



fire knowledge NETWORK | bushfire CRC

PROGRAM C

→ Trends in Australian bushfire fatalities over the last 100 years

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→ **Fatality Database**

Original database compiled by Risk Frontiers, Macquarie University

Contains the dates, locations, circumstances of death, demographics and the names of deceased.

Data is incomplete and we are currently improving the data with coronial records

Filling in lots of detail from the witness statements about the decisions the victims made.



## 'Houses protect people and people protect houses'

- Safest option is to evacuate well in advance
- Evidence for a different approach came slowly
- AFAC's policy:

*'communities at risk from bushfires should be allowed and encouraged to take responsibility for their safety. Where people have adequately prepared themselves, their houses and properties they should remain with their homes during a bushfire'*

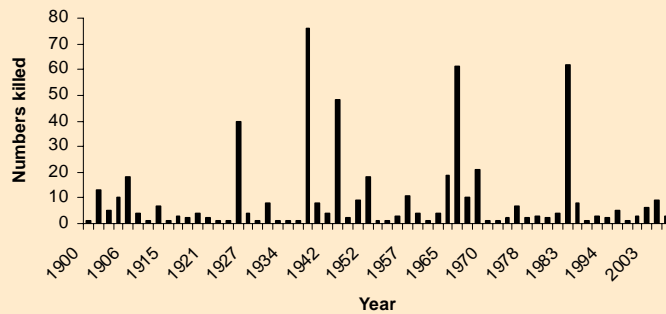


<http://www.abc.net.au/canberra/stories/s799744.htm>

- How robust is this evidence?
- What do we need to understand about human behaviour (around fires) in order to successfully implement the 'stay or go' policy?
- Difficulties retrieving the data



## Deaths 1900 - 2006



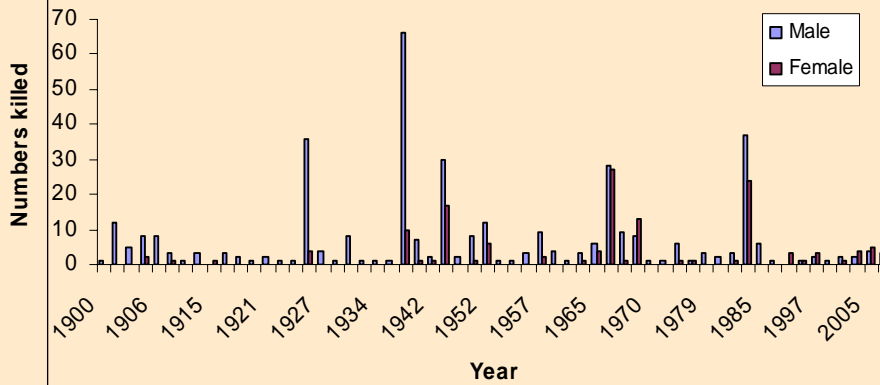
555 deaths listed also and additional 123 fire-fighters listed which we have removed

Peaks in: 1926 – 32 VIC, 8 NSW; 1939 – 66 VIC, 8 NSW; 1944 – 41 VIC, 7 NSW; 1967 – 61 Tas; 1983 – 35 VIC, 27 SA.

