



Natural  
**Hazards  
Research**  
Australia



UNIVERSITY of  
**TASMANIA**



**FIRE CENTRE**  
Bushfire Research Hub



**FIRELAB<sup>3</sup>**  
Bushfires, Bioenergy, Emissions

# Social Resilience and Adaptation to Wildland Fire at the RUI

## Residential defensible spaces

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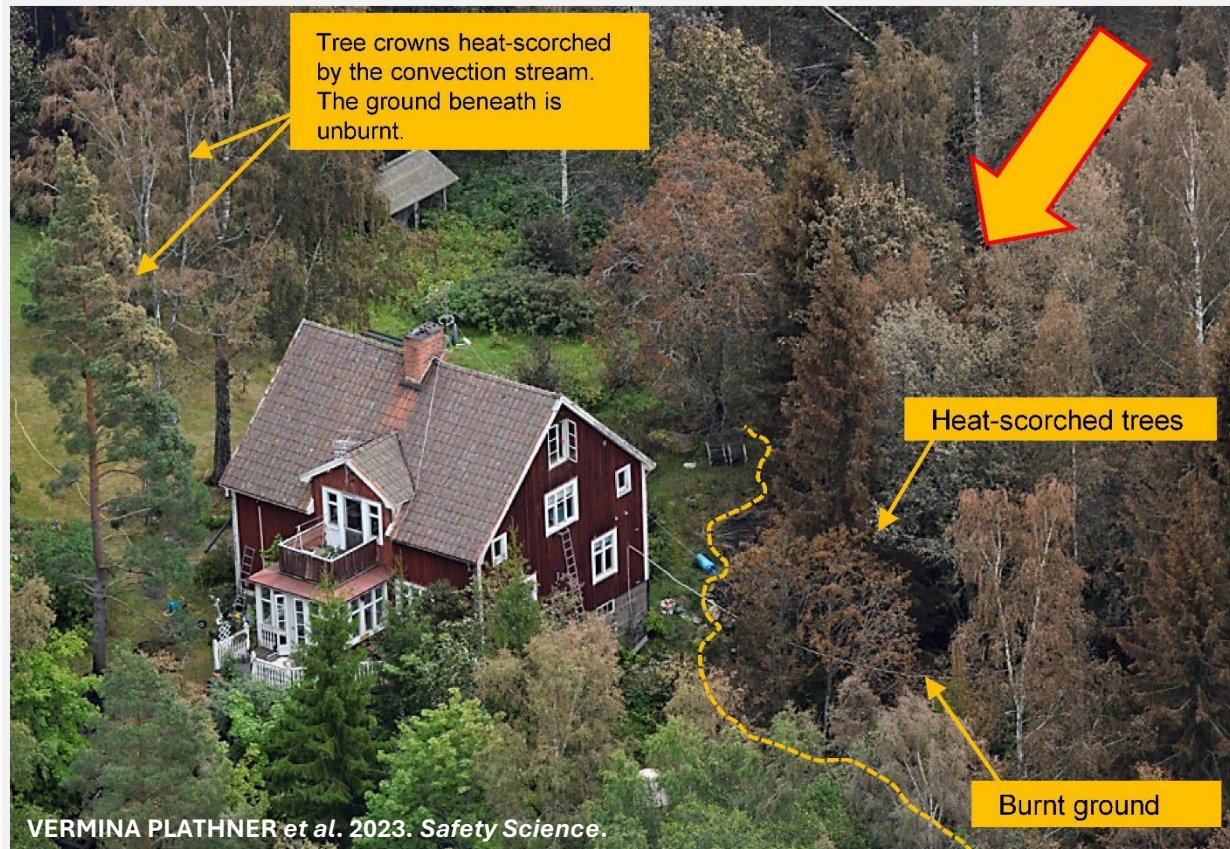
Postdoctoral Research Fellow in Fire Science and Physical Pyrogeography





