

## Offending and reoffending patterns of arsonists and bushfire arsonists in New South Wales

Damon A Muller

*Arsonists and bushfire arsonists cause a considerable amount of damage to property, flora and fauna, endanger lives, and tie up the resources of the fire services. However, little research has been done on these offenders in Australia. This paper reports on data obtained on 1,232 arson defendants (133 of whom were known to be appearing for a bushfire arson offence), who appeared before NSW courts between 2001 and 2006. The defendants were mostly male and non-Indigenous, and almost one-quarter were under 18, although there were few differences between juveniles and adults. Two-thirds of the defendants were found guilty, 42 percent of whom received a custodial sentence, with an average sentence of 11 months. Very few were found to have a previous record for firesetting, although over half of arsonists and over one-third of bushfire arsonists had a previous conviction for some other offence in the previous seven years. This diversity in known offending highlights the need for treatment programs that focus not just on fire setting but wider behavioural issues.*

**Toni Makkai**  
Director

### Arson in Australia

Arson is the setting of deliberate or malicious fires, and may target buildings (structural arson) or vegetation (including bushfire arson). It is a serious crime that has traditionally received little attention from researchers in Australia. The lighting of bushfires specifically is seen as a serious enough problem in Australia to warrant its own charges, carrying heavy penalties, in many Australian jurisdictions. While bushfire arson charges in Australia are relatively recent additions to the criminal law, there have been no published studies examining their use or the outcomes of such charges.

A study by Mayhew (2003) estimated that arson costs Australia \$1.35b a year, but noted that it is difficult to detect and that criminal intent in a fire is difficult to prove. It is likely that many deliberately lit fires are not recognised as arson, and that for many of those that are, an offender is never identified or held responsible.

Police crime statistics from NSW suggest that the rate of recorded arson incidents is increasing, from 81.5 per 100,000 population in 2003 to 92.5 per 100,000 in 2004 and 95.7 per 100,000 in 2005 (Moffatt, Goh & Poynton 2006). It is not possible to determine to what extent this increase reflects a true increase in arson, or simply improved detection rates. South Australia, in contrast, has seen a slight decrease in the number of arson incidents since 2002 (OCSAR 2006).

  
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GPO Box 2944  
Canberra ACT 2601  
Australia  
Tel: 02 6260 9272  
Fax: 02 6260 9293

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Statistics from Victoria Police (2006) reported that 2,926 arson offences were recorded in Victoria in 2005–06, of which 470 (16%) were 'cleared' within the year they were reported (charges were proceeded with, no offence was determined to have occurred, or charges were withdrawn).

In contrast, Turner (2007) reported that only 49 individuals were sentenced in a Victorian higher court in 2005–06 for charges of arson (99.3% of those charged with arson appear in the higher courts, the remainder in the Magistrates Court). These figures illustrate the large discrepancy between the number of arsons recorded and the number of people found guilty.

### Arson and reoffending

Although there has been no published research in Australia focusing on the offending history of arsonists, a number of international studies have looked at arson and recidivism.

Soothill, Ackerley and Francis (2004) argued that most contemporary studies of arsonists use clinical or prison samples and are not representative of those arsonists who appear before the courts, as many of those will not be sent to prison. Consequently, the published literature tends to be more pessimistic about the chance of reoffending than may be warranted. They also noted that a large number of arsons charged by the police in England and Wales do not result in a conviction in court and that convicted arsonists are not necessarily representative of all arsonists.

A comprehensive review of the published international literature on recidivism of firesetters based on criminal records and hospital files found that recidivism measured by subsequent arsons varied from four to 60 percent (Brett 2004). The review concluded that there was insufficient evidence to label firesetters

as dangerous recidivists, and numerous methodological problems with the studies were identified.

