

ECONOMIC ANALYSIS OF PRESCRIBED BURNING FOR WILDFIRE MANAGEMENT IN THE SOUTH-WEST OF WESTERN AUSTRALIA

Veronique Florec¹, David Pannell^{1,2}, Michael Burton¹, Joel Kelso³ and George Milne³

¹School of Agricultural and Resource Economics, University of Western Australia, WA ²Centre for Environmental Economics and Policy, University of Western Australia, WA ³School of Computer Science and Software Engineering, University of Western Australia, WA.

Resource allocation in bushfire management

There are limited human and financial resources that can be used in different fire management activities .

How they are deployed has different implications for economic, environmental and social assets.



Photo: www.fs.fed.us

Research questions

What is the most efficient level of prescribed burning investment taking into account suppression expenditure and net damages from bushfires?

Which prescribed burning strategy minimises the sum of costs and net damages?

Applying economics to prescribed burning

The application of an economic model to a synthetic landscape representative of the northern jarrah forest of the south-west of Western Australia revealed that the most economically efficient level of prescribed burning corresponds to a strategy where 5% of the synthetic landscape is prescribed burned per year.

However, changes in prescribed burning costs, the probabilities of fire occurrence, urban area values, and suppression costs significantly affect the results.

Application to a real landscape

The economic model is now being applied to a real landscape in the south-west of Western Australia, where we have:

- ❖ A wildland-urban interface scenario
- ❖ Unique flora and fauna located in one of the world's 34 biodiversity hotspots
- ❖ The south-west forest regions



Why economic analysis?

Economics can help:

- ❖ Evaluate the implications of different uses of limited human and financial resources
- ❖ Identify trade-offs between different objectives (i.e. asset protection and biodiversity conservation)