By Jeff Mosley

# Browsing the Literature

This section reviews new publications 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

**Dietary overlap and potential competition in a dynamic ungulate community in northwestern Canada.** T.S. Jung, S.A. Stotyn, and S.M. Czetwertynski. 2015. *Journal of Wildlife Management* 79:1277–1285. (Yukon Dept of the Environment, Box 2703, Whitehorse, YT Y1A 2C6, Canada). Dietary overlap during summer and winter was examined among bison, elk, caribou, thinhorn sheep, moose, and semi-feral horses in the southwestern Yukon Territory. The potential for forage competition was high between bison and thinhorn sheep and between bison and semi-feral horses. Potential forage competition was low to moderate for all other species pairs.

**Dynamic disturbance processes create dynamic lek site selection in a prairie grouse.** T.J. Hovick, B.W. Allred, R.D. Elmore, S.D. Fuhlendorf, R.G. Hamilton, and A. Breland. 2015. *Plos ONE* 10(9):e0137882. (School of Natural Resource Sciences, North Dakota State Univ, Fargo, ND 58105, USA). In tallgrass prairie of northeastern Oklahoma, 65% of greater prairie-chicken leks moved by nearly 0.6 miles each year in response to the dynamic habitat conditions created by patch-burn grazing.

**Effects of wolf removal on livestock depredation recurrence and wolf recovery in Montana, Idaho, and Wyoming.** E.H. Bradley, H.S. Robinson, E.E. Bangs, K. Kunkel, M.D. Jimenez, J.A. Gude, and T. Grimm. 2015. *Journal of Wildlife Management* 79:1337–1346. (Montana Fish, Wildlife and Parks, 3201 Spurgin Rd, Missoula, MT 59804, USA). Management options after livestock depredation by wolves include no wolf removal, partial-pack removal, and full-pack removal. From 1989 to 2008 in Montana, Idaho, and Wyoming, median time between recurrent depredations was 2 years where the full pack had been removed, 64 days after partial-pack removal, and 19 days where no wolves had been removed.

## Grazing Management

**A critical review and meta-analysis of the magnitude of the effect of anthelmintic use on stocker calf production parameters in northern US states.** P. Baltzell, T. Engelken, and A.M. O'Connor. 2015. *Veterinary Parasitology* 214:2–11. (College of Veterinary Medicine,

Iowa State Univ, Ames, IA 50011, USA). On average from 23 studies, deworming treatments increased weight gain of beef stocker calves 0.11 pounds per day.

**Adverse effects of larkspur (*Delphinium* spp.) on cattle.** K.D. Welch, D. Cook, B.T. Green, D.R. Gardner, J.A. Pfister, T.G. McDaneld, and K.E. Panter. 2015. *Agriculture-Basel* 5:456–474. (US Department of Agriculture—Agricultural Research Service, 1150 E. 1400 N., Logan, UT 84341, USA). This article reviews current knowledge about larkspur poisoning and current management recommendations to mitigate cattle losses.

**Livestock guardian dogs.** R.R. Redden, J.M. Tomecek, and J.W. Walker. 2015. Texas A&M AgriLife Extension Service Bulletin EWF-028. 8 p. (AgriLifeBookstore.org). This article summarizes the use of livestock guardian dogs to protect sheep and goats from predators on Texas rangelands.

**Prescribed fire effects on resource selection by cattle in mesic sagebrush steppe. Part 2: mid-summer grazing.** P.E. Clark, J. Lee, K. Ko, R.M. Nielson, D.E. Johnson, D.C. Ganskopp, F.B. Pierson, and S.P. Hardegree. 2016. *Journal of Arid Environments* 124:398–412. (US Department of Agriculture—Agricultural Research Service, 800 E. Park Blvd, Suite 105, Boise, ID 83712, USA). In the Owyhee Mountains of southwestern Idaho, prescribed burning in the uplands reduced cattle use of riparian habitat during July, but only during the second year after the fire.

## Hydrology/Riparian

**Loss of biodiversity and hydrologic function in seasonal wetlands persists over 10 years of livestock grazing removal.** J.T. Marty. 2015. *Restoration Ecology* 23:548–554. (Marty Ecological Consulting, Sacramento, CA 95826, USA). Native plant species cover was 5% to 20% greater in cattle-grazed versus ungrazed areas; native plant species richness was 10% to 20% greater in cattle-grazed areas, and ungrazed vernal pools filled slower and emptied sooner compared with cattle-grazed pools.

**Riparian wetland plant response to livestock exclusion in the Lower Columbia River Basin.** S.A. Kidd, and J.A. Yeakley. 2015. *Natural Areas Journal* 35:504–514. (School of the Environment, Portland State Univ, Portland, OR 97207, USA). In wetlands invaded by reed canarygrass, plant species richness and native plant cover were greater in cattle-grazed areas than areas excluded from cattle grazing.

## Plant Ecology

**Desert grassland responses to climate and soil moisture suggest divergent vulnerabilities across the southwestern United States.** J.R. Gremer, J.B. Bradford, S.M. Munson, and M.C. Duniway. 2015. *Global Change Biology* 21:4049–4062. (US Geological Survey, 2255 N. Gemini Dr, Flagstaff, AZ 86001, USA). Climate changes in the southwestern United States will result in desert grasslands having less perennial grass in the future, and the effects will be greater in the Chihuahuan Desert and Colorado Plateau than in the Sonoran Desert.