Soothill, Ackerley and Francis (2004) tracked the reoffending of three separate cohorts of arsonists in the UK, who were convicted in 1951 (n=74), 1963–65 (n=1,352) and 1980–81 (n=5,584), for a minimum of 20 years to determine whether arson recidivism was increasing. They reported that those reconvicted of arson increased from 4.5 percent in the 1951 series, to 7.8 percent in the 1963–65 series and 10.7 percent in the 1980–81 series. When all crimes were considered, 68 percent of the latest series had a subsequent conviction, with one-third (32.5%) convicted of a violent offence. The study concluded that the increased levels of arson recidivism were unlikely to reflect better detection or prosecution. Rather, the increases were due to a true increase in arson recidivism, although no explanations were offered for the increase.

Another study using a criminal justice sample examined 34 court reports from arson cases in England and Wales between 1999 and 2003 (Jayaraman & Frazer 2006). It found two-thirds of arsonists (67.6%) had a previous history of firesetting (although not necessarily a conviction), and 65 percent had a prior conviction for any crime. Firesetting behaviour among the sample had begun as early as seven years of age, and the oldest offender was charged at 65. The authors did not clarify under what circumstances a court report might be constructed, so it is not known to what extent this is a representative sample of arsonists who appeared before the courts.

A study in West Germany examined criminal records of a random sample of 470 individuals who were convicted of arson between 1983 and 1985 (Barnett, Richter & Renneberg 1999). The cases were divided according to whether the

individual had only been convicted of arson ('pure') or had also been convicted of other crimes ('mixed'). Also considered was the legal culpability of the individual, and whether they were found by the court to be not responsible due to psychiatric reasons (n=186), to be partially culpable (n=97), or fully culpable (n=187). Within 10 years, four percent (n=7) of those fully responsible, 10 percent (n=10) of those with diminished responsibility and nine percent (n=16) of those not responsible were reconvicted of arson. Pure arsonists with diminished responsibility lit the greatest number of fires, and it was suggested that they likely suffered from personality disorders.

A study by O'Sullivan and Kelleher (1987) examined a non-random convenience sample (n=54) of firesetters from prisons and psychiatric hospitals in Ireland. It found that 35 percent of the sample were recidivists, and 11 percent engaged in repeated episodes of firesetting. The recurrent firesetters were all lower socioeconomic status males, all of whom had a psychiatric diagnosis.

The above findings suggest a wide range of recidivism levels for arsonists, depending on the methodology and sample used. A noticeable absence in the above studies is the deliberate lighting of bushfires – a form of arson of much interest in Australia. The degree to which juveniles are charged or prosecuted for arson is also not known.

### Investigating arson and bushfire arson

Published Australian data provide some useful information on arson arrests and sentencing outcomes, however many questions remain unanswered and there are no published Australian studies relating to arson reoffending. The aim of this study is to examine arson offending of individuals who appeared in a NSW

court charged with arson or bushfire arson over a five-year period. Also examined is prior offending, defined here as a prior conviction, in the seven years before the arson offence.

For the purpose of this study, arson is defined as a charge under the NSW *Crimes Act 1990* sections:

- 195(1)(b) (maliciously destroying or damaging property)
- 196(1)(b) (maliciously destroying or damaging property with intent to injure a person) or
- 197(1)(b) (dishonestly destroying or damaging property).

Sub-section B of each of these sections specifically refers to the use of fire or explosives in the property damage. Bushfire arson is defined as a charge under sections:

- 200E of the *Crimes Act 1990* (intentionally lighting a fire and being reckless as to its spread to vegetation) or
- 100(1) of the *Rural Fires Act 1997* (setting a fire or allowing a fire to escape).

The term firesetter is used to refer collectively to both arsonists and bushfire arsonists in this study.

### Data source

Data on all individuals who appeared in a NSW court charged with an arson or a bushfire arson offence in the five years to September 2006 were obtained from the NSW Bureau of Crime Statistics and Research (BOCSAR), the index offence being the most recent arson or bushfire arson offence during that time. NSW was chosen due to the availability of data collected by BOCSAR.