# The defensible space

## Sweden



## Hawaii



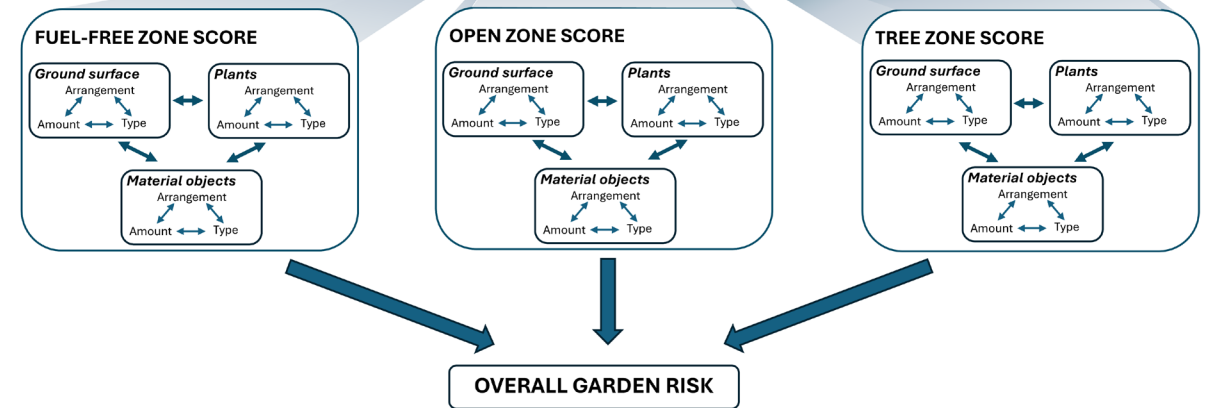
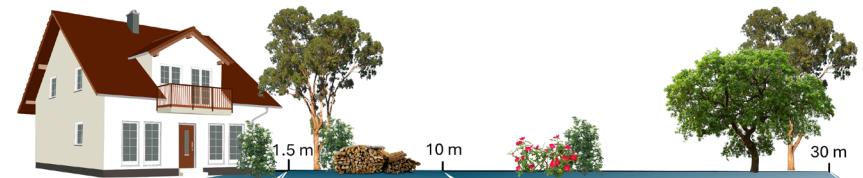
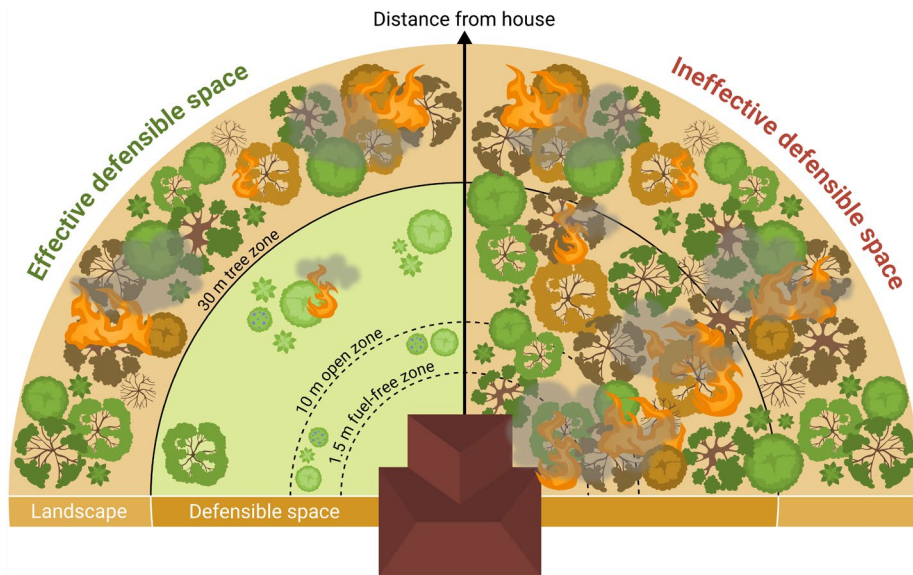


