Department of **Biodiversity, Conservation and Attractions**

GOVERNMENT OF WESTERN AUSTRALIA

Understanding the changing fire environment of south-west Western Australia

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Outline

Concept of the fire environment

Context for fire management on public land in SWWA

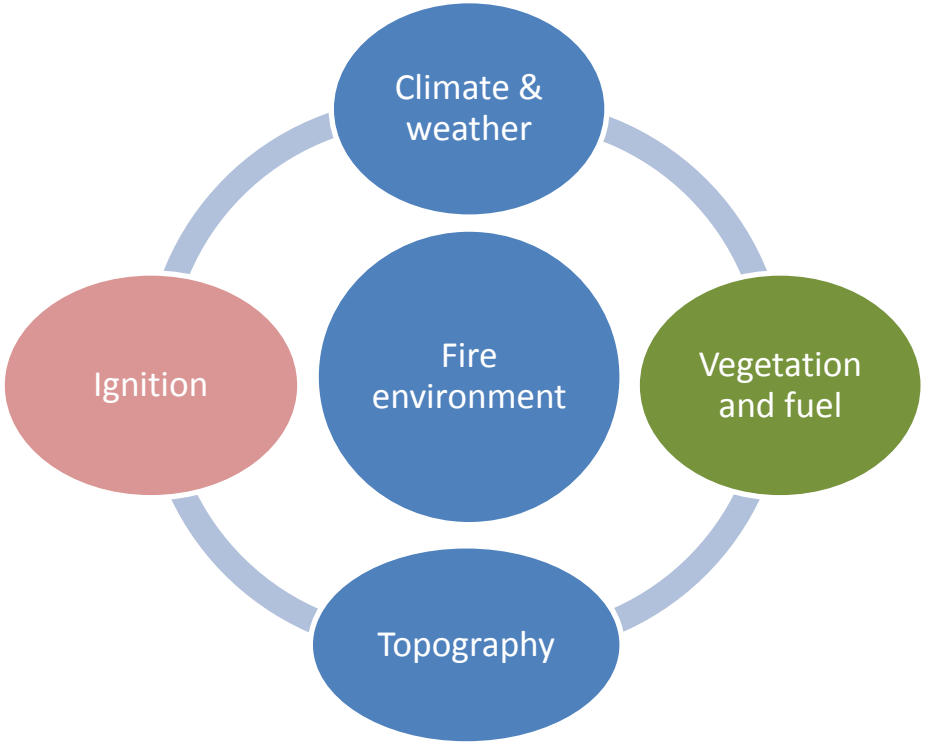
Climate trends

Ignition

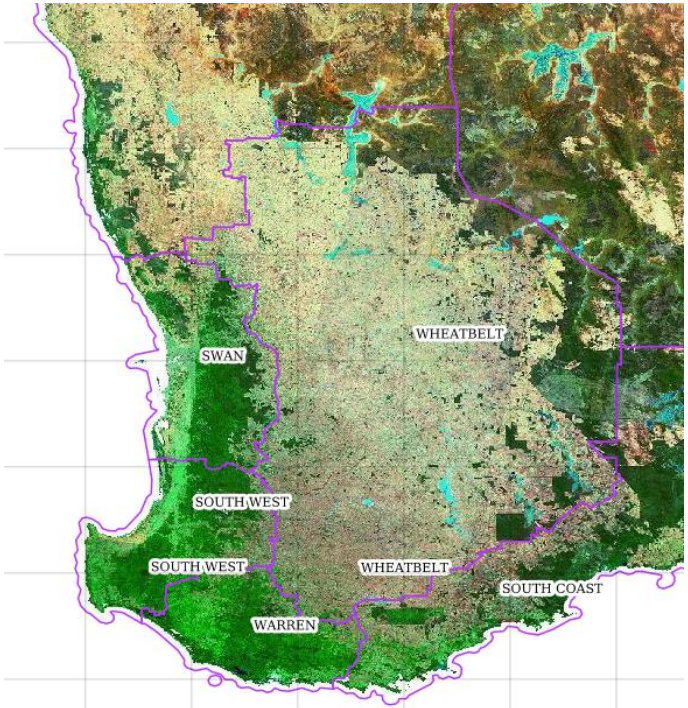
Land use impacts

The next 15 years……?

