

# Hairpin Banksia – an iconic Dandenongs plant that needs our help



**Annette Muir**  
**Alan Barnard**



Energy,  
Environment  
and Climate Action

# Why is Hairpin Banksia important?

- Hairpin Banksia grows in the foothills between Montrose and Silvan
- Important nectar source for honeyeater birds and small animals like sugar gliders
- Flowers in autumn, when not many other plants are flowering



Photo: patrickkavanagh, CC BY 2.0  
<<https://creativecommons.org/licenses/by/2.0>>, via Wikimedia Commons  
OFFICIAL

# Trail Camera: Sugar Glider



# Trail Camera: Sugar Glider



# Interactions with native animals

- Hundreds of small flowers on each large spike
- Animals move pollen between plants, which enables seeds to form



Photo: Lip Kee, CC BY-SA 2.0 <<https://creativecommons.org/licenses/by-sa/2.0/>>, via Wikimedia Commons

OFFICIAL

# Trail Camera: Spinebill



# Trail Camera: Bird



# Trail Camera: Bees

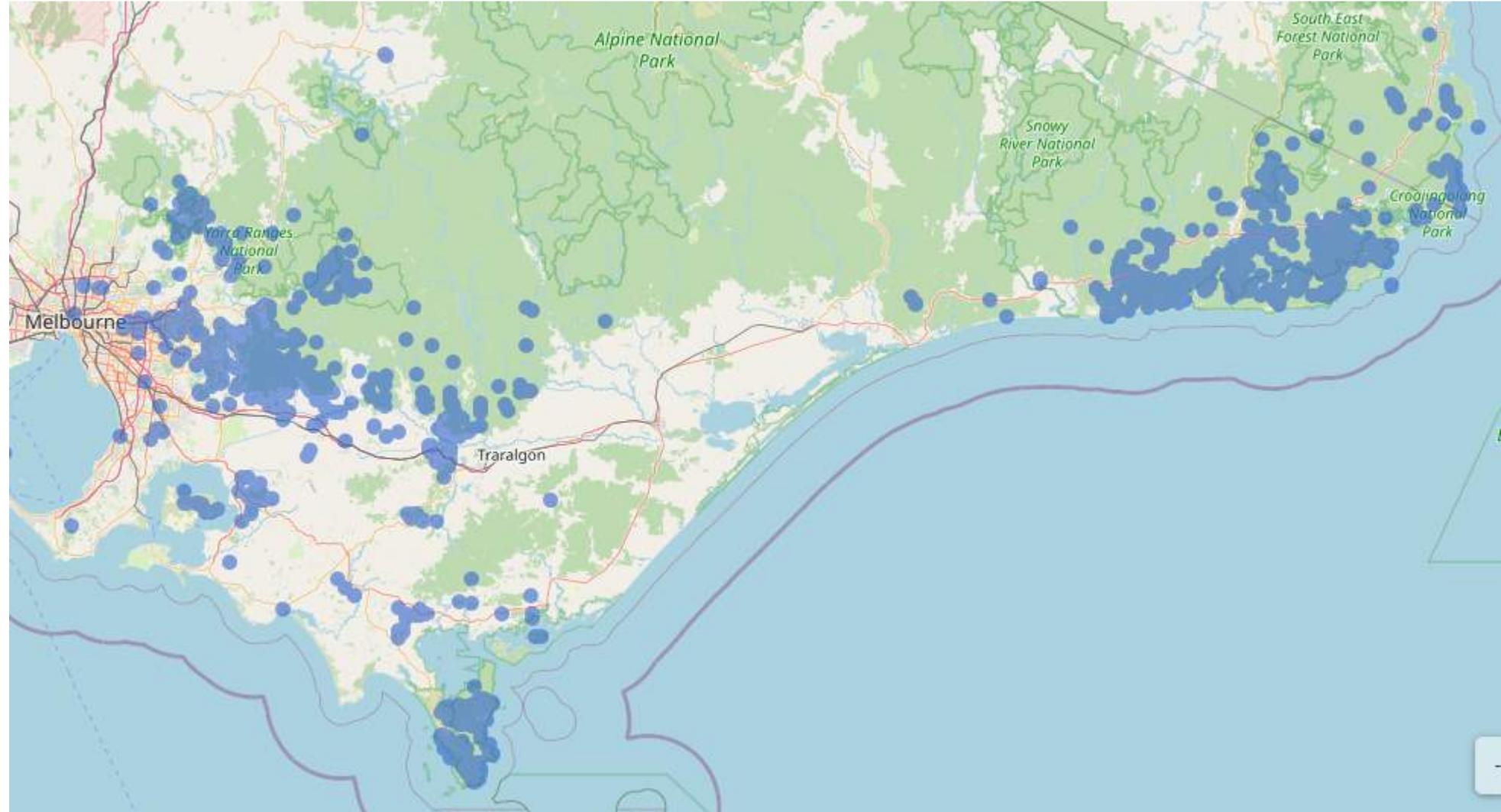


# Where does Hairpin Banksia live?

## 2 main clusters in Victoria:

- Foothills east of Melb, west Gippsland to Wilsons Prom
- East Gippsland, east of Orbost

