




WILL BURNT KAROO VELD RECOVER?

Preliminary observations

Loraine van den Berg, Justin du Toit & Johann Vorster

July 2012






INTRODUCTION

- Fire is a major driver of rangeland structure and composition
- Limited amount of work on the effects of fire on karroid vegetation
 - Fire might kill many species of dwarf shrubs
 - Possible increase in rainfall might benefit grasses after fire
 - Grazing after fire might be detrimental to karroid vegetation

AIM



To explore the interaction between fire, rainfall, grazing and vegetation in the Eastern Upper Karoo

Determining whether a combination of high rainfall and fire, possibly modified by grazing, will drive a change towards a grassier landscape



STUDY AREA

The Mills, 12 km from Hanover towards Richmond in the NC Province. On 24 October 2011, 652 ha of natural vegetation burnt during an uncontrolled accidental fire

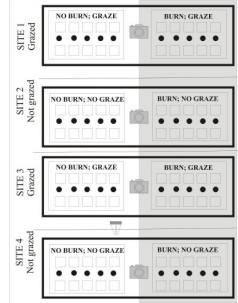




EXPERIMENTAL DESIGN

The experiment has two factors (fire and grazing), each modified at two levels, giving four treatments:

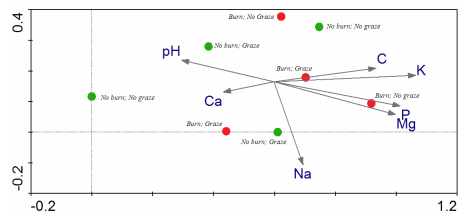
- burnt and grazed,
- burnt and ungrazed,
- unburnt and grazed; and
- unburnt and ungrazed

At each sample site the burnt treatment was compared with the unburnt treatment, be it grazed or ungrazed





PRELIMINARY OBSERVATIONS

Soil physical and chemical composition



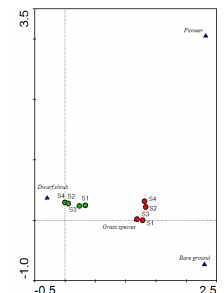
No significant differences in soil chemistry and structure between the No Burn and Burn sites ($p > 0.05$)



PRELIMINARY OBSERVATIONS

Vegetation composition

- Strong similarity between the four No Burn sites and between the four Burn sites
- No burn sites were correlated with the dwarf shrub life form
- Burn sites were closely correlated with grass, pioneer life forms, and bare ground





CONCLUSION

- Short-term effects of the fire were restricted to the relative abundance of life forms
- Soil chemical and physical characteristics appeared unaffected