# Evaluating the defensible space

Review of guidelines and scientific publications



Develop an assessment method



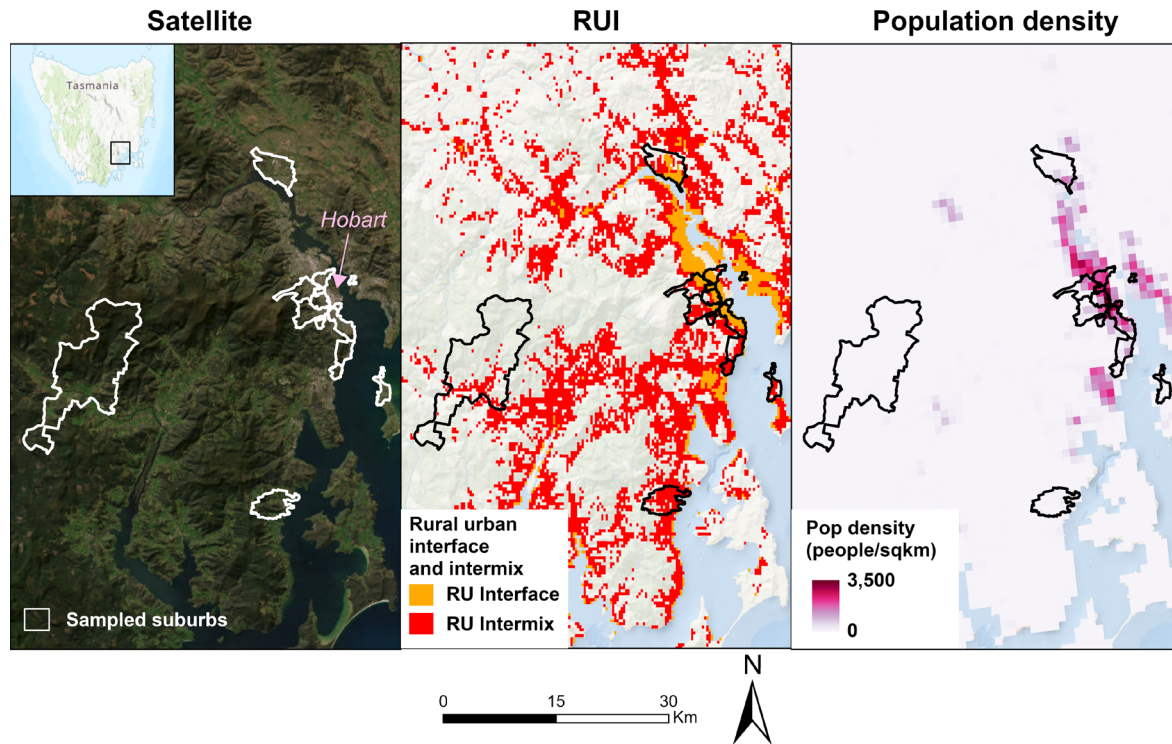
Ondei et al., in press. *Npj Natural Hazards*

Ondei et al., in preparation

# Testing the method

**Assessed 34 properties in the Greater Hobart and Huon area**

**Provided a report to residents**



- **Fire risk**
  - General landscape
  - Within the defensible space
- **Recommendations**
  - For each defensible space zone
  - Based on the risks identified
- **Appendix**
  - Terminology explanation (e.g., canopy cover)
  - Further resources