(Atlas of Living Australia)



# Different Hairpin Banksias



## Hairpin Banksia in Victoria

- Related to Hairpin Banksia species in NSW and Qld
- Differs by having no lignotuber – no resprouting after fire
- Now known in Vic as *Banksia cunninghamii* (not *spinulosa*)

## Garden hybrids:

e.g. “Birthday Candles”, “Giant Candles”

Different coloured ‘hairpins’ (Victorian native species has black ‘hairpins’)



# Life-cycle of Hairpin Banksia

Plants don't resprout after fire – woody cones open to release seed – seedlings need years to produce cones

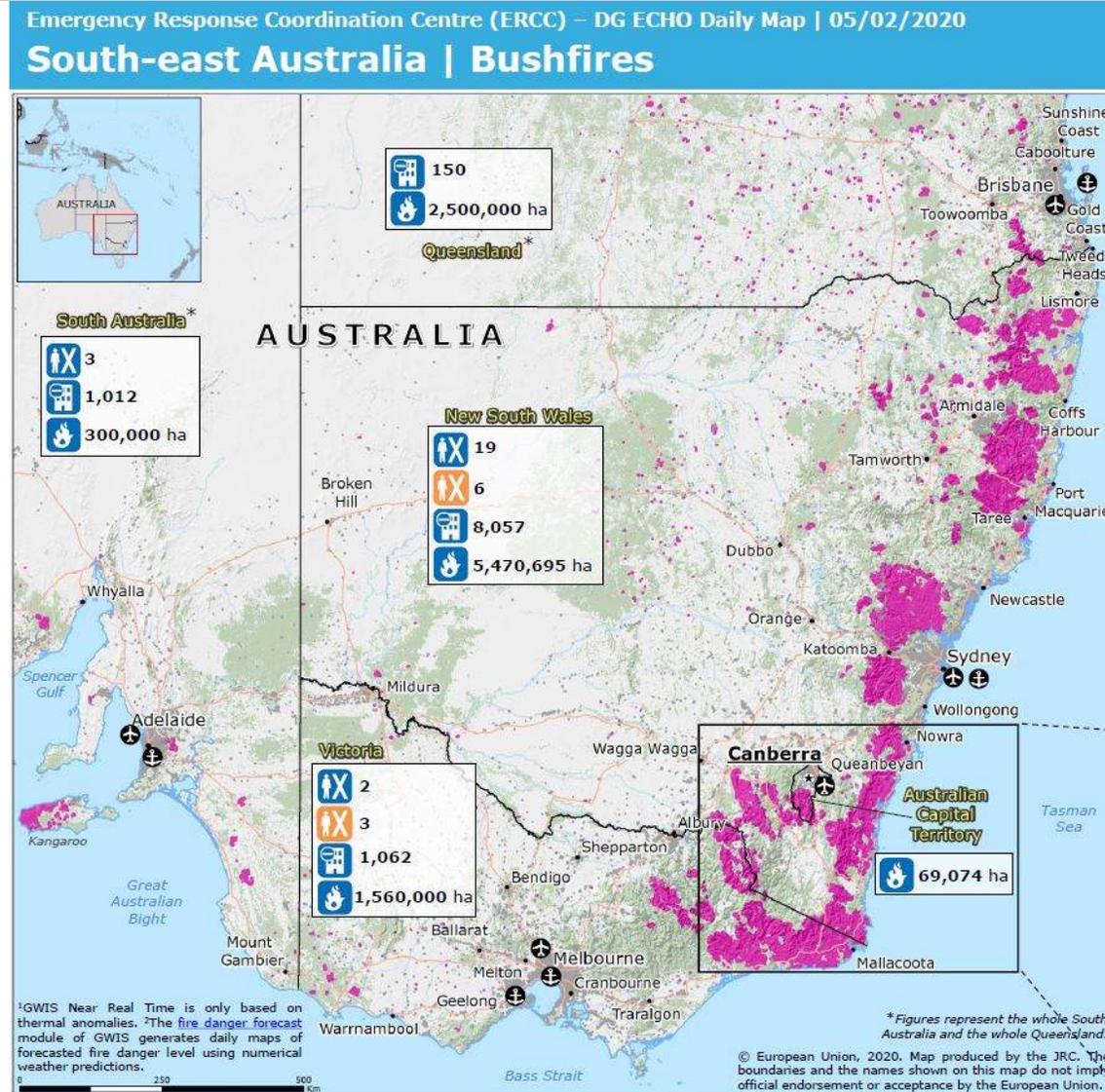
**Vulnerable to decline with short intervals between fires**



# Bushfires more frequent & widespread

## Climate change

- Fires more frequent, severe & widespread
- Droughts severe and prolonged
- Widespread woody species like Hairpin Banksia are predicted to decline



