

# Enhancing forest resilience and protecting fire-sensitive forests and values through prescribed burning

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# We must do better - Changes are urgently needed

## Need a quantum shift in thinking and practice on managing climate change impacts on native forests

- The increased frequency of high intensity landscape-scale wildfires is impacting on forest resilience
- For forest fire management **we need adaptive and innovative actions** drawing from both traditional knowledge and bushfire science



# Burning won't solve wildfire problem or will it!

Quotes from academics Phil Zylstra and David Lindenmayer  
(Canberra Times May 17, 2024 & The Conversation Mar 23, 2024 )

- “Our research has shown that **native forests can become more flammable** -not less – as a result of prescribed fires”
- “Disturbances such as **prescribed burning lead to pulses of flammable regrowth**”
- “Prescribed burning too often has **short-term benefits but long term costs**”
- “Burning made WA forests on average seven times more flammable for 43 to 56 years”

**The findings from this “landmark” research are inconsistent with those from the extensive body of Australian bushfire research, and do not match the lived experience in many forests burnt by severe wildfires**

(Photo of long unburnt sub-alpine forest in Namadgi National Park following 2020 wildfire)



# Prescribed fire is the solution not the problem

Passive management is failing our forest ecosystems

Examples from ACT that were burnt in 2003 and 2020

## Mountain Gum Forest



Prescribed burnt area



Unburnt area

## Snow Gum Woodland



Prescribed burnt area



Unburnt area

# Reasons for conducting prescribed burning

There is a critical need to **debunk the academic myth** that prescribed burning is only effective and appropriate close to high value houses

There are **six key reasons for conducting prescribed burning in forests:**

1. Protection of built assets and critical infrastructure;
2. Increasing the probability of success of direct fire suppression operations;
3. Enhancing the options and practicality of conducting indirect suppression operations, when implemented in proximity to strategic fire trails;
4. **Increasing the resilience of forest ecosystems to the impacts of repeated severe wildfires;**
5. **Reducing wildfire severity in areas adjacent to fire-sensitive ecosystems** or to create flora and fauna refugia within landscape-scale wildfires;
6. **Protecting water quality**, by limiting the prospect of vegetation close to reservoirs and streams being severely burnt.



# Enhancing resilience in fire-sensitive alpine ash forests

- In ACT **all of the 7,430 ha** of fire sensitive **Alpine Ash** forest has now been **burnt in two wildfires since 2003**.
- About 2/3rds of the alpine ash was burnt in both 2003 and 2020 - **about 1/3<sup>rd</sup> burnt twice at high severity is now lost**
- **Another 1/3<sup>rd</sup> burnt at low intensity**, including areas that were part of backburns in 2003
- **Prescribed burning** adjacent to and (when appropriate ) within remnant Alpine Ash **may enhance resilience**



2010



2020



Lost Alpine Ash ecosystem

# Dry forest resilience is also being compromised by repeated intense wildfires

Do ecologists really believe these forests will survive under passive forest management regimes?



# Using prescribed fire to protect water catchments



**Cotter Catchment in 2006**  
three years after 2003  
bushfire, water quality was  
severely compromised  
resulting in construction of  
new filtration plant



**Cotter Catchment in 2020**  
Where prescribed burning had  
been conducted fire severity  
was greatly reduced, however  
environmental concerns had  
precluded burning slopes  
adjacent to the dam.



# Wildfire driven changes in forest structure

- In the ACT grassy box-gum **woodlands are changing into dense forests**
- Forest was burnt by wildfire in 2001
- Partially prescribed burned in 2013, not enough to kill eucalypt regeneration
- Since then, **passive management has enabled stockings >5000 eucalypt trees/ha and dense shrubs**
- **Forest structure and fuel dynamics have changed dramatically** in 20 years

**Active management to reduce tree density will be required** to enable prescribed burns to be implemented safely



# Learning from Aboriginal fire practices



Ellangowan State Forest (northern NSW) - post 2020 bushfire

- A Bandjalang Aboriginal community member described the forest structure after 2020 fires as “**upside down forest**” , and said that “this forest is so dense that **an emu can no longer run through it**”
- Fire management is all wrong – now after a bushfire we are **not allowed to burn for around 10 years** (NSW Bushfire Environmental Assessment Code)
- In the past, after a bushfire we used to do **cool burning of these areas in the following summer**, burning the grasses which also killed some of the regenerating wattles and eucalypts.