Measuring survival of resprouting eucalypts through a prescribed burn in south-eastern Australia

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Mallee ecosystems

0-1 year post-fire

5 years

10 years

25 years

40 years

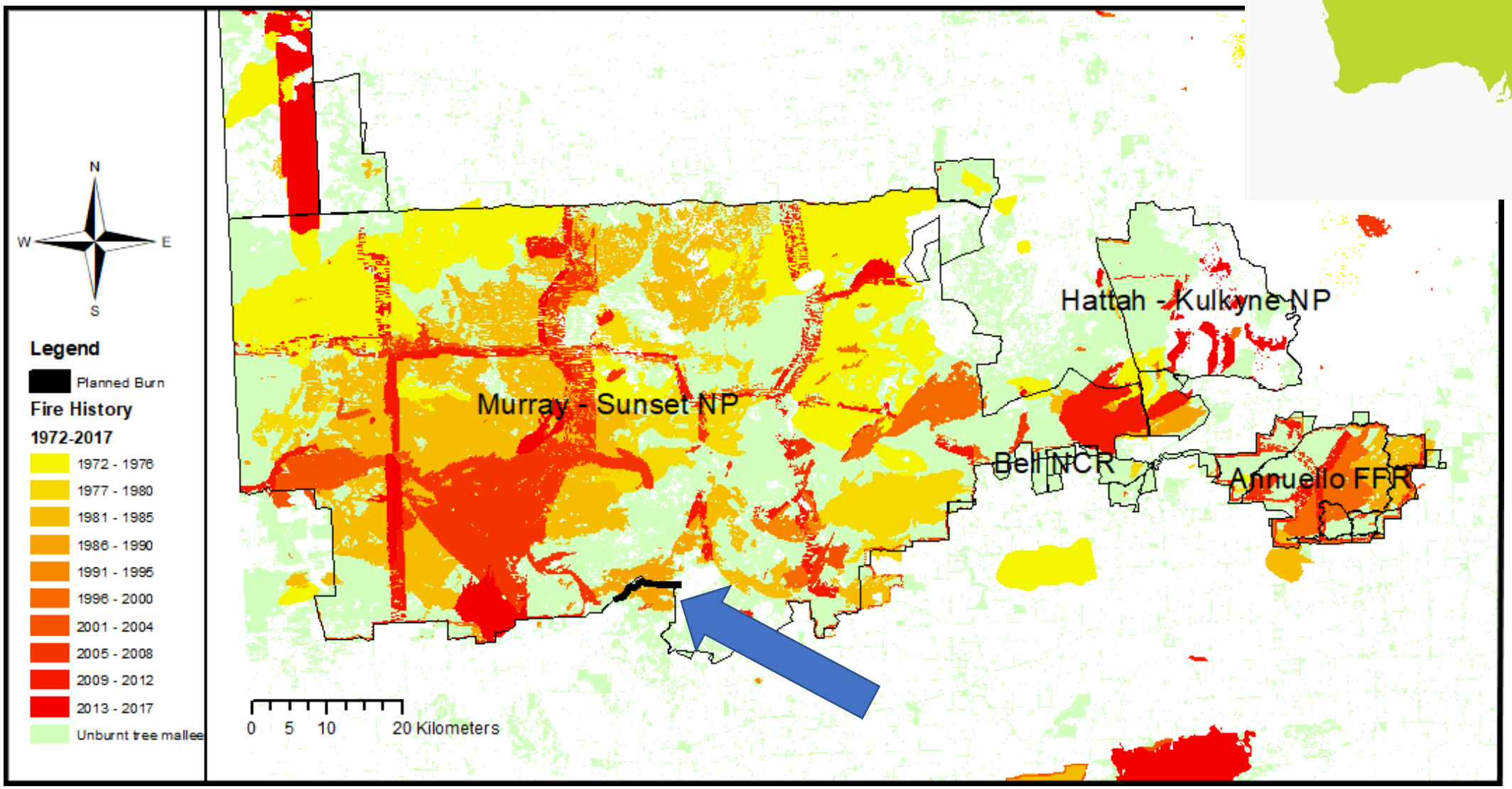
70 years

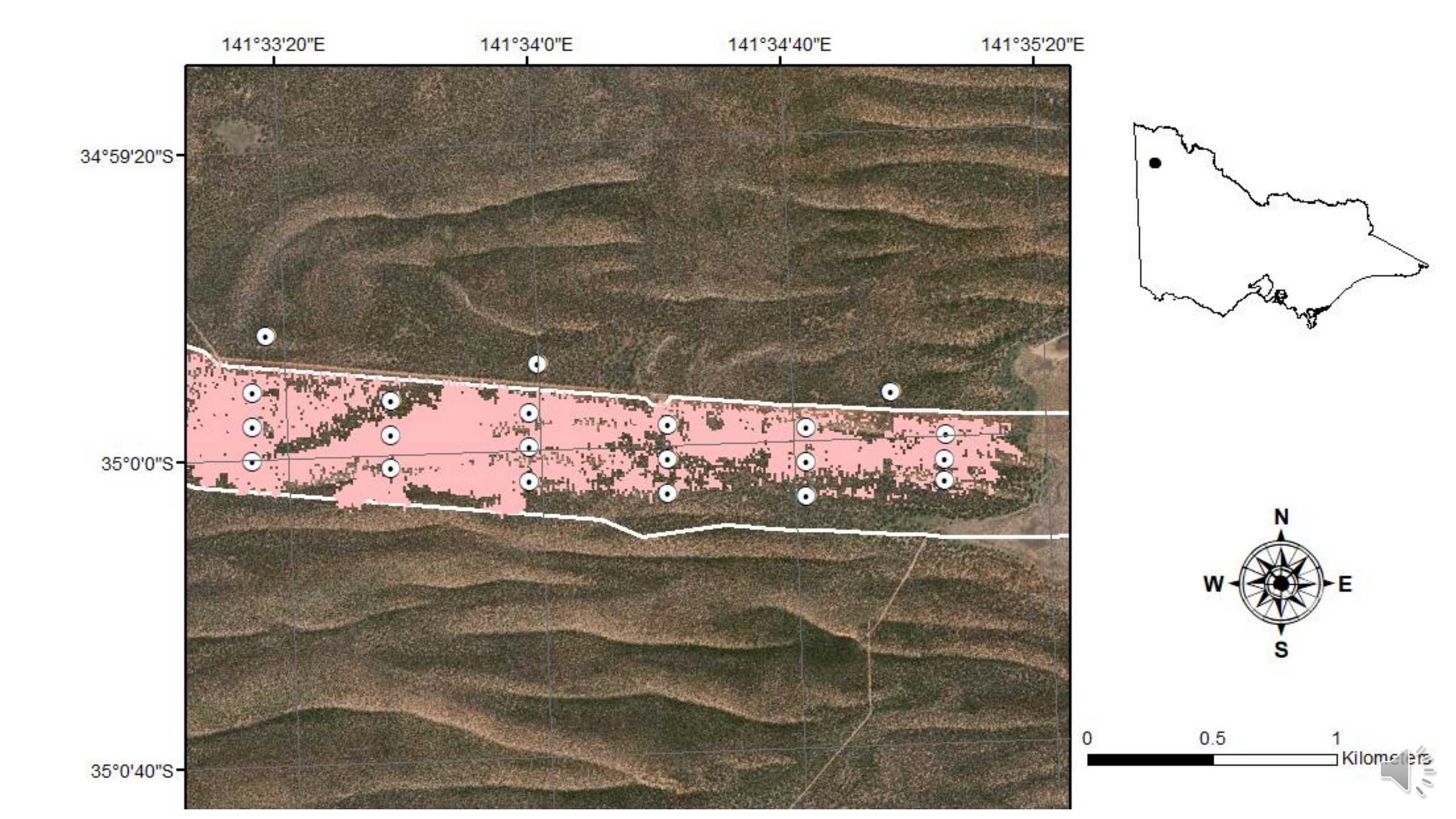
How do functional traits and fuels influence ‘mallee’ eucalypt stem mortality during fire?

