were unchanged, but riparian-obligate species decreased in abundance while generalist bird species.


Plant–Animal Interactions

Seed harvesting by a generalist consumer is context-dependent: interactive effects across multiple spatial scales. S. M. Ostoja, E. W. Schupp, and R. Klinger. 2013. *Oikos* 122:563–574. (US Geological Survey, Yosemite Field Station, 40298 Junction Dr, Oakhurst, CA 93644, USA). Cheatgrass seeds were the least preferred seeds by western harvester ants in west-central Utah sagebrush steppe.

The role of seed predation in the maintenance of the Cross Timbers ecotone of Oklahoma, USA. R. W. Myster. 2013. *Journal of Plant Interactions* 8:134–139. (Dept of Biology, Oklahoma State Univ, Stillwater, OK 74078, USA). In the ecotone between tallgrass prairie and eastern deciduous forest, seed predators did not remove seeds of the invasive tree, eastern redcedar, but seed predators did remove seeds of eight different native tree species.

Plant Ecology


Repeated burning of eastern tallgrass prairie increases richness and diversity, stabilizing late successional vegetation. M. L. Bowles and M. D. Jones. 2013. *Ecological Applications* 23:464–478. (Morton Arboretum, 4100 Illinois Route 53, Lisle, IL 60532, USA). In northern Illinois, summer forbs increased with frequent fires, while warm-season grasses, spring forbs, and nitrogen-fixing species decreased with fire exclusion. Frequent fires that remove woody vegetation and prevent biomass accumulation are necessary to maintain plant species diversity in ungrazed eastern tallgrass prairie.


Rehabilitation/Restoration

Change in leafy spurge (Euphorbia esula) density and soil seedbank composition 10 years following release of
Aphthona spp. biological control agents. C. M. Setter and R. G. Lym. 2013. *Invasive Plant Science and Management* 6:147–160. (Dept of Plant Sciences, North Dakota State Univ, Fargo, ND 58105, USA). In 10 years flea beetles reduced leafy spurge stem density 88% at one site and 98% at another site in western North Dakota.

Ecosystem services from keystone species: diversionary seeding and seed-caching desert rodents can enhance Indian ricegrass seedling establishment. W. S. Longland and S. M. Ostoja. 2013. *Restoration Ecology* 21:285–291. (USDA-ARS, 920 Valley Rd, Reno, NV 89512, USA). Seedling establishment of the desirable Indian ricegrass was increased by providing palatable seeds of white millet to reduce consumption of Indian ricegrass seeds by desert rodents in western Nevada.

Effect of aminopyralid on desirable forb species. J. R. Mikelson and R. G. Lym. 2013. *Invasive Plant Science and Management* 6:30–35. (Dept of Plant Sciences, North Dakota State Univ, Fargo, ND 58105, USA). “Of the forbs evaluated, azure aster, purple coneflower, and closed bottle gentian were the most tolerant to aminopyralid while prairie coneflower, great blue lobelia, harebell, and white prairie clover were the most susceptible....”

Effects of growth regulator herbicide on downy brome (*Bromus tectorum*) seed production. M. J. Rinella, R. A. Masters, and S. E. Bellows. 2013. *Invasive Plant Science and Management* 6:60–64. (USDA-ARS, 243 Fort Keogh Rd, Miles City, MT 59301, USA). In a greenhouse study, picloram did not greatly reduce cheatgrass seed production, but aminopyralid did.


Socioeconomics

Recent land use change in the Western Corn Belt threatens grasslands and wetlands. C. K. Wright and M. C. Wimberly. 2013. *Proceedings of the National Academy of Sciences of the United States of America* 110:4134–4139. (Geographic Information Science Center of Excellence, South Dakota State Univ, Brookings, SD 57007, USA). From 2006 to 2011, 1.3 million acres of grassland were converted to corn/soybean cropland in the western US Corn Belt (North Dakota, South Dakota, Nebraska, Minnesota, Iowa). Corn and soybean production is expanding onto marginal lands that are more vulnerable to erosion and drought.

Soils

Short-term effects of grazing intensity and nitrogen fertilization on soil organic carbon pools under perennial grass pastures in the southeastern USA. M. L. Silveira, K. S. Liu, L. E. Sollenberger, R. F. Follett, and J. M. B. Vendramini. 2013. *Soil Biology and Biochemistry* 58:42–49. (Range Cattle Research and Education Center, Univ of Florida, Ona, FL 33865, USA). On rotationally grazed Bermuda grass pastures, soil organic carbon was unaffected when residual stubble height was at least 6 inches.

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