

# Estimating the Cost of Fire in Australia: now and in 2020

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## Introduction

The Bushfire CRC is developing its case for another round of funding. A key part is a demonstration of the economic value of the research. First steps are to establish the value of fire related losses today and in the future. We would then be in a position to estimate the likely impact of our research.

This poster summarises the process used to assess the cost of fire in Australia today and in 2020 given no concerted effort – such as would occur with the new CRC – to reduce these rising costs.

The poster does not cover: the issues of the impact of CRC research effect; probability of technical success & research adoption; adoption rate & associated cost and benefits of the proposed CRC rebid program although this was addressed in the detailed modelling.

This work was undertaken by a Working Group, drawing in part on existing work prepared by Project C 5.

A summary of the project was presented at the *III International Symposium on Fire Economics, Planning and Policy: Common Problems and Approaches*, Carolina, Puerto Rico on April 29 – May 2, 2008..

## Methodological Approach

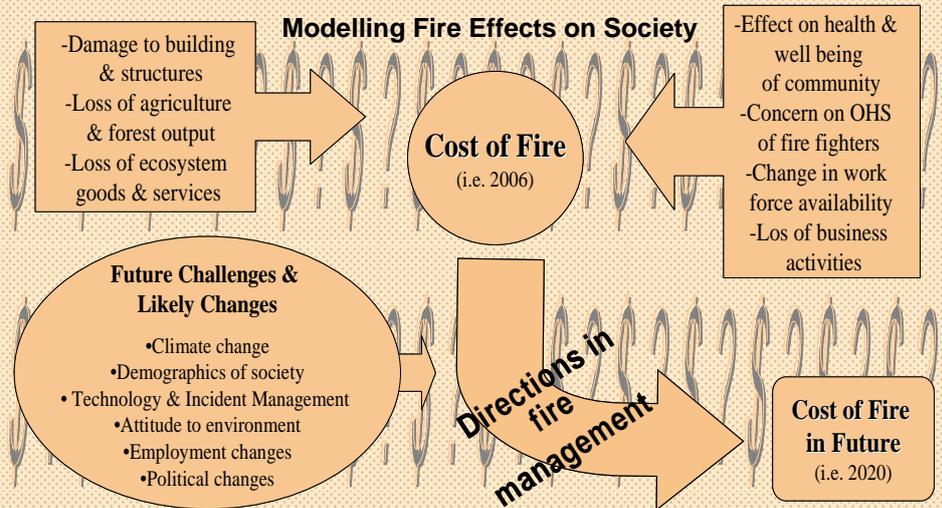
We identified broad categories of assets and activities that are most likely to be impacted by fire:

- **Building, Structures & other assets** – estimated using AIRS data on building & structural fire cost for last three years
- **Deaths and injuries** (non fire fighter) – average of fire related deaths and injuries are valued at \$ 2 million, 200,000 & 20,000 respectively
- **Community health** – approximated as 1 % of national healthcare cost on PM 10 related diseases.
- **Occupational health and safety** of fire fighters – bases on estimated national claim figure per worker and number of fire fighters in service
- **Environment (Ecosystem Services)** – value assigned per ha basis for identified services relevant to Australia based on Constanza et al (1997)#.
- **Water** – losses from fire effected catchment is approximated as 200 million litres a year
- **Carbon storage** – CO<sub>2</sub> release from fire were estimated using Australian Greenhouse Office data and valued at \$ 20/ton.

# Costanza, et al 1997. The value of the worlds ecosystem services and natural capital, Nature 387 (6630), 253 – 259).

- Cost from **reduced work force availability** due to volunteer work is estimated using volunteer number and other published information
  - We assumed **business and commerce losses** are due to loss of commercial structures, agriculture, forestry and utility services. Business losses are estimated using relevant multipliers (Business losses = multiplier X direct damage from fire in the sector)
- We identify likely changes** in society, economy & environment and challenges for fire agencies in future to develop the future fire cost scenario.

A Summary of the major findings is set out in the bar graph bellow. It shows that the total loss today is about A\$ 13491 million; and that by 2020 this will amount to A\$ 18087 in the absence of concerted research and research adoption.



Development of the 2020 scenario is kept simple & in most cases is based on projected data from credible agencies such as Australian Bureau of Statistics. In the absence of such projections, linear growth is assumed.

### Some important assumptions:

- Population in 2020: 23.7 million
- Longer fire season & 25% increase in area burnt
- Double the number of major events
- Agency improvement follows historical trend
- Double the urban interface (length and population)

