Shelterbelt Design for Climate Change



During and after the Bunyip Complex Fires in March 2019 Bunyip Landcare members observed that the fire behaviour differed across the district.

As part of the natural environment recovery process Cardinia Shire engaged EcoLogical Australia during 2020 to conduct research into shelterbelt designs that will help to inform landholders during farm rehabilitation and future whole farm planning. The outcome of the project is a research report and set of user-friendly guidelines for shelterbelt design in consideration of the future effects of climate change. The guidelines include how shelterbelt design elements influence fire behaviour patterns, cross sectional diagrams of shelterbelts for a range of different locations and outcomes such as increased biodiversity and asset protection, and how to select suitable plants based on botanical characteristics.

Selecting the right plants Select plants for shelterbelts **BARK TYPE** based on how flammable they BRANCHING TEXTURE **LEAVES** RETENTION are. Less flammable species may PATTERNS OF DEAD DENSITY OILS, WAXES slow the spread of fire and help AND RESINS MATERIAL protect key assets such as crops, **2M BRANCH** livestock and buildings.

Paddock Shelterbelts

Prevailing wind

Shrubs maximum height 5 m. Separation between shrubs and canopy once plants mature Shelterbelts 20–30m wide with 5 rows will provide the most effective wind reduction.

Each shelterbelt should be designed to meet the needs of your specific livestock operation.

Multiple shelterbelts may be required to protect the entire paddock. On most soils, shelterbelts can be spaced 400-700m apart.

Plant with low flammability indigenous species to reduce bushfire risk (see your local nursery or Landcare group for information on appropriate species).

If access through shelterbelt rows is required, stagger the access points (i.e. not in a straight line) to limit wind funnelling.



Shelterbelt

Download the full report and guidelines here











The Shelterbelt Design Guidelines for Climate Change 2020 is supported by the Victorian Government and Cardinia Shire Council.