

## Green

## Firebreaks

A fire-aware  
revegetation approach.

Climate change, increasing bushfire risk, and biodiversity loss are some of the biggest challenges facing our landscapes today.

This project explores how revegetation on private land can play a role in supporting more resilient, biodiverse, and better-connected landscapes — while contributing to long-term fire planning.

**Discover how thoughtful  
vegetation design can support  
biodiversity, slow fire spread  
and restore degraded land.**

## What are Green Firebreaks?

Green Firebreaks are carefully designed plantings of low-flammability native vegetation, strategically placed to help reduce fire risk by increasing moisture, reducing windspeeds and slowing fire rate of spread.

Unlike traditional firebreaks, which often involve clearing vegetation entirely, Green Firebreaks are designed to balance three objectives:

1. Mitigate bushfire risk
2. Increase biodiversity
3. Sequester carbon

## About the research

This research was led by the University of Melbourne and Greening Australia with support from the NAB Foundation. A planting site in Southwest Victoria was established to demonstrate these approaches on the ground, with analysis undertaken by the University of Melbourne FLARE Wildfire Research group to showcase its potential use case in open Eucalypt grassy woodlands.

This study was the first of its kind in Australia and lays the foundation for further research into nature-based fire mitigation.

## Key design considerations

Based on the findings, several principles may help reduce fire spread and improve biodiversity and carbon outcomes:

- ✓ Use **scattered trees and shrubs** to reduce wind speed
- ✓ Break up **vertical and horizontal vegetation continuity**
- ✓ Choose **low-flammability native species** with thick bark or high moisture content
- ✓ **Space plantings** to avoid dense, continuous fuel
- ✓ Maintain **low biomass** and integrate native groundcover species (which are typically green over summer periods)
- ✓ Consider local conditions that influence fire behaviour — features such as **slope, wind direction** and surrounding **remnant vegetation**

These planting designs can also support native species by increasing the extent of native vegetation in agricultural landscapes, provide shade benefits for livestock and increase carbon sequestration and storage.

### Our demonstration site

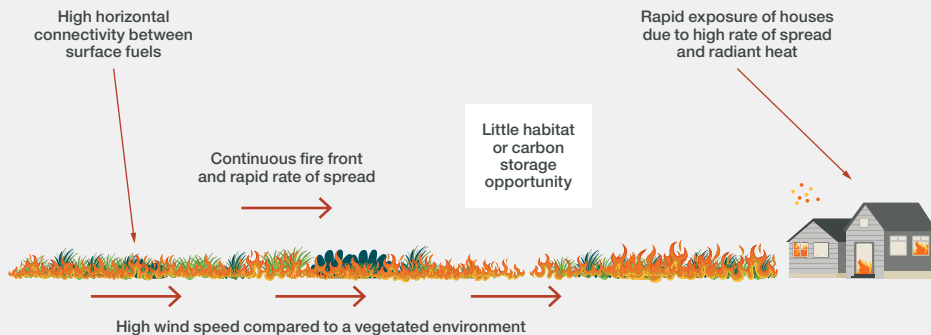
On this property, we wanted to reconnect woodland habitat, increase diversity, and mitigate bushfire risk to natural assets — in this case high value habitat trees.



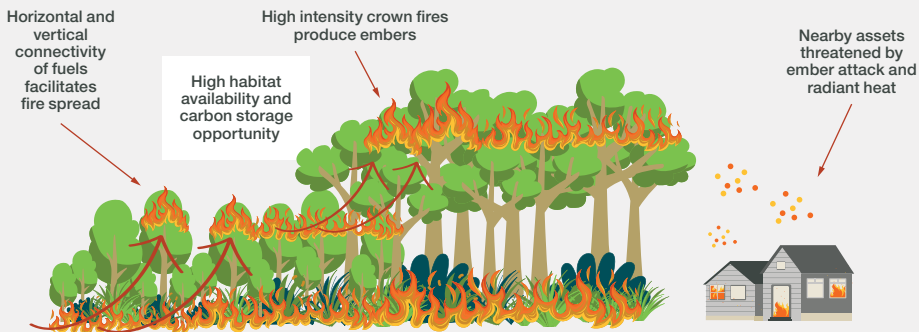
**L:** Native groundcover to retain soil moisture and increase diversity.  
**R:** Recreating open woodland structure through scattered trees and shrubs, helping to reduce wind speeds.

# How do Green Firebreaks work?

## Fire behaviour within a cleared landscape or grassland



## Fire behaviour within a continuous forest



## Fire behaviour within a Green Firebreak

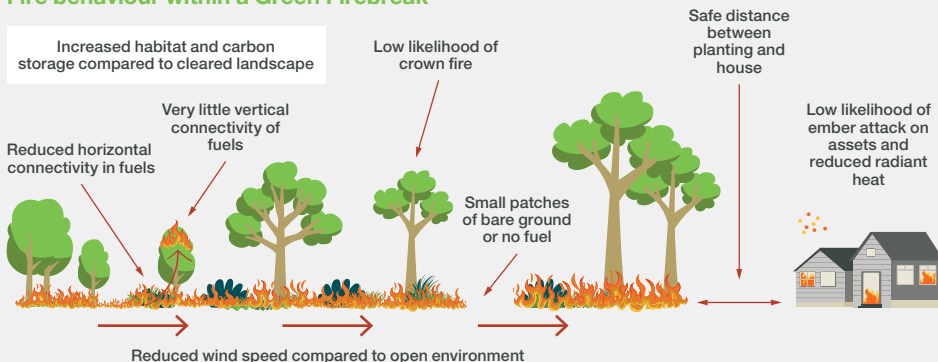


Figure 1: Diagram showing comparison of fire behaviour under different vegetation scenarios (Marshall et al. 2024).




## Is a Green Firebreak right for your property?

Every property is different. These designs work best when tailored to local slope, soil, vegetation, prevailing winds and historic fire weather.


Green Firebreaks may be suitable if you want to:

- Restore low productivity paddocks
- Support habitat and shelter for livestock or wildlife
- Increase plant species diversity

 Green Firebreaks are not a fireproof solution. Their effectiveness depends on design, site conditions, location, ecosystem type, and how they are managed as part of a broader strategy.

**To learn more about integrating fire-aware revegetation on your property from Greening Australia:**

 [landholders@greeningaustralia.org.au](mailto:landholders@greeningaustralia.org.au)

 [greeningaustralia.org.au/gfb](https://greeningaustralia.org.au/gfb)

**To learn more about the University of Melbourne research:**

 [sciedirect.com/science/article/pii/S0301479724021698](https://sciedirect.com/science/article/pii/S0301479724021698)



**Note:** This information is intended as a general guide and does not replace advice from fire authorities. Landholders should always follow local fire authority guidance and meet all bushfire preparedness and planning requirements.

For more information on low-flammability species and vegetation planning, search for your local fire authority's website.