# Defensible space – emotional preparedness

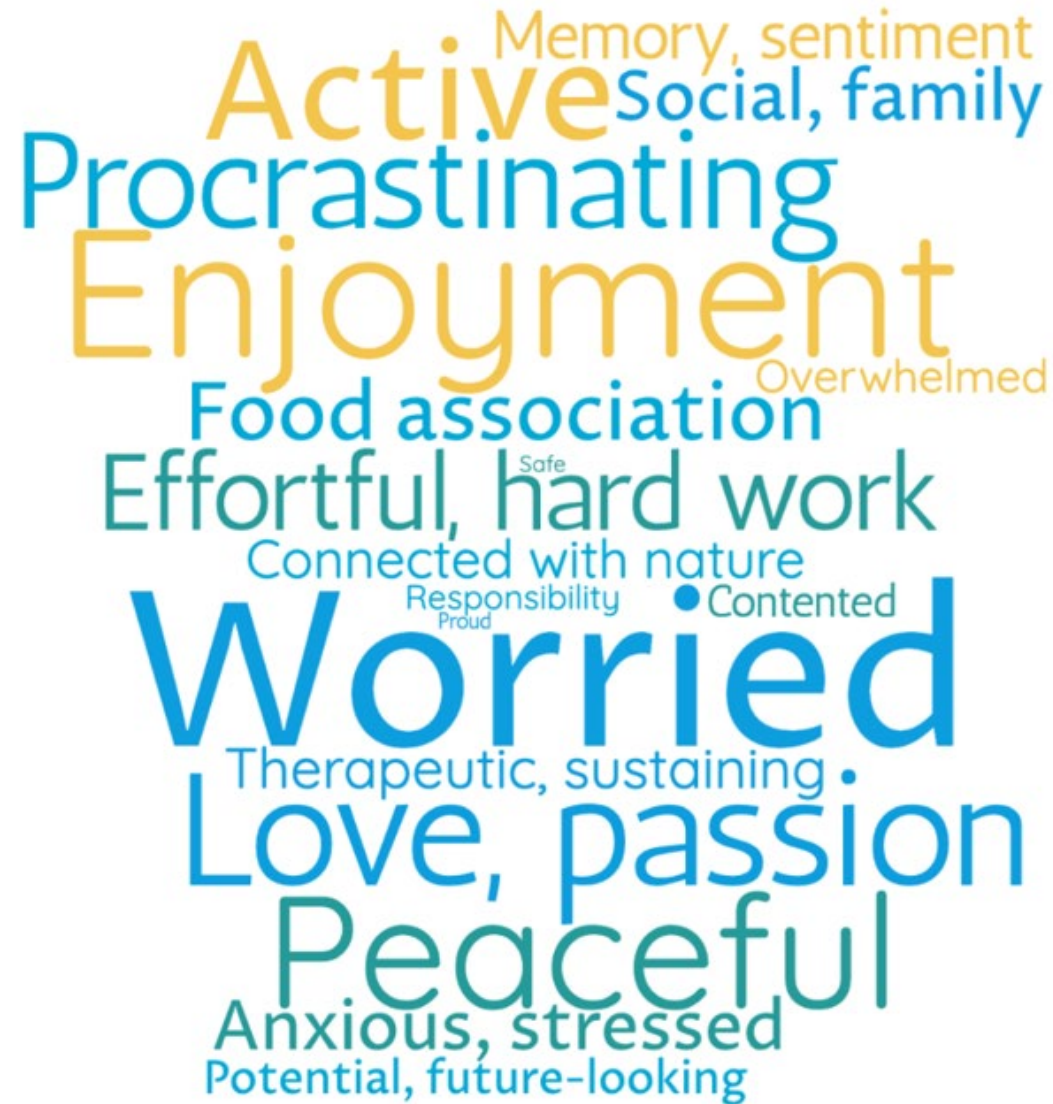


**Figure 4.1:** The successful defence of this property from the bushfire was attributed to the creation and maintenance of the APZ.

*"...physical preparedness alone is not enough to adequately prepare an individual for a fire. Central to the successful defence of properties during the October 2013 fires was a level of emotional preparedness."*