Information obtained included:

- index offence
- type of court in which the offence was heard
- date of the court appearance

- index offence outcome
- index offence sentence
- age at time of the court appearance
- sex of the offender
- Indigenous status of the offender.

Aggregate counts of offences for which the defendant had previously been convicted during the seven years prior to the index offence were obtained for:

- personal offences (homicide, sexual assault, assault, robbery, other acts intended to cause injury, and dangerous or negligent acts endangering persons)

- property offences (break and enter, theft and related offences, and deception and related offences)
- drug offences
- arson offences
- bushfire arson offences.

The seven-year timeframe for collecting a retrospective history of offending was a limitation of the dataset, and reflected the earliest recorded data available for those whose index offence was at the start of the data collection period (October 2001). As the age of criminal responsibility in NSW is 10, only those individuals who were aged 17 years or

**Table 1: Characteristics of individuals appearing in court for arson offences**

	Juveniles, arson (n=247)		Adults, arson (n=852)		All, bushfire arson (n=133)	
	n	%	n	%	n	%
<b>Sex</b>						
Male	225	91	747	88	125	94
Female	22	9	105	12	8	6
<b>Indigenous status</b>						
Indigenous	92	37	172	20	25	19
Non-Indigenous	135	55	647	76	89	67
Unknown	20	8	33	4	19	14
<b>Age</b>						
10–14 years	61	25	..	..	19	14
15–17 years	186	75	..	..	22	17
18–20 years	..	..	196	23	30	23
21–25 years	..	..	178	21	12	9
26–30 years	..	..	142	17	7	5
31–40 years	..	..	180	21	20	15
40+ years	..	..	156	18	23	17
<b>Court</b>						
Children's	244	99	35	4	47	35
Local	3	1	688	81	74	56
District	0	0	126	15	12	9
Supreme	0	0	3	0	0	0
<b>Outcome</b>						
Guilty	168	68	577	68	87	65
Not guilty	25	10	190	22	24	18
Dismissed/withdrawn	52	21	71	8	22	17
Unknown	2	1	14	2	0	0

.. = not applicable

Source: BOCSAR (unpublished data)

older at the time of the index offence would have had seven years in which to acquire a previous conviction. As such, individuals aged less than 17 years were excluded from the analysis of prior offending.

The court data used for the analysis do not include police diversionary strategies, such as formal cautions or family group conferences, and as such may not be representative of all juveniles charged with arson.

**Results**

*Offender characteristics*

A total of 1,099 arson and 133 bushfire arson defendants (n=1,232) were identified from NSW. Twenty-two percent of arson offenders and 31 percent of bushfire arson offenders were aged under 18 at the time of the index offence. The characteristics of these individuals are presented in Table 1, the key findings of which include:

