

# FIRE NOTE

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## TRENDS IN BUSHFIRE ARSON

A REPORT ON NATIONAL TRENDS IN DELIBERATE VEGETATION FIRES

**Australia is the most fire-prone continent and country on Earth. Humans play a significant role in modifying the timing, frequency and size of bushfires, in some cases to the detriment of the environment and to the endangerment of property and human life. While some human-caused fires are for the purposes of managing the environment, protecting human life and property, or the result of accidental actions, many fires occur through negligence, carelessness, mischievousness, or outright maliciousness, with little regard for either the environment or people who might be adversely affected.**

**It is this latter group of fires – herein referred to as deliberate ignitions – that forms the central theme of this report.**

**Although a number of studies have documented the incidence of deliberate fires for isolated areas of Australia, there is a distinct lack of consistent national data.**

### THE REPORT

Bushfire CRC Project C3 has released the report *Understanding bushfire: trends in deliberate vegetation fires in Australia, A Technical and Background Paper*. The author is Colleen Bryant, a Bushfire CRC researcher at the Australian Institute of Criminology.

This report represents the first concerted effort to establish plausible rates of illegal firesetting in vegetation across Australia.

The term plausible is emphasised, as this is inherently an imprecise science. There are intrinsic difficulties in determining the causes of bushfires. In some cases there may be little evidence to confirm or deny whether a fire was deliberate, accidental or natural in origin. In many cases, firefighters or investigators will develop a suspicion that a fire was deliberately lit based on the location, timing or other circumstances, or in the absence of another feasible explanation. In light of the uncertain

nature of these determinations, any assessment of the rates of deliberate firesetting must be regarded as partially speculative, and therefore an estimate only.

The report is based on vegetation fire data supplied by a large number of fire agencies across Australia.

Although this report is intended to provide an overview of incidence, cause, timing and location of bushfires in Australia, in many cases the data agencies provided includes all fires that burnt vegetation, irrespective of size. That analysis includes bushfires but also any other vegetation fire attended by fire agencies. These may be fires in suburban parkland, along roadsides, hedgefires, or fires on a sporting ground. There is no clear means, within many databases, for distinguishing when a vegetation fire constituted a bushfire. Hence, this report examines the propensity for deliberate firesetting in vegetation in general as opposed to bushfires specifically.

### KEY THEMES

The report address underlying questions about the nature of bushfires in general, and bushfire arson in particular in Australia. These questions include:

What are the most common causes of bushfires in Australia?

How do the frequency and causes of fires vary spatially, at both regional and local scales, by the type of land use, and in relation to population distributions within that jurisdiction?

How do the frequency and causes of fires vary temporally – by season, week of year, day of week, time of day, and in relation to adverse climatic conditions?

What is the size of the area burnt by fires?

What is the relationship between bushfire arson and periods of adverse bushfire weather?





The nature of this report is technical, providing a basis for guiding policies adopted by fire agencies, other researchers and interested individuals. The technical nature of the report reflects the fact that in many instances the nature of the information provided by fire services is itself complex.

Also there are inherent difficulties associated with attempting to source, collate and analyse multiple databases from different time periods, database structures, variable lists, etc. In order to maintain the highest level of data integrity, the data from individual agencies have been analysed separately. Although strict comparisons across agencies are typically not possible, the adoption of a common set of themes in analysis allows similarities and differences in the overall incident, timing, distribution, etc. of fires to be highlighted. However, it is not possible to entirely replicate this across agencies, as subtle differences exist in the structure of databases and the structure of fire agencies within each jurisdiction.

This report forms the basis for a number of smaller publications that will summarise the key findings of the document.

Find the full report and a Trends and Issues paper at:  
[www.aic.gov.au](http://www.aic.gov.au)  
[www.bushfirecrc.com](http://www.bushfirecrc.com)

## AGENCY ADOPTION

### How will fire agencies use this report?

Agencies will use the findings from the report to further inform existing approaches and programs.

In particular the findings will contribute to:

- the enhancement of fire investigation planning and implementation
- better targeting of resources for ignition reduction education
- actions aimed at minimising the number of unwanted ignitions.

### How will the research be adopted?

The findings reinforce the existing knowledge and enhance current programs by:

- focussing prevention activities within the interface zone as this is a high risk area.
- encouraging improved community engagement to obtain agreed prevention objectives.
- recommending dedicated resources for ongoing broad-scale arson reduction strategies.
- recognising the need for good data from all agencies to improve analysis and to better target prevention and surveillance strategies.

The Bushfire CRC will now work with partner agencies on processes to have this research discussed and adopted where relevant.

## KEY CONCEPTS

This report attempts to document the number, size and distribution of potentially illegal fires lit in vegetation in Australia.

**Arson** is the term most commonly used within our everyday vocabulary to describe fires that have been illegally lit. There are a number of underlying tenets to the common usage of this word, including:

**the setting or starting of fire** – fire is the fundamental element of arson and without the setting of fire, arson does not exist.

**intention or wilfulness** – all definitions of arson exclude fires started by natural causes or accidents.

**malice** – most definitions of arson incorporate an element of malice, thereby excluding fires that are started intentionally but with legitimate intent.

**property** – most definitions require that there be some kind of property or object that is burnt.

## ABOUT THE DATA

Data for vegetation fire incidents were sourced from 18 fire agencies, with information from each state and territory.

The majority of urban and rural services use the Australasian Fire Authorities Council's (AFAC) Australian Incident Reporting System (AIRS) to classify information about individual incidents including the location, timing, origin, form of heat of ignition and ignition factors of individual fire incidents.

## BUSHFIRE CRC ONLINE

*Understanding bushfire: trends in deliberate vegetation fires in Australia, A Technical and Background Paper*

Colleen Bryant, Australian Institute of Criminology.

An Executive Summary is also available at [www.bushfirecrc.com](http://www.bushfirecrc.com)

Bushfire arson is Bushfire CRC project C3, and includes researchers Tony Makkai and Colleen Bryant of the Australian Institute of Criminology, and Derek Jory, of the Department of Justice and Community Safety, Australian Capital Territory.

Fire Note is published by the **Bushfire Cooperative Research Centre (Bushfire CRC) and the Australasian Fire Authorities Council (AFAC).**

Bushfire Cooperative Research Centre  
 Level 5/340 Albert Street  
 East Melbourne VIC 3002  
 Telephone: 03 9412 9600  
[www.bushfirecrc.com](http://www.bushfirecrc.com)

Bushfire CRC is a national research centre in the Cooperative Research Centre (CRC) program, formed in partnership with fire and land management agencies in 2003 to undertake end-user focused research.

Australasian Fire Authorities Council  
 Level 5/340 Albert Street  
 East Melbourne VIC 3002  
 Telephone: 03 9418 2388  
[www.afac.com.au](http://www.afac.com.au)

AFAC is the peak representative body for fire, emergency services and land management agencies in the Australasia region. It was established in 1993 and has 26 full and 10 affiliate members.