Hypotheses:

1. Functional traits such as canopy height, basal diameter and bark thickness are expected to have a positive relationship with stem survival.
2. Fuel components, such as quantity and ground cover of litter, are expected to increase stem mortality

Study Area: Murray Sunset NP




141°33'20"E
141°34'0"E
141°34'40"E
141°35'20"E
34°59'20"S
35°0'0"S
35°0'40"S
N
W
E
S
0
0.5
1
Kilometers

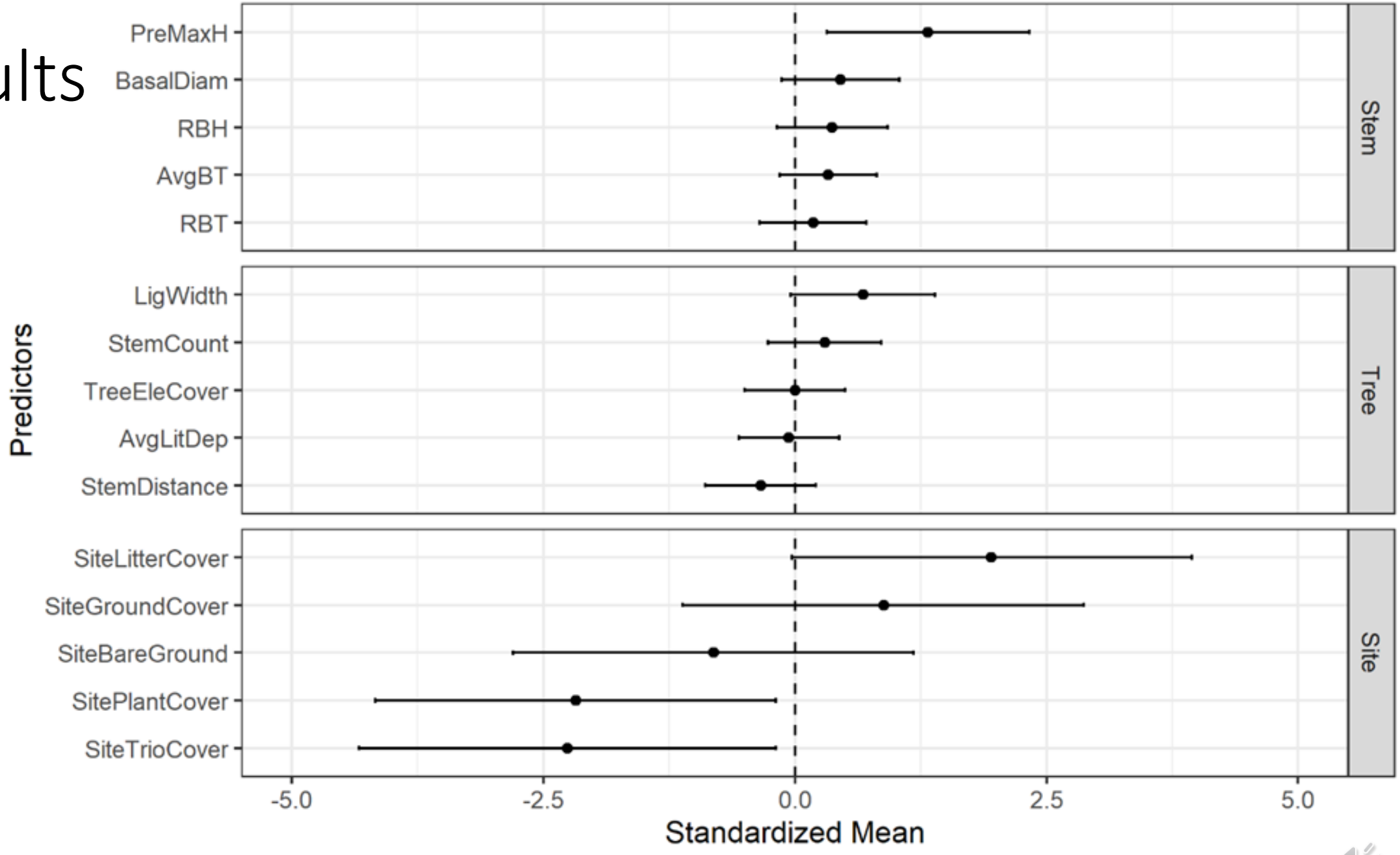
Methods

- *E. leptophylla* (n=101)
- *E. costata subsp. murrayana* (n = 63)
- *E. dumosa* (n= 57)
- *E. oleosa* (n= 24)
- *E. socialis* (n = 21)
- *Eucalyptus* sp. (n=71).

