

LONG-TERM EFFECTS OF FIRE ON THE MESIC GRASSLANDS OF SUIKERBOSRAND NATURE RESERVE

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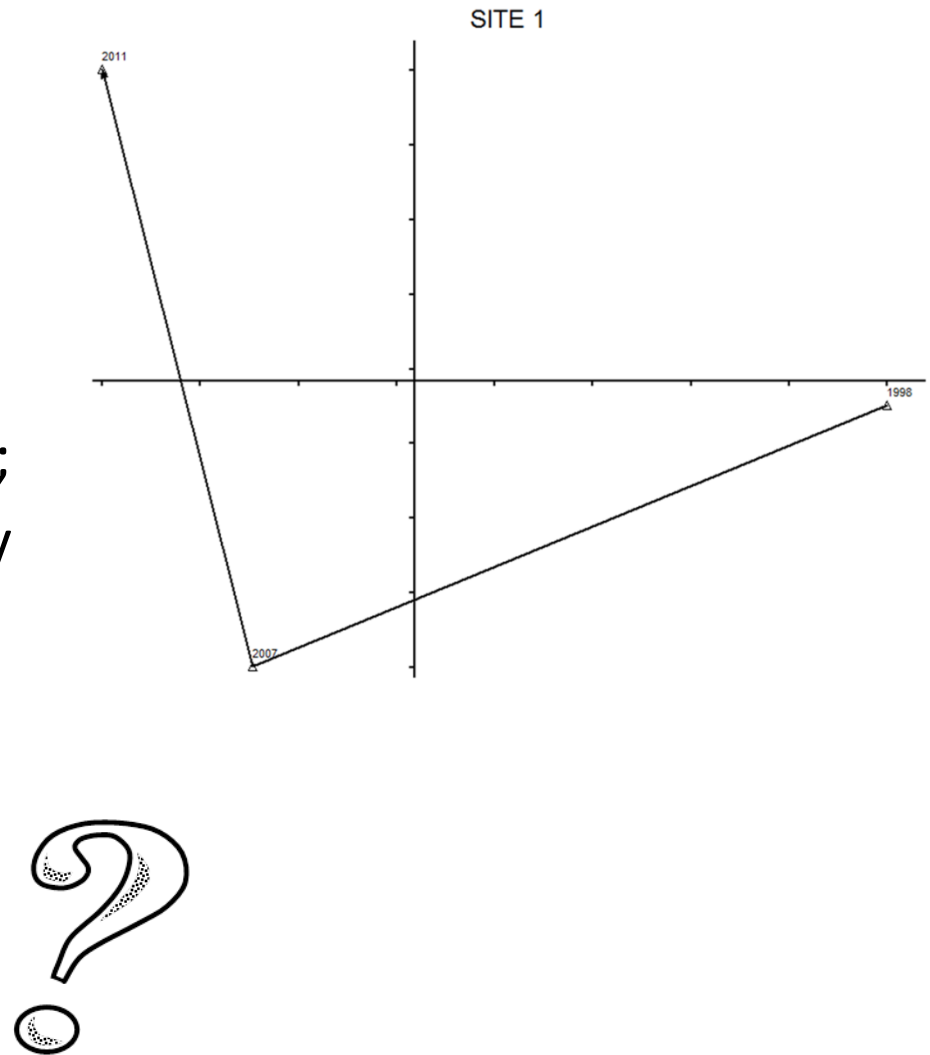
Introduction

- Declared as a Protected Area
- Purpose: maintain biodiversity
- Regular vegetation fires
- Vegetation resampled – 16 years
- 3 samples sites (one community)
- Area method
 - species identification
 - cover measurements
- Ordination
 - year data per sample site
- Aligned with fire occurrence