Wilkinson, Eriksen, Penman, Dun, Gill. 2014. Lessons from the State Mine Fire: a post-fire analysis of preparedness and risk in the Blue Mountains, NSW in Social construction of fuels in the interface





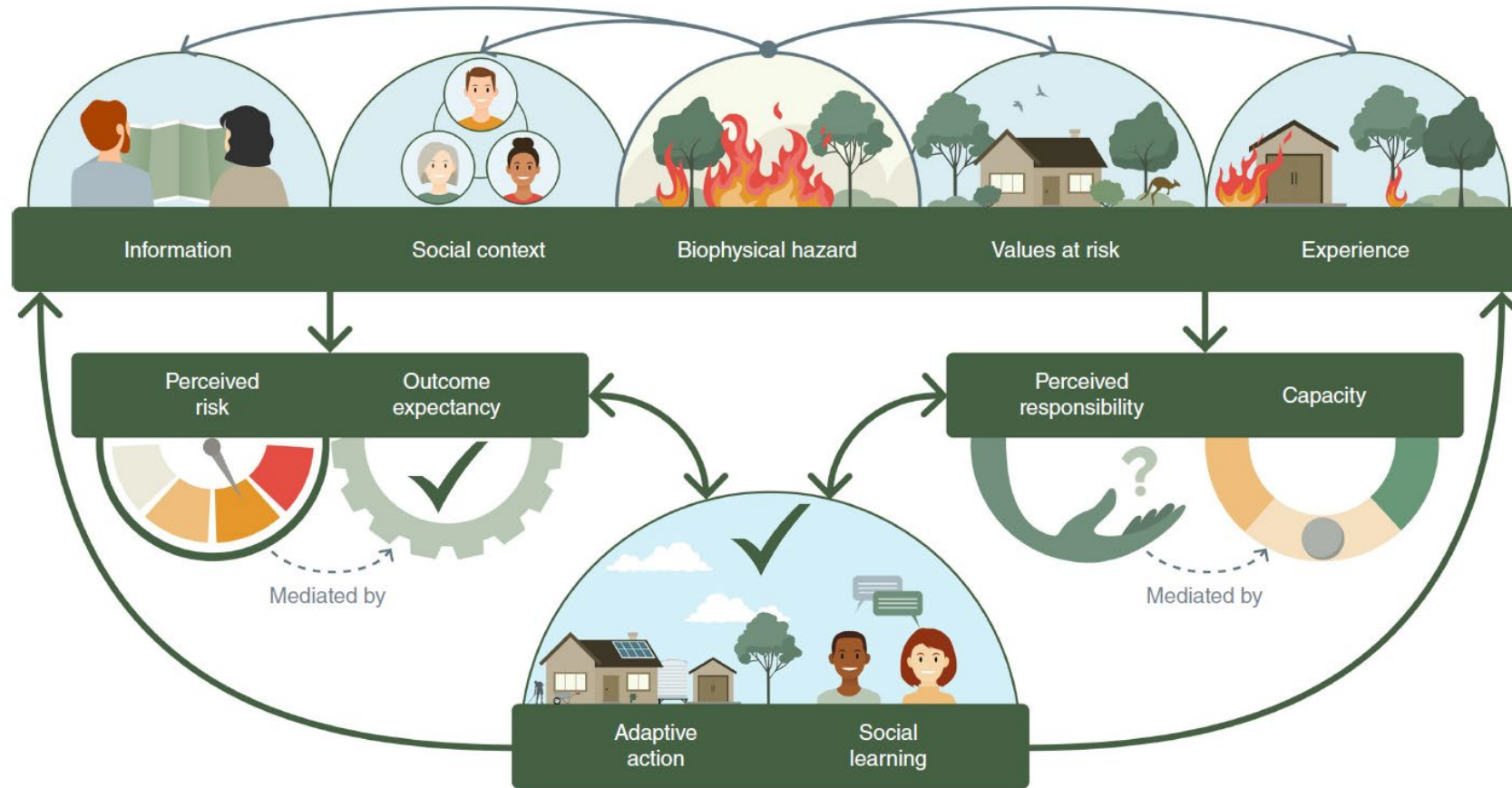
**Figure 15.** Wordcloud of the types of feelings participants associated with their gardens.

