

FOOTHILLS FIRE AND BIOTA PROJECT

PROVIDING BIODIVERSITY INPUTS FOR FIRE MANAGEMENT PLANNING

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The management problem

Managers of fire and public land continually grapple with demands to do more to make the community safe from wildfire and to conserve biodiversity. These demands are not necessarily in conflict, but our current state of knowledge does not allow us to articulate a convincing strategy to meet both sets of demands.

Project aim

The Foothills Fire and Biota Project will help address this issue by quantifying the ways in which elements of biodiversity respond to management strategies at different spatial and temporal scales in the complex landscape of Victorian foothills forests.



Foothills Forest System

The foothills forests are the “messmate-peppermint” (*Eucalyptus obliqua*, *E. radiata*, *E. dives*) or “mixed eucalypt” forests and associated vegetation types that dominate the lower slopes of the Great Dividing and Otway Ranges, and Gippsland. Within this over-arching category, there is a high degree of ecological diversity, reflecting variation in topography, soils, climate and fire regimes.

Fire management in the foothills

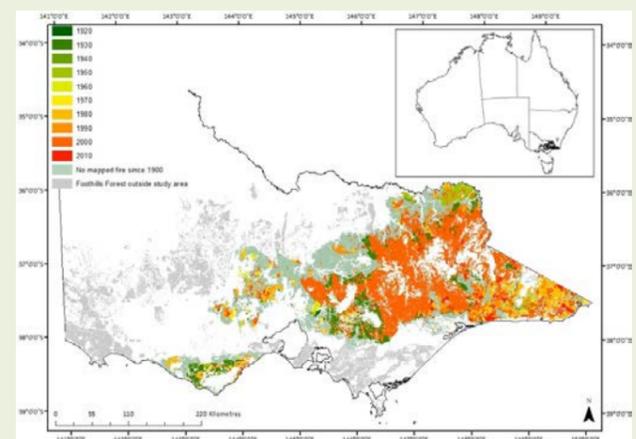
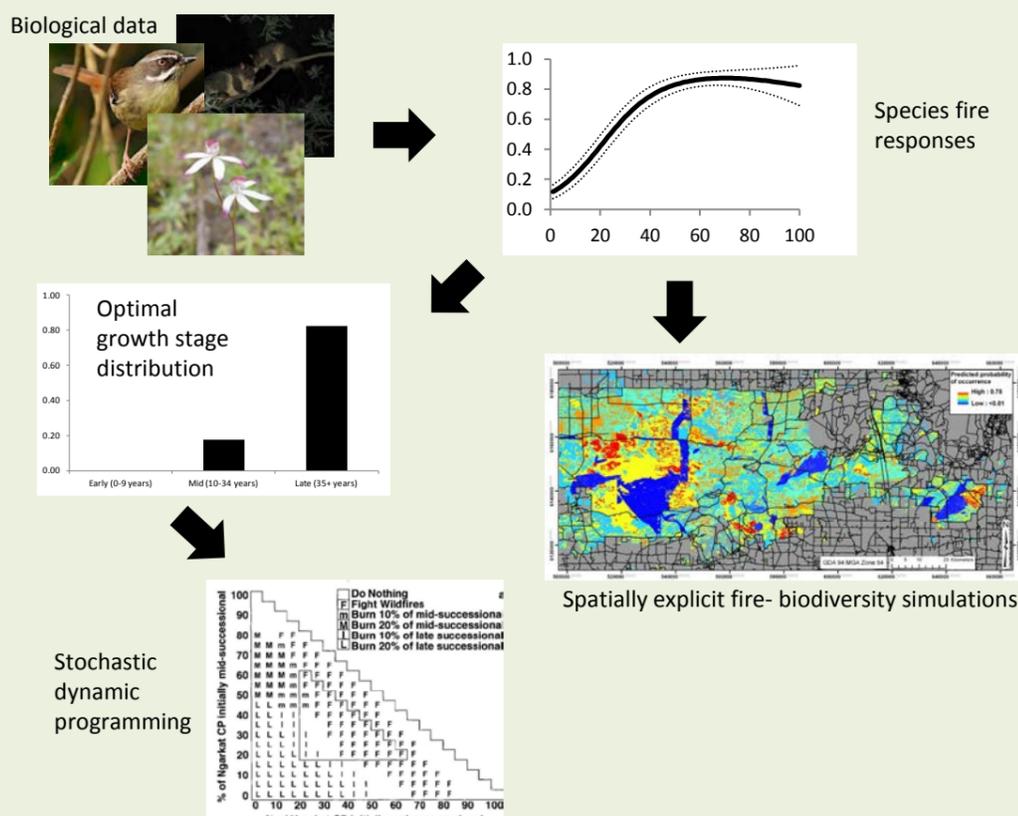
The foothills forests are a key system for fire management. Foothills forest often occurs at the interface of bushland and towns. It is also prone to periodic large, intense fires. The foothills forests also have high biodiversity values, with fire as a key driver of ecological processes. Fire management therefore has an important role in reducing risks to human life and assets as well as maintaining natural values.

Our approach

We will use extensive data sets held by our organisations to develop models of the relationships of species, habitat features and fuel to fire regimes and landscape patterns.

We will then be able to determine the vegetation growth stage structure that is optimal for particular species, sets of species, or biodiversity as a whole.

We will also use our models in spatially explicit simulations to explore the ecological outcomes of varying fire management strategies



Distribution and decade of last fire in foothills forest

Outcomes

Our project will provide information and methods to enable managers to confidently predict the biodiversity outcomes of planned burning and wildfires

“DEPI has increasingly invested in modelling/simulation approaches to fire management planning. This approach aims to quantify the implications of fire management options for human and natural values and to design fire management strategies that achieve desirable outcomes. Models allow the effects on the values to be represented in an integrated and transparent way. It is exactly such models of biodiversity response to fire that will be delivered by the Foothills Fire and Biota project, and we anticipate that they will be directly incorporated into our modelling framework.”
Andrew Blackett, Bushfire Risk Analyst, DEPI