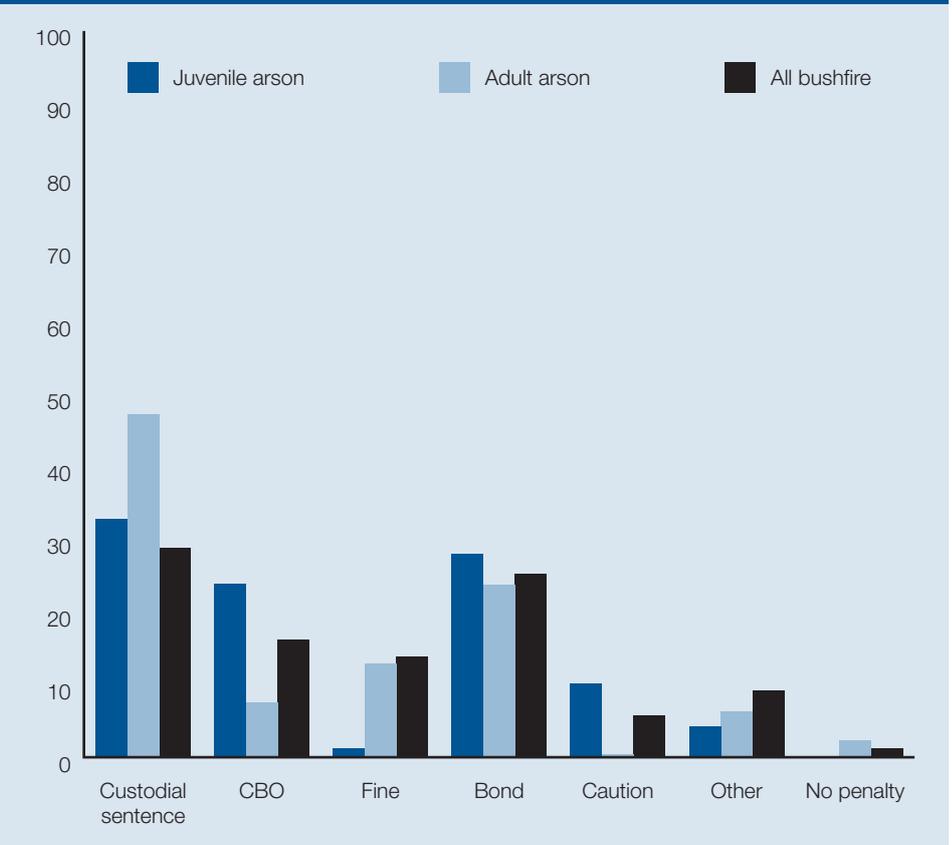
- Males comprised around 90 percent of juvenile, adult and bushfire offenders.
- Indigenous offenders, where Indigenous status was known, were more common among juvenile (37%) than adult (20%) arsonists.
- The age of all individuals ranged from 10 to 76 years, and the mean age of arsonists (26.7) was similar to bushfire arsonists (26.6).
- Three-quarters of the juvenile arsonists were aged between 15 and 17 years.
- Most adult arsonists and bushfire arsonists were tried in the local court.

Further analysis revealed that there were no significant differences in the characteristics of defendants who were found guilty, and those who were not.

*Outcomes and prior offending*

Around two-thirds of each category of offender were found to be guilty of the index offence (Table 1). However charges

**Figure 1: Outcomes of arsonists and bushfire arsonists found guilty (percent)**



Source: BOCSAR (unpublished data)

**Table 2: Prior convictions of individuals aged 17 and older in seven years prior to index arson offence**

	Individuals with prior offences		Mean number of prior offences
	n	%	
<b>Arson offenders (n=933)</b>			
Personal	374	40	2.0
Property	230	25	2.7
Drug	162	17	1.4
Arson	27	3	1.1
Bushfire arson	1	0	1.0
Any	518	56	3.6
<b>Bushfire arson offenders (n=99)</b>			
Personal	29	29	1.5
Property	19	19	2.1
Drug	7	7	1.5
Arson	2	2	1.0
Bushfire arson	2	2	1.0
Any	37	37	2.8

Source: BOCSAR (unpublished data)

were more likely to be dismissed against juvenile (21%) than adult (8%) offenders. For those found guilty, custodial sentences were the most common outcomes for adult arsonists, followed by bonds and fines. For juvenile offenders, custody was followed by community-based orders and fines (Figure 1).

Of those found guilty:

- custodial sentences were received by 352 individuals (42% of those found guilty)
- custodial sentences included imprisonment, home and periodic detention, juvenile control orders and suspended sentences
- sentences ranged from one week to 45 months, with an average of 11 months
- the custodial sentences of the 327 arson and 25 bushfire arson offenders were not significantly different, nor were the custodial sentence lengths of juveniles and adults significantly different
- fines were received by 88 firesetters, and ranged from \$50 to \$1,500, with an average of \$441
- no significant differences were found between the penalties received by the 76 arson and 12 bushfire arson offenders who received fines or between adult and juvenile arson offenders.