**Effects of precipitation change and neighboring plants on population dynamics of *Bromus tectorum*.** J.S. Prevey, and T.R. Seastedt. 2015. *Oecologia* 179:765–775. (T. Seastedt, Dept of Ecology and Evolutionary Biology, Univ of Colorado, Boulder, CO 80309, USA). If the seasonality of precipitation shifts to wetter winters, results suggest that cheatgrass will become more invasive in western US grasslands.

**Kentucky bluegrass (*Poa pratensis*) invasion in the Northern Great Plains: a story of rapid dominance in an endangered ecosystem.** E.S. DeKeyser, L.A. Dennhardt, and J. Hendrickson. 2015. *Invasive Plant Science and Management* 8:255–261. (School of Natural Resource Sciences, North Dakota State Univ, Fargo, ND 58102, USA). Calls attention to the dramatic increase in Kentucky bluegrass that has occurred during the past 25 years throughout native prairie of North and South Dakota. The mechanism of invasion is unknown.

## Rehabilitation/Restoration

**Adaptive development of yellow toadflax (*Linaria vulgaris*) chemical control recommendations.** T.L. Almquist, K.L. Wirt, J.W. Adams, and R.G. Lym. 2015. *Invasive Plant Science and Management* 8:276–283. (R. Lym, Dept of Plant Sciences, North Dakota State Univ, Fargo, ND 58105, USA). Two effective options exist for chemical control of yellow toadflax: 1) picloram + diflufenzopyr, or 2) picloram + dicamba + diflufenzopyr.

**Burning controls barb oatgrass (*Aegilops triuncialis*) in California grasslands for at least 7 years.** J.T. Marty, S.B. Sweet, and J.J. Buck-Diaz. 2015. *Invasive Plant Science and Management* 8:317–322. (Marty Ecological Consulting, Sacramento, CA 95826, USA). In central California, a prescribed fire in spring increased "native species diversity, reduced seed germination of barb oatgrass to near zero, and reduced cover of barb oatgrass for at least 7 years after the burn."

**Fire and false brome: how do prescribed fire and invasive *Brachypodium sylvaticum* affect each other?** L.P. Poulos, and B.A. Roy. 2015. *Invasive Plant Science and Management* 8:122–130. (B. Roy, Dept of Biology, Univ of Oregon, Eugene, OR 97403, USA). "High severity fires have the potential to control the grass, but low-severity fires will likely increase its cover."

**Impact of the biological control agent *Tetramesa romana* (Hymenoptera:Eurytomidae) on *Arundo donax* (Poaceae:Aruninoidae) along the Rio Grande River in**

**Texas.** J.A. Goolsby, P.J. Moran, A.E. Racelis, K.R. Summy, M.M. Jimenez, R.D. Lacewell, A.P. de Leon, and A.A. Kirk. 2016. *Biocontrol Science and Technology* 26:47–60. (US Department of Agriculture—Agricultural Research Service, 2267 N. Moorefield Rd, Moore Air Base Bldg 6419, Edinburg, TX 78541, USA). Five years after release, the arundo gall wasp has decreased giant reed abundance 22% along the lower Rio Grande River, between Del Rio and Brownsville, Texas.

**Low-dose glyphosate does not control annual bromes in the Northern Great Plains.** E.K. Espeland, and R. Kilian. 2015. *Invasive Plant Science and Management* 8:334–340. (US Department of Agriculture—Agricultural Research Service, 1500 N. Central Ave, Sidney, MT 59270, USA). In eastern Montana, neither cheatgrass nor Japanese brome was suppressed by 2 consecutive years of glyphosate treatment during fall; the addition of spring spraying in year 3 was ineffective as well. The glyphosate application rate was 3 ounces per acre rather than the recommended rate of 4 to 6 ounces per acre.

**Quinclorac and aminocyclopyrachlor movement in sandy soils.** J.W. Adams, and R.G. Lym. 2015. *Invasive Plant Science and Management* 8:269–275. (R. Lym, Dept of Plant Sciences, North Dakota State Univ, Fargo, ND 58105, USA). In southeastern North Dakota, quinclorac herbicide leached much less than aminocyclopyrachlor and was therefore considered better suited for suppressing leafy spurge. An added benefit is that quinclorac does not harm the federally threatened western prairie-fringed orchid.

**Short-term response of *Holcus lanatus* L. (common velvetgrass) to chemical and manual control at Yosemite National Park, USA.** L.J. Jones, S.M. Ostoja, M.L. Brooks, and M. Hutten. 2015. *Invasive Plant Science and Management* 8:262–268. (S. Ostoja, US Forest Service, Sierra National Forest, 1600 Tollhouse Rd, Clovis, CA 93611, USA). Common velvetgrass is an introduced perennial bunchgrass that has invaded mountain meadows in Yosemite, Sequoia, and Kings Canyon National Parks in California. Neither a single year of glyphosate application nor 1 year of hand pulling effectively suppressed this bunchgrass.

## Socioeconomics

**One step ahead of the plow: using cropland conversion risk to guide Sprague's Pipit conservation in the northern Great Plains.** M.K. Lipsey, K.E. Doherty, D.E. Naugle, S. Fields, J.S. Evans, S.K. Davis, and N. Koper. 2015. *Biological Conservation* 191:739–749. (Wildlife Biology Program, Univ of Montana, Missoula, MT 59812, USA). Seventy percent of the Sprague pipit's breeding range in Canada and the United States is on private land, which highlights "the importance of voluntary approaches that incentivize good stewardship."

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