Fire environment



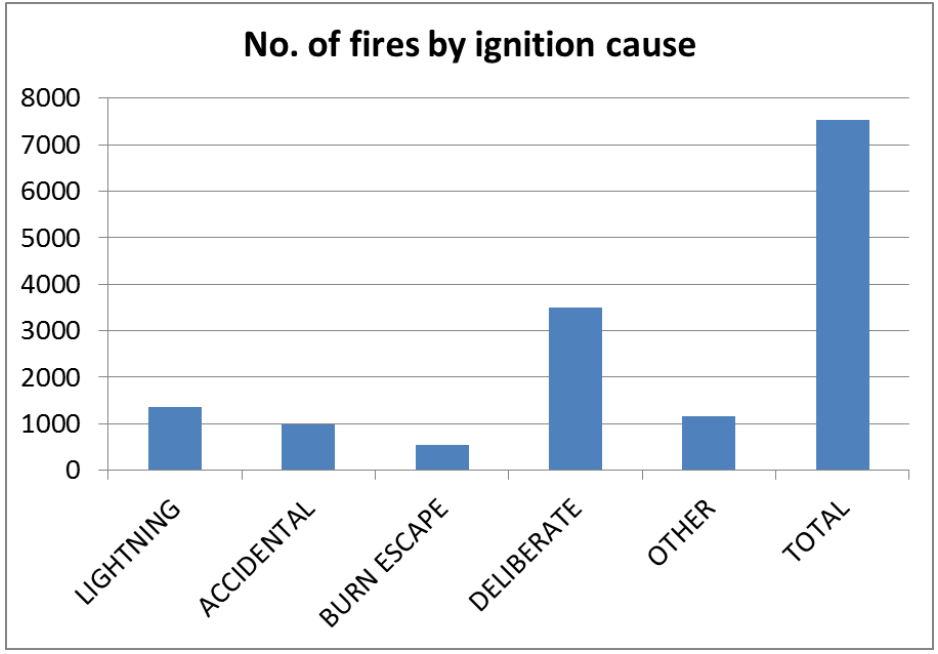
South-west Western Australia

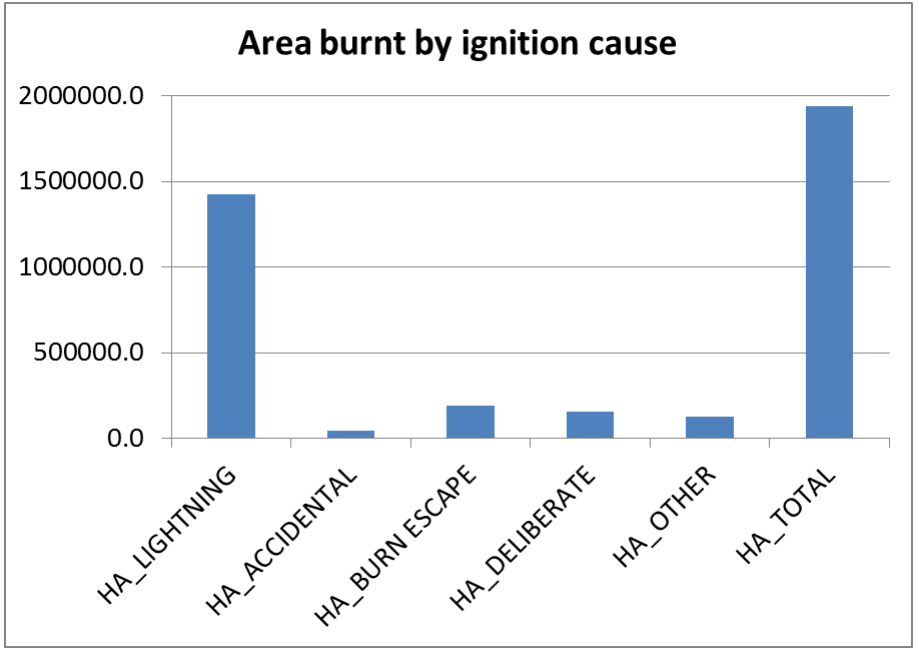


Public land estate