### → Deaths by State



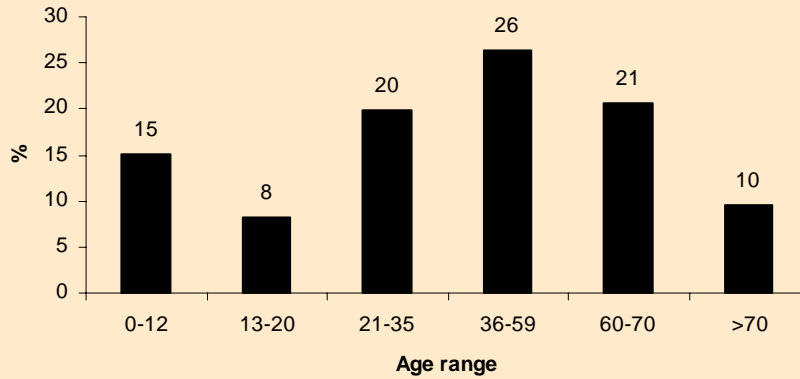
### → Gender distribution of deceased



Male 379, Female 136, the gender of 40 victims is unknown



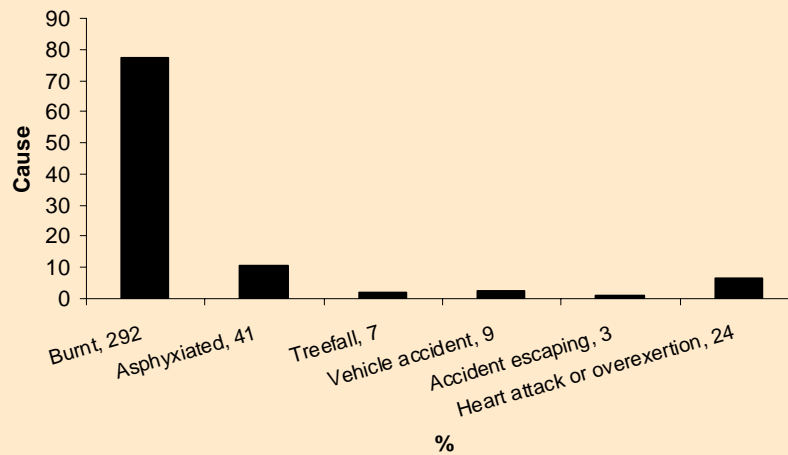
### Age distribution of deceased



Have the ages of 90 children and 296 adults. Data is missing 169



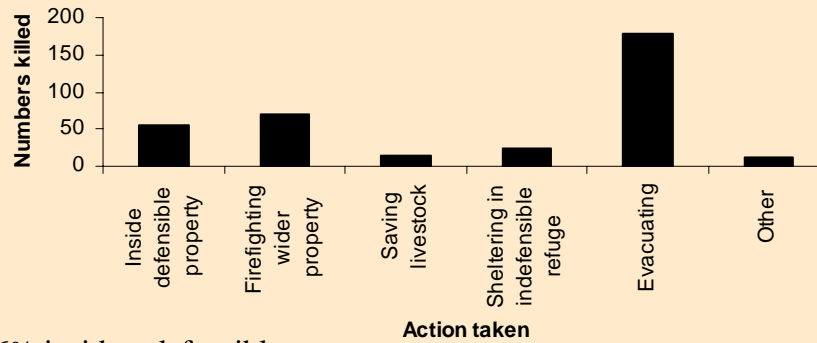
### Cause of death



Known causes of death 378 , unknown = 177



## Action Taken



16% inside a defensible property

81% outside / indefensible refuge

3% other

Know the action of 355, unknown 200



## Action of those who died inside a property

Of the 56 people who we know died inside their property :

7% (4) were actively defending their property

63% (35) were not defending and were sheltering

30% (17) were in their home but their activities are unknown

Of those who were defending:

Year	Gender	Age	Cause of death
1906	Male	?	Burnt
1906	Male	?	Burnt
1985	Male	54	Heart attack after helping firemen save his home
2003	Male	61	Smoke inhalation, saved his and neighbours homes

**10** invalids listed in the database:

**1** in indefensible refuge

**5** sheltering in homes and not defending

**4** in home and activities unknown



## Actions of those evacuating

Of the 203 people evacuating (including those in indefensible refuge):

5% (10) evacuating to shelter (on foot / in a car)

35% (70) evacuating from shelter (on foot / in a car)

70% (97) evacuating general (on foot / in a car)

12% (25) found in indefensible refuge



## Actions of those evacuating

We know the actions of 84 in vehicles\*:

53 died evacuating their home or place of work in or near their car

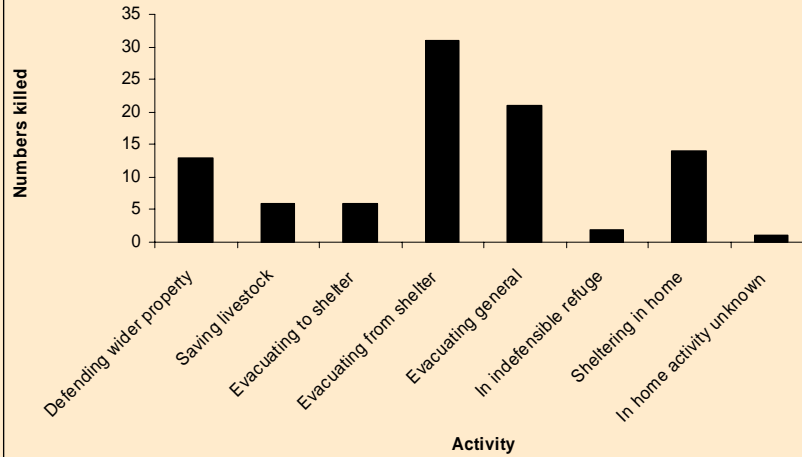
20 died in their cars travelling through the area