Adapted from: Bowman D., Onde S., Foyster S., Hambrecht L., Lucas C., Kaplan H., Yildiz D. and the Fire and Biodiversity team from the City of Hobart. Developing a pathway for reducing the peri-urban backyard bushfire hazard in Hobart. Final report.





# Pathway to fire-adaptive action by residents of bushfire-prone areas



Lucas, C. H., Williamson, G. J., & Bowman, D. M. (2022). Neighbourhood bushfire hazard, community risk perception and preparedness in peri-urban Hobart, Australia. *International Journal of Wildland Fire*, 31(12), 1129-1143.



# Aims and expected outcomes

## → Goals

- To enhance awareness, ownership, and sustainable community action to reduce bushfire risk.

## → Expected outcomes

- Guidance for fuel treatment communication, further studies, and journal article detailing research findings.







# Social science methodology

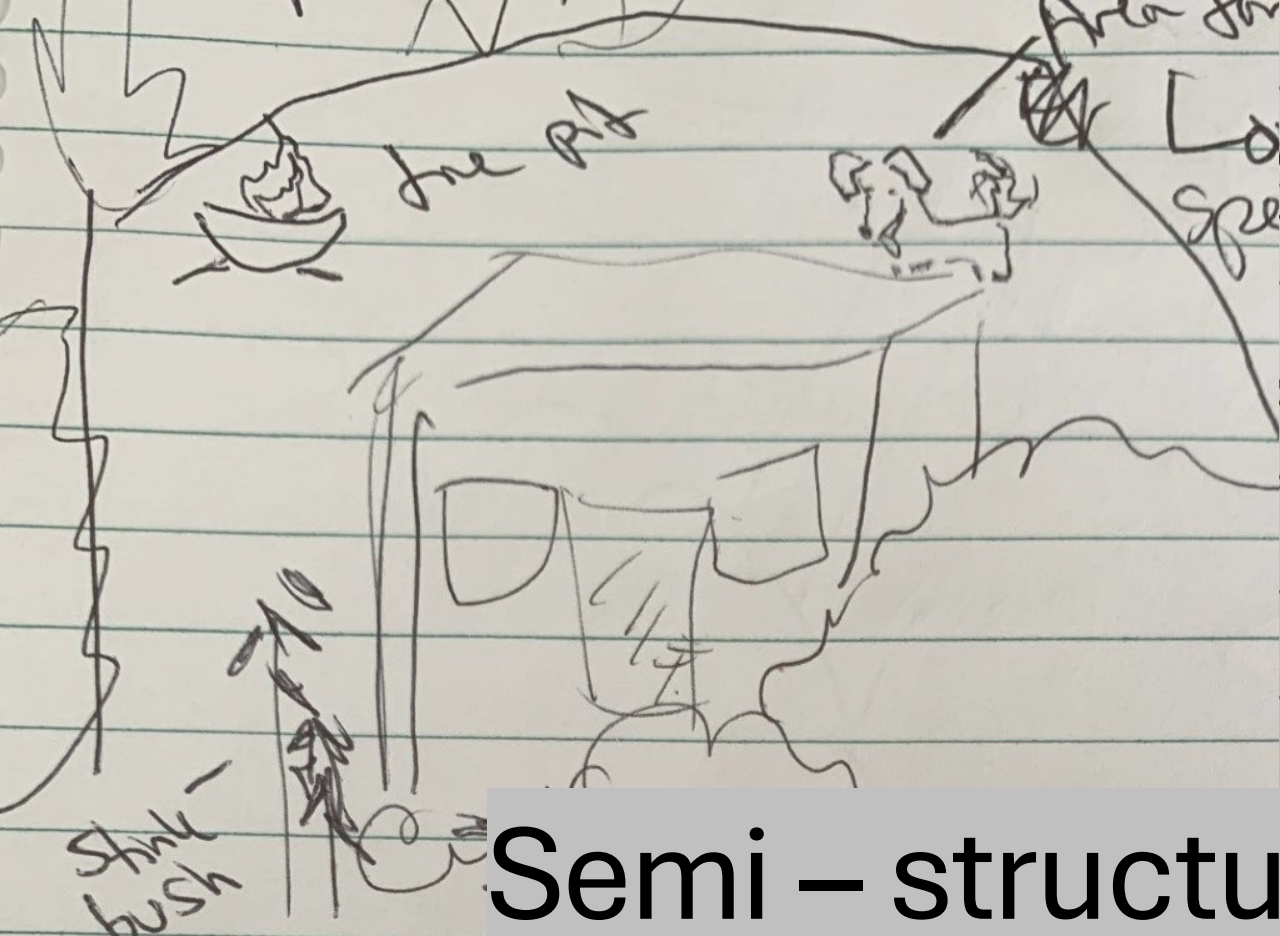
Garden interviews

Builds on biophysical assessment of gardens bushfire risk

Mixed-methods

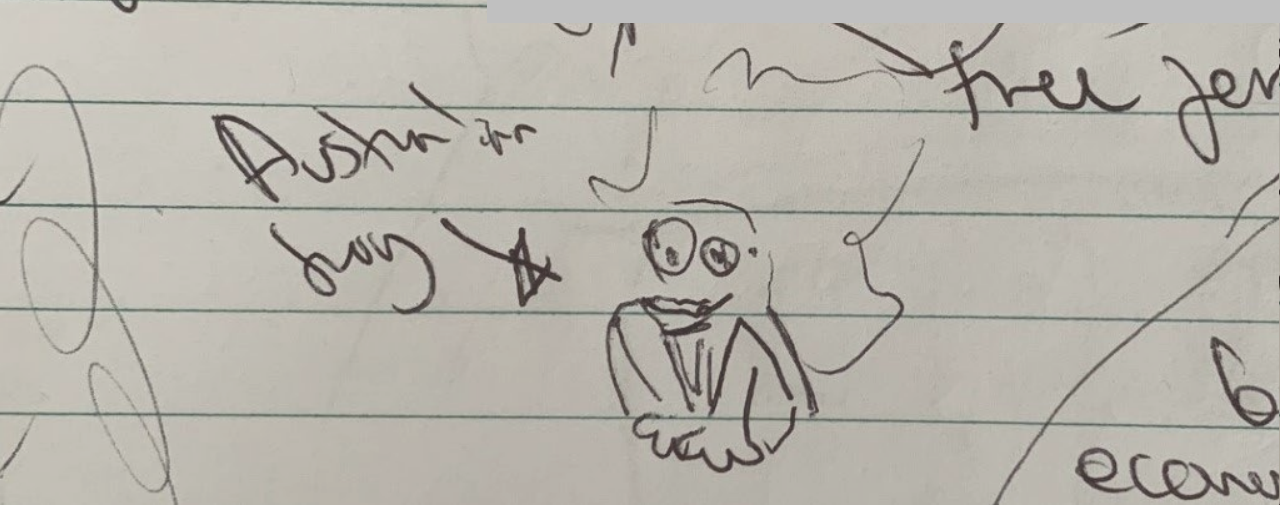






Area for  
speaking  
one challenge  
Husband does  
a lot of landscaping  
Sue and Chad  
helps art.  
escaping on the  
putting down a child in  
car

# Semi-structured interviews



free people  
challenge  
due to  
the area  
only  
change  
system  
of a  
road  
block







How would you describe your garden or outdoor space?  
Please include its main uses and your feelings towards it









# Mapping exercise

- In **Orange**, draw an arrow the potential direction of a bushfire.
- In **Purple**, circle the most likely flammable sources.
- In **Green**, circle fire/fuel breaks in the area.



# Mixed-methods

2.6.1. On a scale of 1-5, where 1=very satisfied and 5= very dissatisfied, how satisfied are you about your garden's fire safety?