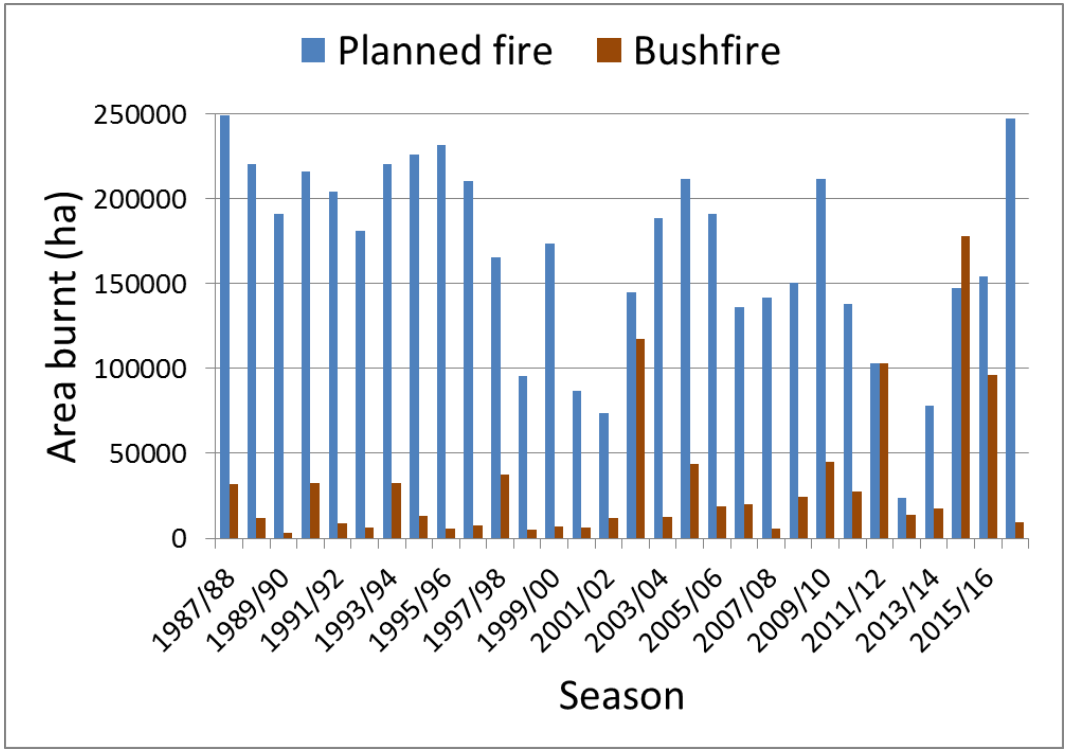
- DBCA managed land 4.4 M ha
- Unallocated crown land 1.6 M ha
- Unmanaged reserve 0.3 M ha
- Total 6.3 M ha