11 died travelling to save their home, property, crops and livestock

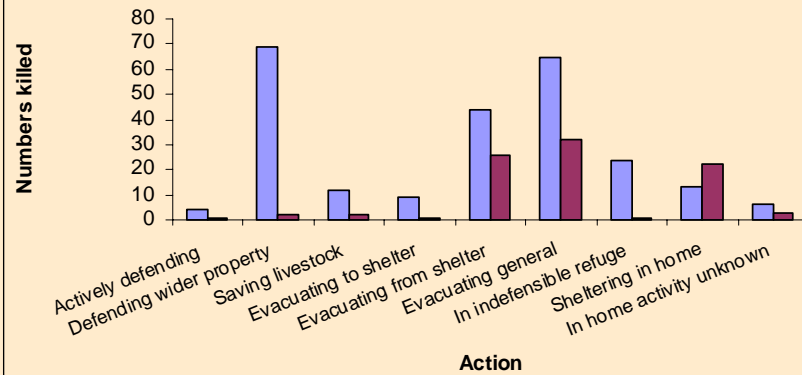
\*252 on foot

\*of 37 coded so far only 10 died inside their cars

## Victorian deaths 1951 onwards



## Relationship between gender and action taken

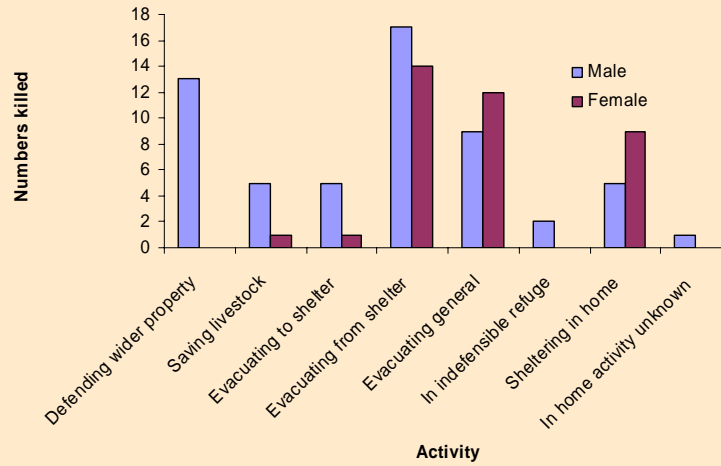


Know the gender and activity of 347 victims, missing 208



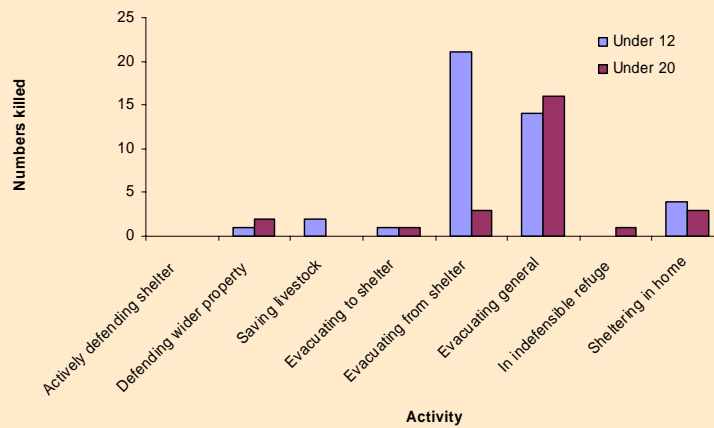


## Relationship between gender and action taken Victoria 1951 onwards



## Activates of children and young people

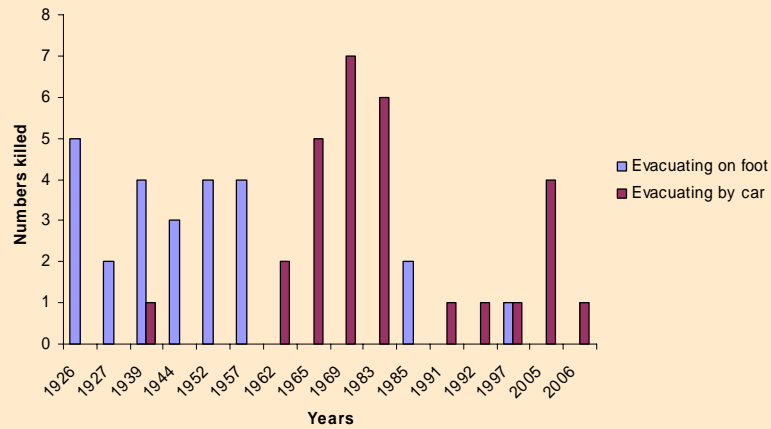
23% (90) of fatalities under 20. 15% (58) under 12.



Know the activities of 69 children and young adults



### Trend in child fatalities during evacuation



54 children and young people evacuating

Female trend is very similar plus an increase in sheltering in the home



### 2007 Greek Fires

- June – August 2007
