

## The Experimental Burn Plots in the Kruger National Park

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Fire research formally began in the Kruger National Park with the establishment in 1954 of an experiment to test the effects of fire on vegetation. The initial objective of this experiment was to investigate the effect fire season and frequency within the four major vegetation communities in the park.

The location (Figure 1) and site description (Table 1) of the long-term fire experiment can be summarized as follows:

<b>KNP Section</b>	<b>Vegetation type</b>	<b>Dominant tree species</b>	<b>Geology</b>	<b>Mean annual rainfall (mm)</b>
Pretoriuskop	Sourveld	<i>Terminalia sericea</i> , <i>Dichrostachys cinerea</i>	Granite	705
Skukuza	Combretum	<i>Combretum collinum</i> , <i>C.</i> <i>zeyheri</i>	Granite	572
Satara	Knobthorn-Marula	<i>Acacia nigrescens</i> , <i>Sclerocarya birrea</i>	Basalt	507
Mooiplaas	Mopane	<i>Colophospermum</i> <i>mopane</i>	Basalt	451

There are a total of 208 rectangular plots each measuring approximately 380m X 180m ( $\pm$  7 ha). The trial was laid out ostensibly as a randomized block design, with four replicates comprising different season and frequency treatments. The plots are protected from wildfires by means of a double firebreak. The seasonal treatments comprise burning in October after rain (spring); December (early summer); February (mid-summer); April (autumn) and August (winter). The frequency treatments comprise burning annually (B1), biennially (B2) and triennially (B3). In 1976, two additional treatments were added on the basalt replicates at Satara and Mooiplaas viz. quadrennial (B4) and sexennial (B6) burns. One plot in each replicate receives no burning and serves as a control treatment (C).

The experiment is open to grazing and browsing by a diverse suite of herbivores. Due to the changes in the KNP management plan, the EBP trial should no longer be seen and regarded entirely as a management orientated experiment, but rather as a comprehensive scientific trial for promoting the understanding of fire-herbivory interactions, the effects of the different components of the fire regime on various biotic and abiotic elements and for assisting in the calibration of the thresholds of potential concern that are used as management end points by the KNP. To date a total of 65 products (peer reviewed articles, thesis and datasets) have been produced since the inception of the experiment.

For more information on conducting research on the Experimental Burn Plots, please contact Navashni Govender at [navashnig@sanparks.org](mailto:navashnig@sanparks.org)