Bushfire cause & extent (DBCA data) south-west Western Australia 2002-2017

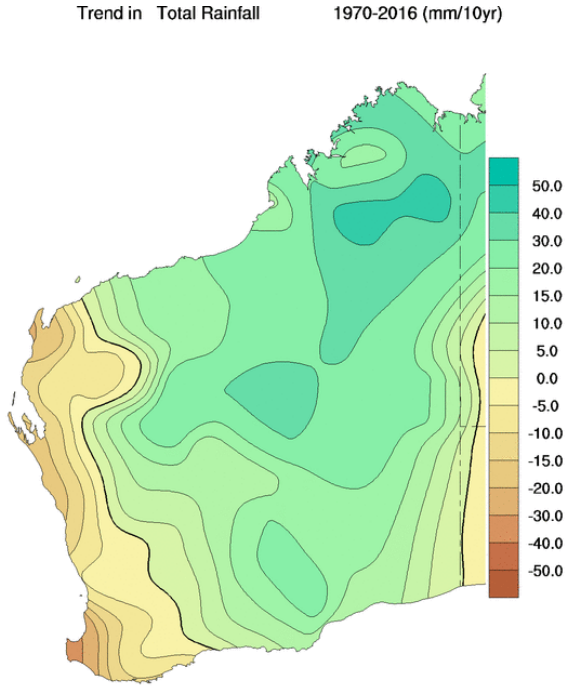


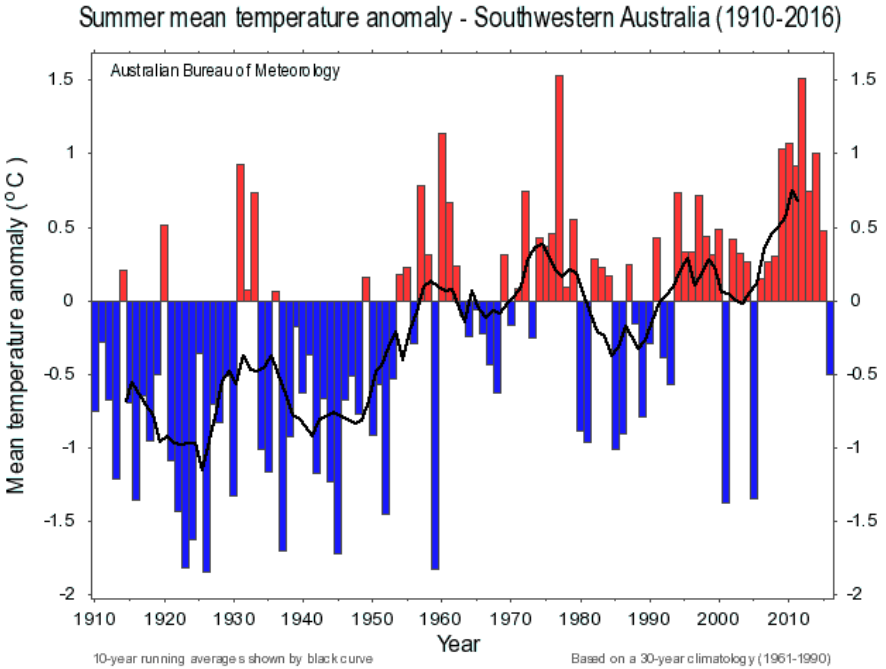


30 year trend in area burnt for south-west forests

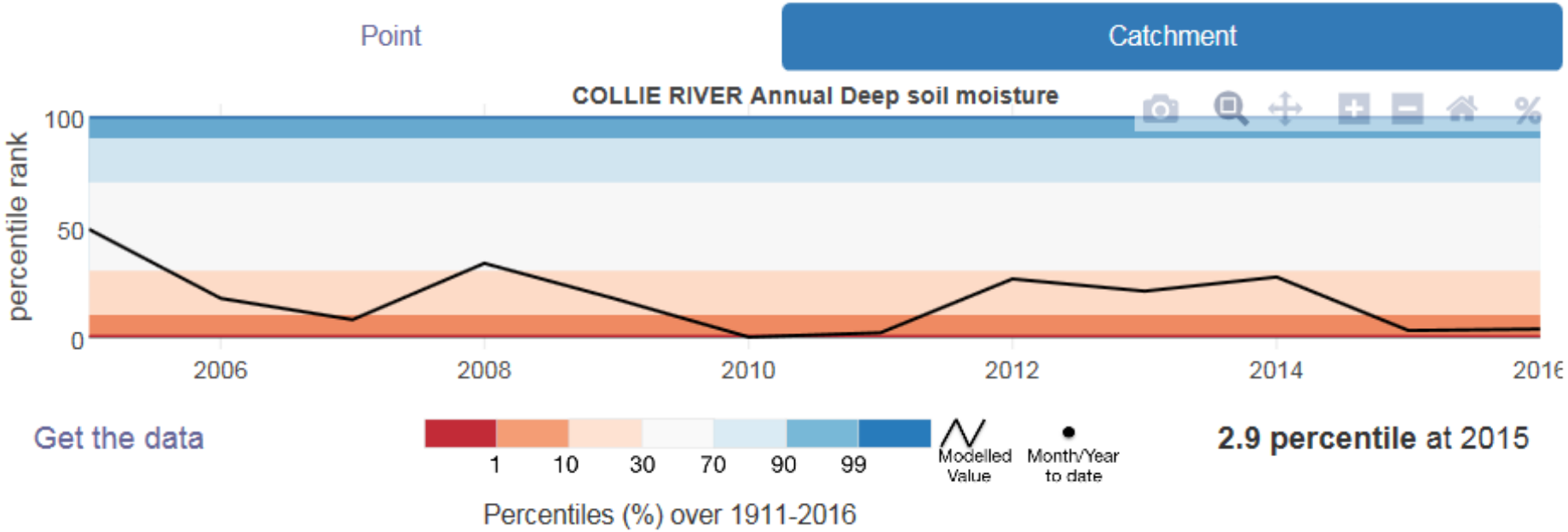


Drier and warmer





Declining soil moisture