The analysis of prior offending only considered those aged 17 or more at the time of the index offence, leaving 933 arson and 99 bushfire arson defendants.

The results presented in Table 2 indicate that more than half of all arson offenders and more than one-third of all bushfire arson offenders had a previous recorded conviction for the offences examined. The most common prior offences among arsonists and bushfire arsonists were personal offences, followed by property and drug offences. Of those who had

any prior offence, 70 percent had at least one personal offence.

Only three percent of arson offenders had a previous conviction for arson and only two percent of bushfire arsonists had a previous conviction for arson or bushfire arson. Only seven individuals (six arsonists and one bushfire arsonist) had a prior history that consisted exclusively of arson or bushfire arson. That is, of the 555 individuals who had a prior conviction, only seven were exclusively firesetters.

A logistic regression analysis was performed to identify factors that contributed to a guilty offender receiving a custodial sentence, after controlling for the effects of other variables. A custodial sentence was significantly more likely to be handed down where the offender:

- was male (twice as likely as females)
- had a previous arson offence (three times more likely than those without a previous arson offence)
- had a previous drug offence (two times more likely than those without a previous drug offence)
- had any previous criminal history (two times more likely than those without)
- was an adult (twice as likely as a juvenile offender).

### Limitations

Analysis of prior offending using court statistics is inherently problematic. Many offences are never detected by police, and of those that are, a large proportion will never be tried before a court. In this study one in five juveniles and one in 10 adults charged with arson had the charges either dismissed or withdrawn. Just under two in 10 people charged with bushfire arson had the charges dismissed or withdrawn. Arson, particularly bushfire arson, is a difficult crime to detect and prosecute. It is therefore possible that previous offences, including firesetting,

may have been committed by individuals in the sample that were not detected or did not get to court. As such, it is likely that the prior offending levels presented in this study underestimate the true levels of prior offending.

Specific legislation regarding bushfire arson is a relatively new legal response. The provisions for starting a bushfire under the *NSW Crimes Act 1990*, s 203E, were only added in 2002. Where bushfire arson offences occurred prior to 2002 they will be classified as non-bushfire arsons. Due to the wording of the various sections of the Act, however, it is conceivable that even after the addition of s 203E, a maliciously lit vegetation fire may be charged by police under s 195(1)(b), and it is unknown how many fires might have been categorised as such.

Given the low arson detection rate, it is not known how representative the current sample is of all arsonists. It is possible, for example, that those individuals already known to police due to their prior offending are more likely to be charged with arson than firesetters who have not had previous contact with police. These limitations should be considered before attempting to generalise the results to arsonists who have not been identified or convicted.

### Conclusions and policy implications

Despite the prevalence and the amount of damage caused by arson and bushfire arson, little has been known about the offenders or their offending patterns. This report found that arson is a considerably more common charge in NSW courts than bushfire arson, however the offenders charged and the outcomes are quite similar between the two offences.

The most common charge, *Crimes Act 1990* s 195(1)(b), carries a maximum sentence of 10 years imprisonment.

Of the 311 individuals charged under this section who received a custodial sentence, the mean length was 11 months, with a maximum of 45 months. Under s 203E lighting a bushfire carries a maximum sentence of 14 years imprisonment. The 13 custodial sentences received under this charge also had a mean length of 11 months, with a maximum of 30 months. It is apparent that while courts have harsh penalties available to them, they rarely invoke custodial sentences in the upper range.

The rate of previous arson and bushfire arson offending among the sample is surprisingly small. When considering any criminal offence, particularly personal offences, the previous offending rate is considerably higher. Over half of the arsonists, and over one-third of the bushfire arsonists, had a previous conviction within the prior seven years. The results, however, suggest that many arsonists do not have extensive criminal histories.

The logistic regression suggests that prior criminal history is a good predictor of a custodial sentence outcome, as would be expected from generally accepted sentencing principles. The relatively low levels of recidivism in the current sample may account for observed sentences, particularly the sentences in the lower range of possible custodial sentences.

