

Creative management of grazing through the use small fires

November 20 2017



Credit: Wits University

Creative management of grazing through the use small fires can draw back herbivores to grazing areas that are avoided by animals.

A recent paper by scientists from Wits University in South Africa shows how creative fire management can increase habitat for wildebeest and other grazing [animals](#) in [national parks](#).

The work, published in the *Journal of Applied Ecology*, shows that small, repeated fires can have a concentrating effect on animals, and create "grazing-lawn ecosystems" where food quality is higher and herbivores can see predators from further away.

The research was initiated through a collaboration between the University of the Witwatersrand and the South African National Parks (SANParks). SANParks managers within Kruger National Park (South Africa's largest protected area) have been managing fire since as early as 1957, with fires applied to achieve particular objectives.

However, recent self-analysis raised concerns that the fire-policy in the Kruger Park was resulting in a switch to fire-adapted grasses that excluded [grazing animals](#) who need higher quality graze such as wildebeest. Managers were specifically worried that large fires resulted in grazers spreading out into the large burn scars after a fire and reduced grazing pressure in the local area.



Credit: Wits University

Navashni Govender from SANParks joined up with Prof. Sally Archibald from Wits University and Prof. Catherine Parr from the University of Liverpool. Together with a team of graduate students and technicians, and with the support of Working on Fire, Govender, Archibald and Parr set up a large-scale experiment near Satara Restcamp in the Kruger Park in 2013.

Over the following three years fires of varying sizes were lit annually in the early- and late-dry season of each year and the type and number of grazers visiting burns was monitored by looking for the presence of dung on burn sites. The response of grass to the grazing herds was also measured with plots that were never burnt used to compare any changes.

"After 5 years the results are conclusive," says Archibald. "Our PhD student, Jason Donaldson, has shown that all grazers increase their use of

small burns (

Citation: Creative management of grazing through the use small fires (2017, November 20)
retrieved 18 April 2024 from <https://phys.org/news/2017-11-creative-grazing-small.html>

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