1	2	3	4	5	Unsure
		X			

2.6.2.	Likert scale rating – Risk perception – <b>defensible space</b>	Please elaborate your satisfaction with the bushfire safety in your garden/back yard (and explain why, how, what...)?	
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*Play to CC*

2.7.1. On a scale of 1-5, where 1= not willing and 5= very willing, how willing are you to change the current garden to improve fire safety? (in terms of reducing the risk of a bushfire spreading into your garden)

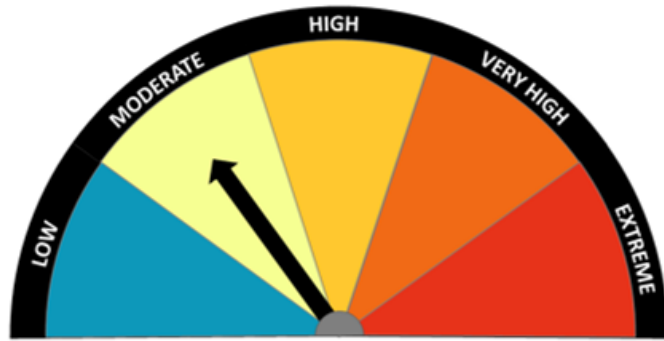
1	2	3	4	5	Unsure
			X		





## GARDEN FIRE RISK

The overall fire risk of your property within 30 m of the house is **MODERATE**.



Do you have any immediate thoughts?

The report provided lots of insight!

# Garden bushfire risk report

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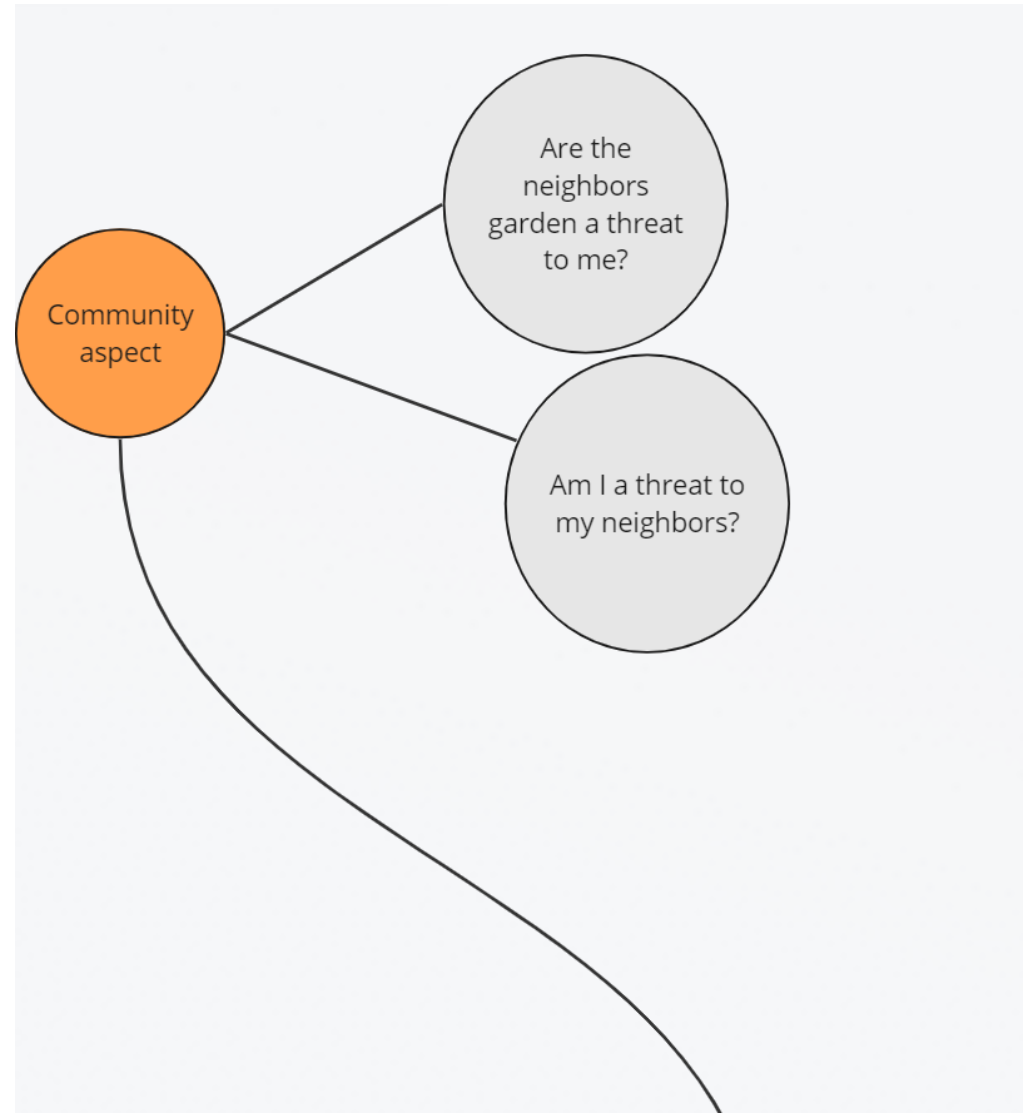
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# Preliminary thoughts