Juvenile arsonists were less likely to receive a custodial sentence, but the length of their custodial sentences was

not significantly different to adults. A greater proportion of juveniles received community-based orders, bonds and cautions, and juveniles were more likely to have the charges dismissed. Otherwise, there were few differences observed in the data between juvenile and adult arsonists. As this study only considers court data, juveniles who are diverted by police, either by way of a caution or a family group conference, will not appear in the data. It is likely that many less serious arsons committed by young people do not proceed to court and are not included in the analysis.

There are a number of intervention programs offered throughout Australia targeting juvenile firesetting (Muller & Stebbins 2007), however according to the NSW data the criminal behaviour of firesetters is not limited to arson. Very few defendants with a prior criminal history confined themselves to arson, and the most common prior criminality involved personal offences. Therefore it may not be useful to consider arson or bushfire arson as crimes requiring specific intervention. Further research into the differences between arsonists and other offenders, and the implications of this for treatment, may be fruitful topics for further research.

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## References

- Barnett W, Richter P & Renneberg, B 1999. Repeated arson: data from criminal records. *Forensic science international* 101: 49–54
- Brett A 2004. 'Kindling theory' in arson: how dangerous are firesetters? *Australian and New Zealand journal of psychiatry* 38: 419–425
- Jayaraman A & Frazer J 2006. Arson: a growing inferno. *Medicine, science and the law* 46: 295–300
- Mayhew P 2003. Counting the cost of crime in Australia. *Trends & issues in crime and criminal justice* no. 247. <http://www.aic.gov.au/publications/tandi/tandi247.html>
- Moffatt S, Goh D & Poynton S 2006. *NSW recorded crime statistics, 2005*. Sydney: NSW Bureau of Crime Statistics and Research. [http://www.lawlink.nsw.gov.au/lawlink/bocsar/ll\\_bocsar.nsf/vwFiles/RCS05.pdf/\\$file/RCS05.pdf](http://www.lawlink.nsw.gov.au/lawlink/bocsar/ll_bocsar.nsf/vwFiles/RCS05.pdf/$file/RCS05.pdf)
- Muller DA & Stebbins A 2007. Juvenile arson intervention programs in Australia. *Trends & issues in crime and criminal justice* no. 335. <http://www.aic.gov.au/publications/tandi2/tandi335.html>
- Office of Crime Statistics & Research (OCSAR) 2006. *Crime and justice in South Australia, 2005*. South Australian Attorney-General's Department. [http://www.ocsar.sa.gov.au/docs/crime\\_justice/OFF\\_Text2005.pdf](http://www.ocsar.sa.gov.au/docs/crime_justice/OFF_Text2005.pdf)
- O'Sullivan GH & Kelleher MJ 1987. A study of firesetters in the south-west of Ireland. *British journal of psychiatry* 151: 818–823
- Soothill K, Ackerley E & Francis B 2004. The criminal careers of arsonists. *Medicine, science and the law* 44: 27–40
- Turner N 2007. Sentencing trends for arson in the higher courts of Victoria, 2001–02 to 2005–06. *Sentencing snapshot* no. 20. Melbourne: Victorian Sentencing Advisory Council. [http://www.sentencingcouncil.vic.gov.au/CA256902000FE154/Lookup/PDF\\_Snapshots/\\$file/No.20\\_Sentencing\\_Snapshot\\_Jan\\_2007.pdf](http://www.sentencingcouncil.vic.gov.au/CA256902000FE154/Lookup/PDF_Snapshots/$file/No.20_Sentencing_Snapshot_Jan_2007.pdf)
- Victoria Police 2006. *2005/06 provisional crime statistics*. [http://www.police.vic.gov.au/content.asp?a=internetBridgingPage&Media\\_ID=614](http://www.police.vic.gov.au/content.asp?a=internetBridgingPage&Media_ID=614)