Learning from the Past: The many uses of fire history mapping

Roy Wittkuhn¹, Tom Hamilton¹, Lachie McCaw¹, Femina Metcalfe² and Craig Carpenter²

¹ Science Division, ² Fire Management Services, Western Australian Department of Conservation and Land Management

**Bushfire CRC Project B1.1: Managing fires in forested landscapes in south-west Western Australia**

**Introduction**
- In the past, fires in southwestern Australia were recorded on paper maps by the Department of Conservation and Land Management (CALM) and the Forests Department.
- Transfer of this information to a Geographic Information System (GIS) is seen as critical to land management in the southwest, particularly for fire planning.
- This poster describes the development and application of a fire history database for the southwest of WA.

**Development of the fire history database**

Old fire maps have been photographed and stored on microfiche since 1953 (in some regions since 1937)

Microfiche maps were digitised and fire information for each year was captured into a Geographic Information System (GIS) using ArcView

When fires for all years (1953-2005) are merged together, the resulting polygons form the fire history database. This contains information on all fires that have occurred across the landscape

**Application of the fire history database to fire management**

Fuel age maps are useful in fire suppression activities, and form the basis for designing burn plans to maintain a mosaic of fuel ages across the landscape

Fuel age maps

Fire frequency maps

Fire frequency is mapped here as the number of fires that have occurred since 1953.

- Red, yellow and orange polygons show areas burnt 1, 2 and 3 times respectively, and occur in areas of mature tingle forest in which fire has been deliberately excluded as a result of management planning decisions.
- Blue and green polygons occur in zones of jarrah forest and sedgelands that are drier and burn more frequently as a result of both prescribed burning and unplanned fires.

**Conclusions and further work**
- The fire history database will become a corporate database that can be used by land managers and scientists;
- The database will be updated each year with fire boundaries supplied by District offices;
- Patchiness within fires will be examined with the use of remote sensing to look at fire mosaics at a finer scale;
- CALM’s Bushfire CRC project is using this fire history database as a first step to identifying sites with contrasting fire regimes within which the diversity and abundance of flora, fauna, invertebrates, fungi and cryptogams will be compared.

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