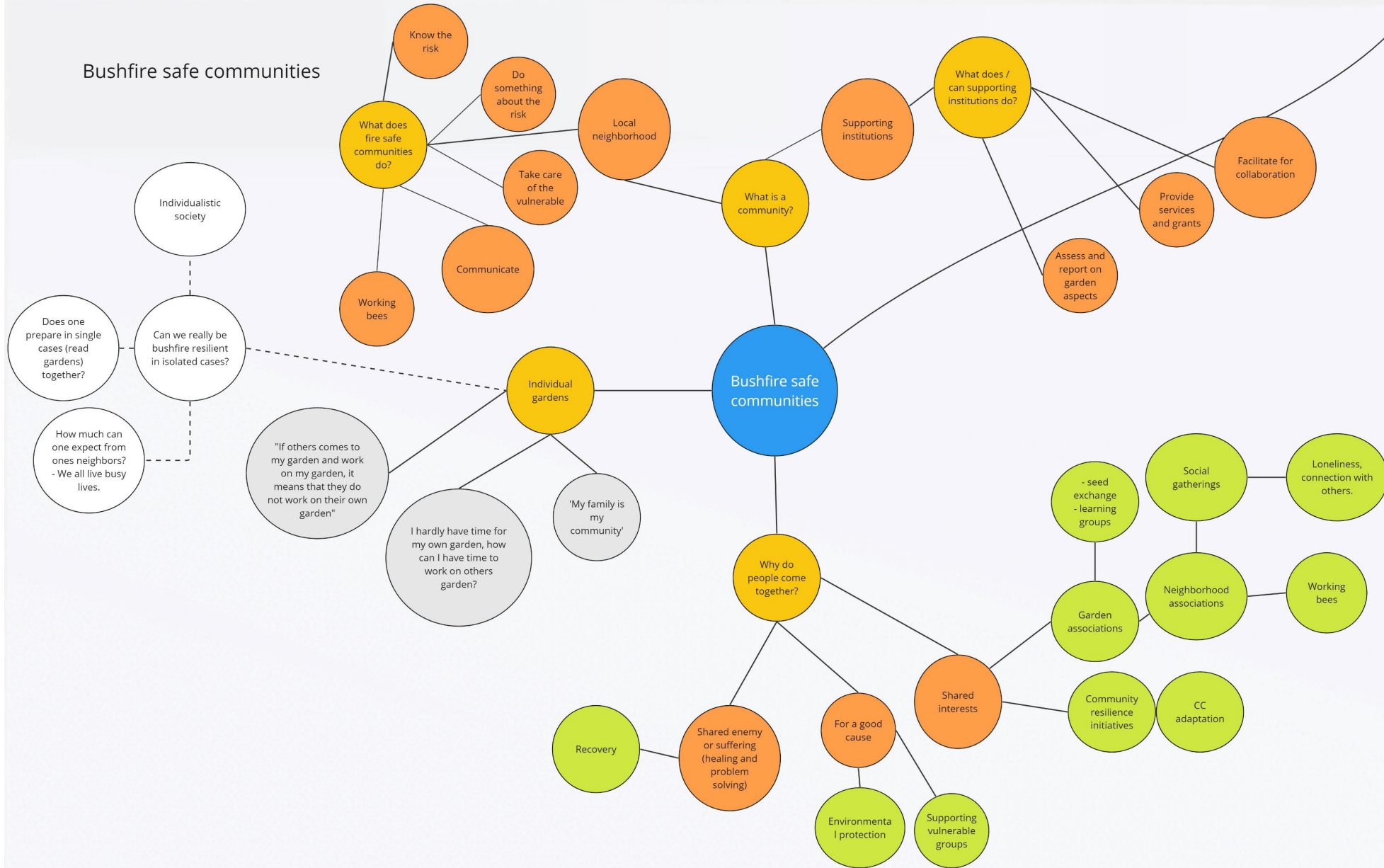
## Usage of and feelings towards gardens

Aesthetic  
View  
Sense of pride  
Relaxing  
Therapeutic  
Dog friendly  
Children's play  
Entertaining guests  
Enjoying meals  
Food production  
Hobby  
Nostalgia  
Wildlife interaction  
Fire hazard  
Fear  
Knowledge  
Learning  
Relationship to plants  
Personal space  
Home  
Privacy





# Bushfire safe communities





# Completed tasks

Finalised garden assessments

Finalised mixed-method interviews

# Next steps

Data Analysis

Writing paper







Thank you!