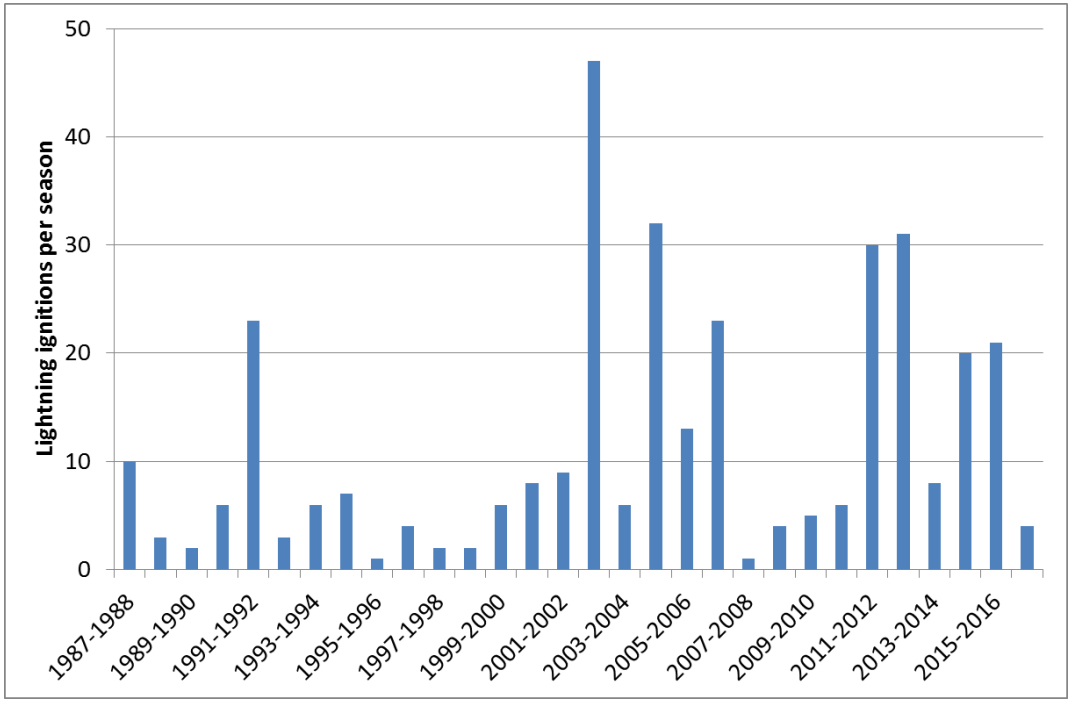


Drier landscapes

More woody fuel consumed

- Greater energy release
- Increased emissions from smouldering combustion
- $$ cost of mop-up

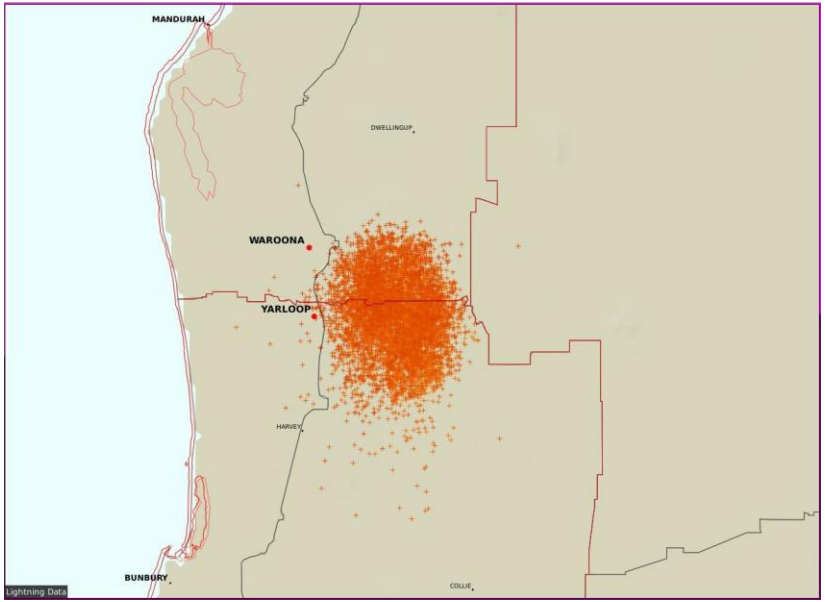
30 year trend in lightning ignition for the Warren Region South-west Western Australia