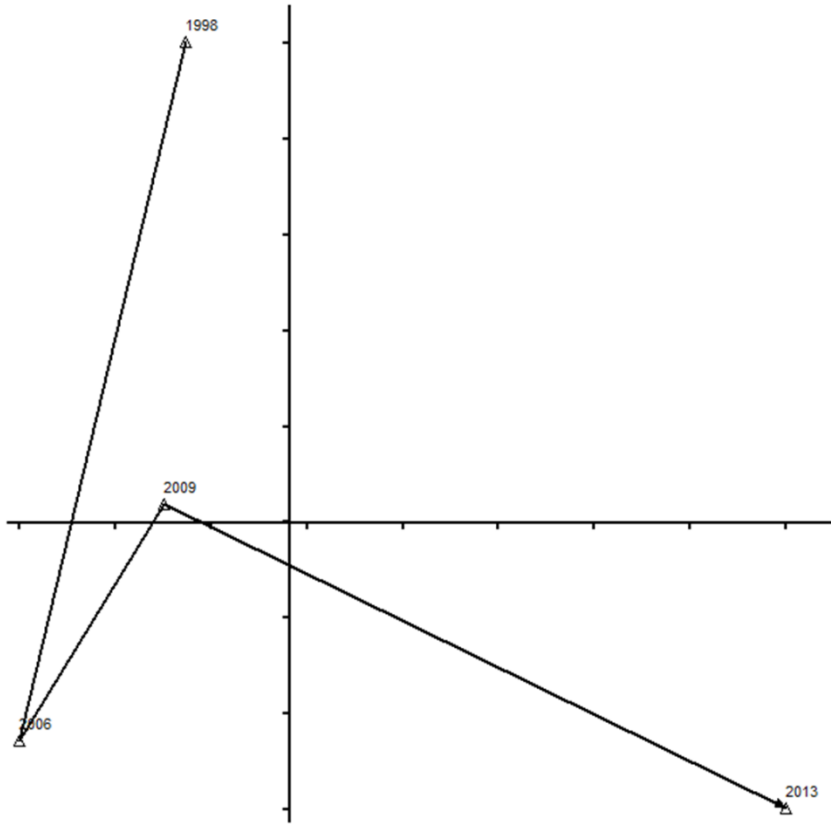
SITE 1:

- Low fire frequency/ no grazing pressure
 - fire interval = 4 years
- Species richness
 - increase in perennial forbs;
 - grasses remained relatively constant;
- Reasons for change are unclear
 - focus of field work;
 - long inter-sampling period



SITE 3:

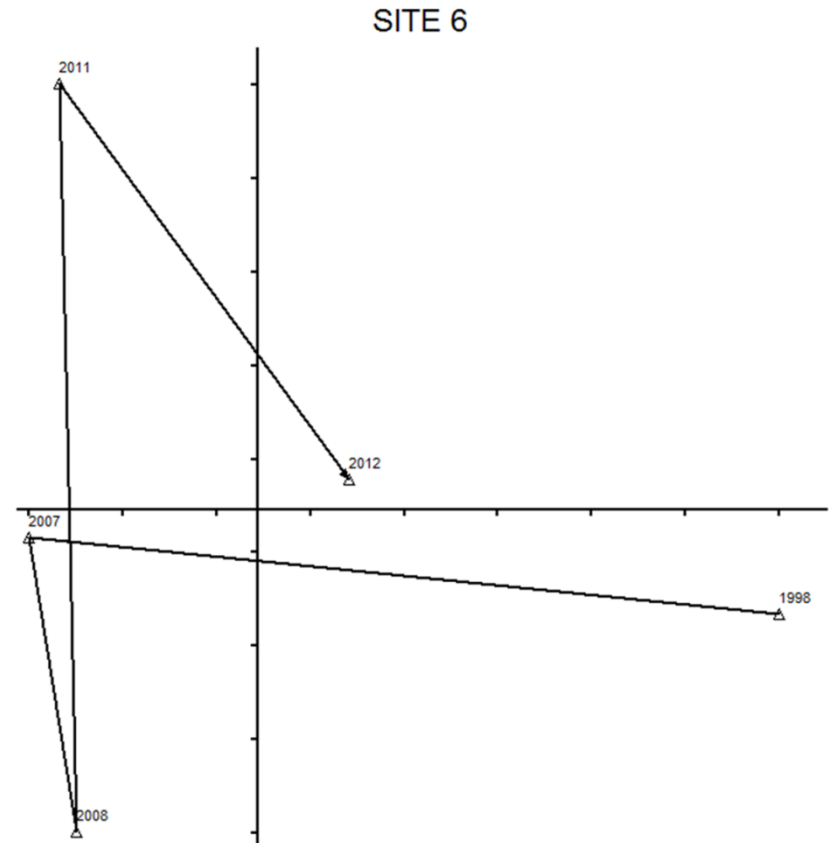
SITE 3



- 3 year fire interval and grazing pressure
- Species richness
 - grasses remained relatively constant;
 - slight increase in annual grasses;
 - increase in perennial forbs; (particularly in 2013 = 18 %)
- Post fire sampling:
 - 2006 & 2009 = 1 year
 - 2013 = 2 years

SITE 6:

- Fire interval varied/ grazing pressure
- Species richness
 - grasses remained relatively constant;
 - perennial forbs remained constant
- Post fire sampling:
 - 2011 = 1 year
 - 2021 = 2 years



Conclusions/ Way forward

- Change in species composition:
 - mainly with perennial forbs;
 - influenced by time since last burn;
- Other factors need to be investigated:
 - rainfall trends;
 - quantify grazing pressure;
- Assess turnover of specific species, particularly forbs;
- Assess changes in vegetation structure.