- Estimated 3000 forest fires
- 79 people killed
- More than 200 000 hectares burnt



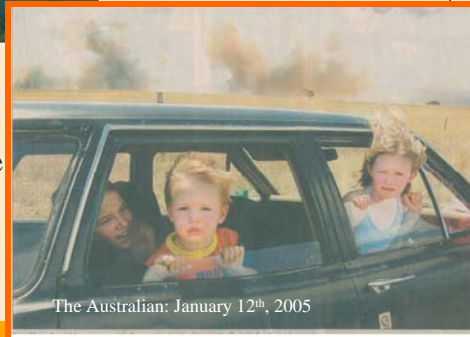
Athens, 25 August 2007  
Source: BBC News

### The Eyre Peninsula bushfire 10 & 11 January, 2005

Source: ABC

- Residents not prepared
- Early evacuation not possible
- Many women and children attempted to flee to safety

Despite reports that the fire had been contained it broke through on Tuesday morning and rapidly travelled over the Peninsular



The Australian: January 12<sup>th</sup>, 2005

### Conclusions - Implementation problems

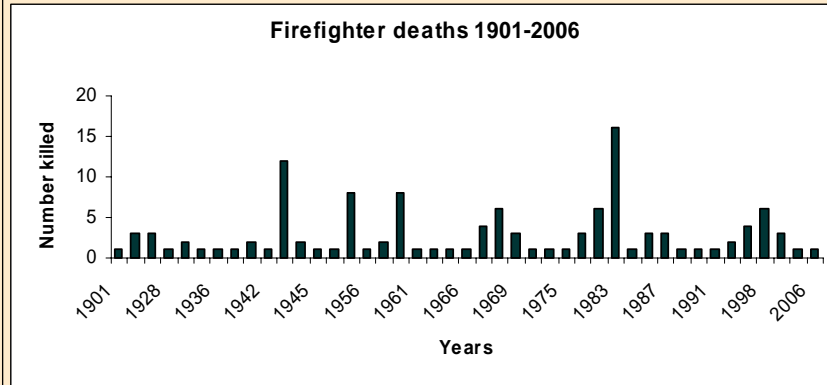


National Library of Australia

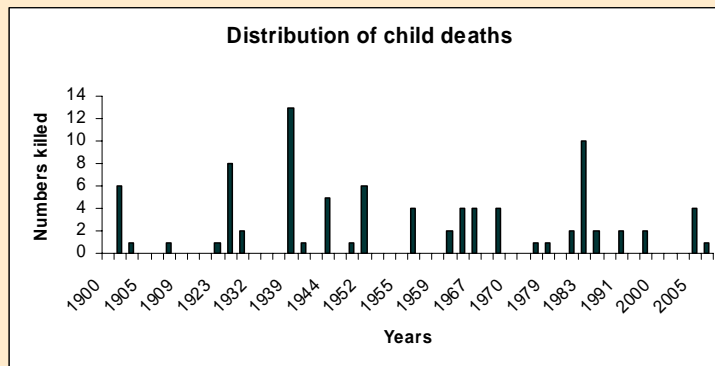
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## Fire fighter deaths 1900 - 2006



## Distribution of child deaths





## Fatality trends of adults and children