Lightning activity induced by violent pyro-convection

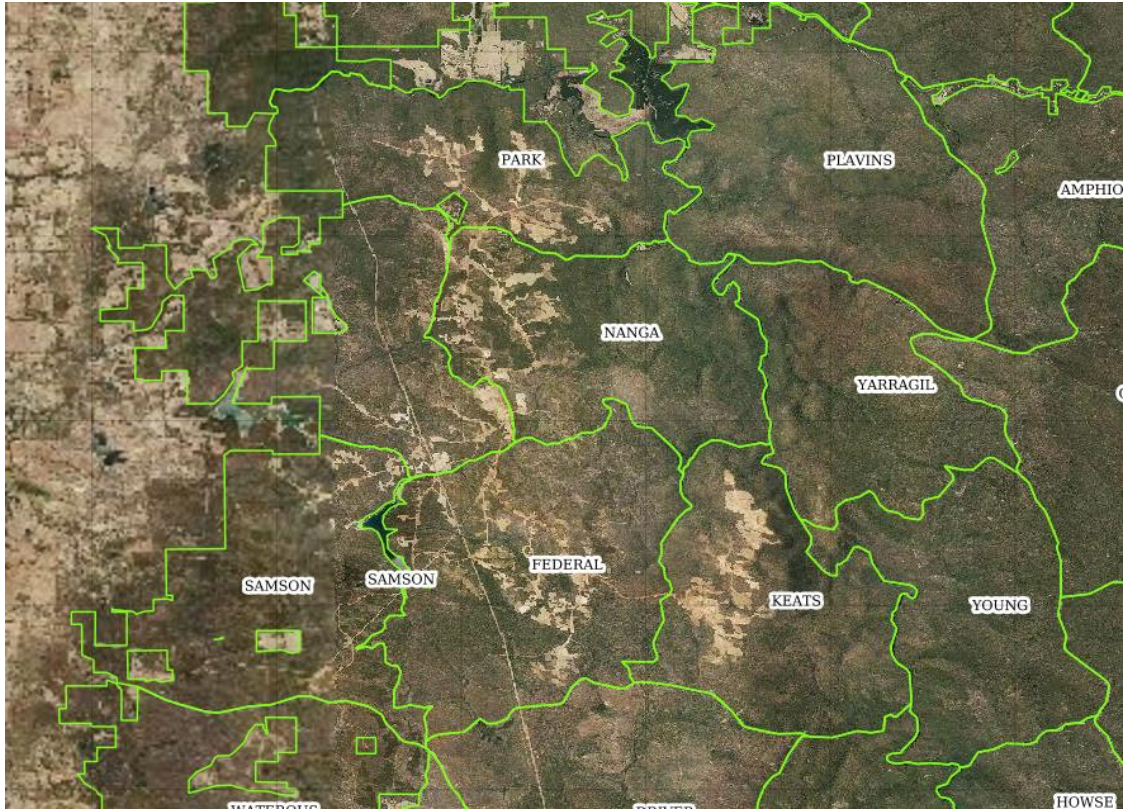
Waroona fire 6 January 2016

Dwellingup, 17.30 hrs (photo: A. Clarke, DBCA)



Lightning discharge, 16.00-20.00 hrs

Land use change



State forest east of Waroona showing extent of current bauxite mining activity.

Forest block boundaries in green.

Temporary fire exclusion following mining and timber harvesting

16 year old minesite rehabilitated with native species

First planned fire in 25 year old regrowth regenerated after logging

The next 15 years……?

Turning points in the fire environment?

What is outside our control?

How *can* land managers better prepare for fire?