Methods

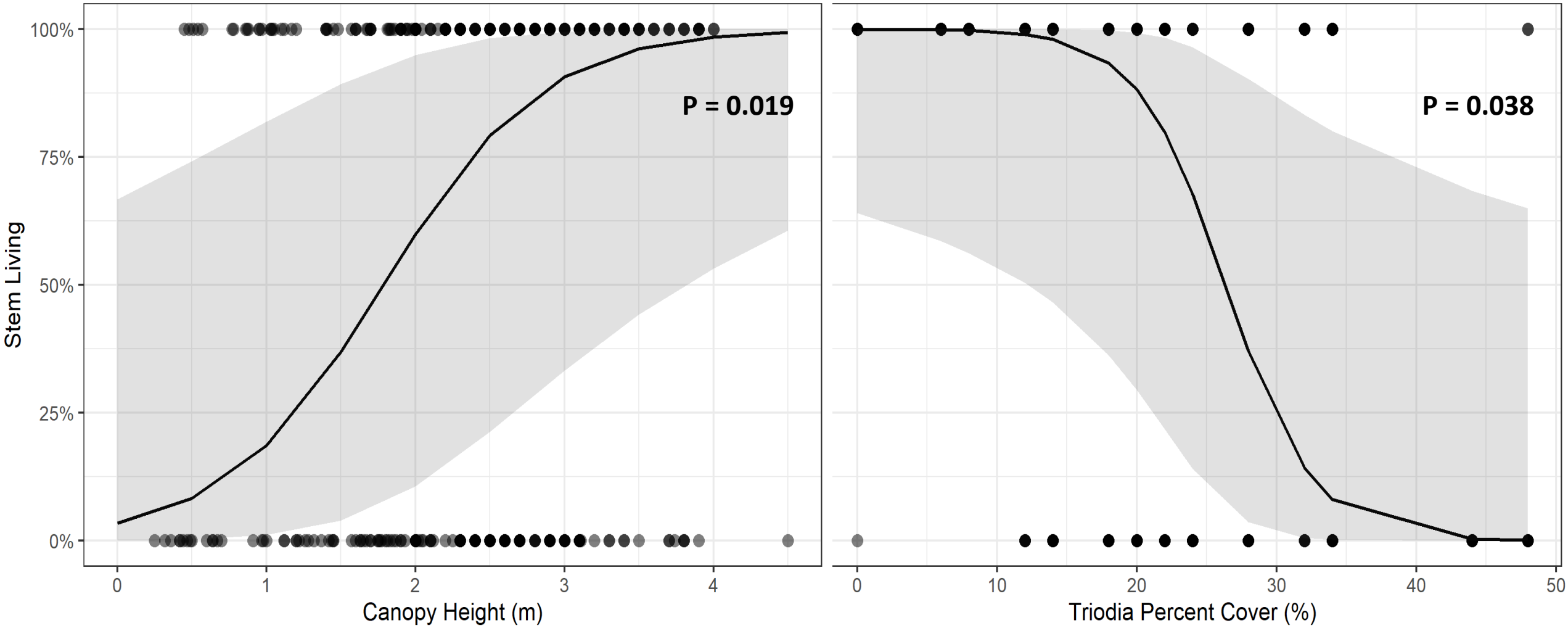
- Stem Size
  - Basal Diameter
  - Max canopy height
  - Bark Thickness
- Tree
  - Lignotuber width
  - Litter Depth
  - # of Stems
- Site
  - Surface Fuels
  - Elevated Fuels
  - Stem Density

Results



Means were generated from univariate models. Error bar represents 95% confidence interval.

Results



Multi-level logistic regression models. Model fit is estimated with Akaike information criterion (AIC). Grey areas represent 95% CI.



Thank you

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