Devan Allen McGranahan

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Rangeland ecology and management

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United States of America

I grew up on my family's farm in Clay County, Iowa, USA and earned my PhD in Ecology and Evolutionary Biology from Iowa State University, Ames, Iowa, USA. I am interested in the research and development of productive land uses that contribute to ecosystem function and biodiversity conservation, especially in rangeland of the North American Great Plains and Southern Africa.

CURRENT RESEARCH

Topic

- Grassland fire ecology
- Rangeland conservation & management

Methodology

- Fuel and fire behavior modeling
- Prescribed fire
- Vegetation and wildlife surveys

Application

- Maintenance and restoration of ecosystem function
- Biodiversity conservation
- Sustainable rural livelihoods

UKZN main publications

1. In preparation: Fuel moisture and fire behavior in montane Festuca-Themeda grassland in the Drakensberg, South Africa. Co-authors: K. Kirkman (UKZN), S. Archibald (Wits), T. O'Connor (SAEON)
2. In preparation: Literature review and meta-analysis of rangeland biodiversity responses to fire and grazing disturbance in sub-Saharan Africa. Co-author: K. Kirkman (UKZN)

Past researches (select relevant publications)

1. McGranahan et al. 2013. Preliminary evidence that patch burn-grazing creates spatially-heterogeneous habitat structure in old-field grassland. **Southeastern Naturalist** 12:655-660.
2. McGranahan & Kirkman. 2013. Multifunctional rangeland in Southern Africa: Managing for production, conservation, and resilience with fire and grazing. **Land** 2:176-193.
3. McGranahan et al. 2013. Inconsistent outcomes of heterogeneity-based management underscore importance of matching evaluation to conservation objectives. **Environ. Science & Policy** 31:53–60.
4. McGranahan et al. 2013. An invasive grass alters tallgrass prairie fuelbed characteristics and reduces burn probability. **Ecosystems** 16:158-169.
5. McGranahan et al. 2012. Spatial heterogeneity across five rangelands managed with pyric-herbivory. **Journal of Applied Ecology** 49:903-910.
6. McGranahan. 2011. Identifying ecological sustainability assessment factors for ecotourism and trophy hunting operations on private rangeland in Namibia. **Journal of Sustainable Tourism** 19:115–131.
7. McGranahan. 2008. Managing private, commercial rangelands for agricultural production and wildlife diversity in Namibia and Zambia. **Biodiversity and Conservation** 17:1965–1977.

Future interests

1. Global patterns of grassland ecology: modelling and detecting response of species, communities, and fire regimes to climate change.
2. Adapt agricultural systems to include ecological disturbances to enhance resilience and productivity.