# Reproductive maturity time - research



**How many years after fire  
until plants produce seed?**

ARI research 2014 – 2016

- First 8 years after fire – very little seed production
- Maximum cone production – 15 years after fire

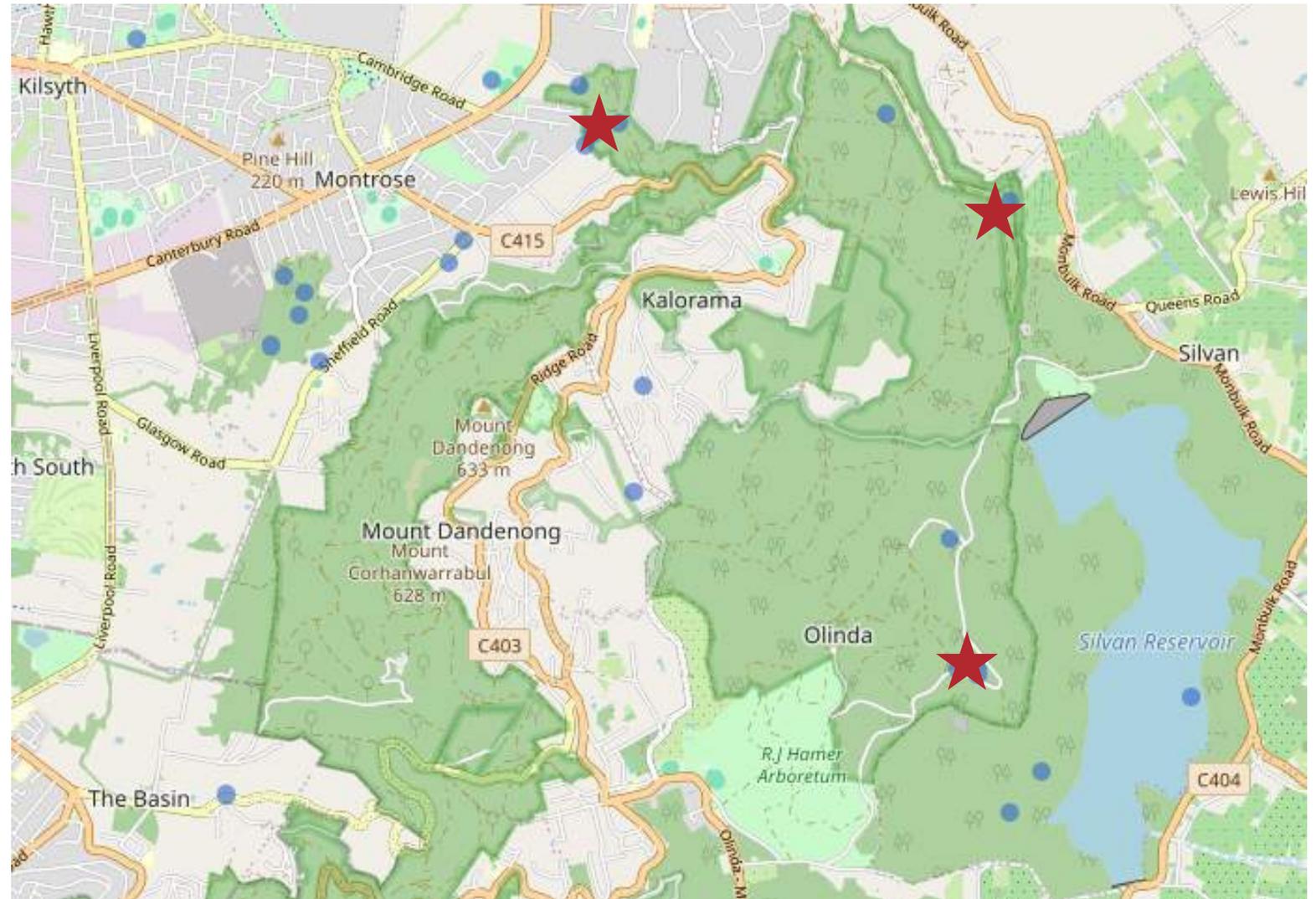
# Monitoring sites in Dandenong Ranges NP

## 3 patches of Hairpin Banksia in Dandenong Ranges NP –

do plants have seed cones?

- Sheffield Rd Nth
- Track12
- Chamberlain Tk

Isolated individuals and patches in bushland reserves and roadsides nearby



# Cone production results - Dandenong Ranges NP

## Monitoring results 2022:

- Sheffield Rd Nth (40+ years since fire)  
– **few** plants with cones
- Chamberlain Tk (~25 years since fire)  
– **no** plants with cones
- Track 12 (~12 years since fire)  
– **most** plants with cones

Factors other than time since fire affecting seed production?

- fragmented populations – lack of pollinators or genetic inbreeding?



# Fire planning – informed by banksia monitoring

## Collaboration - Hairpin Banksia monitoring results used for fire planning



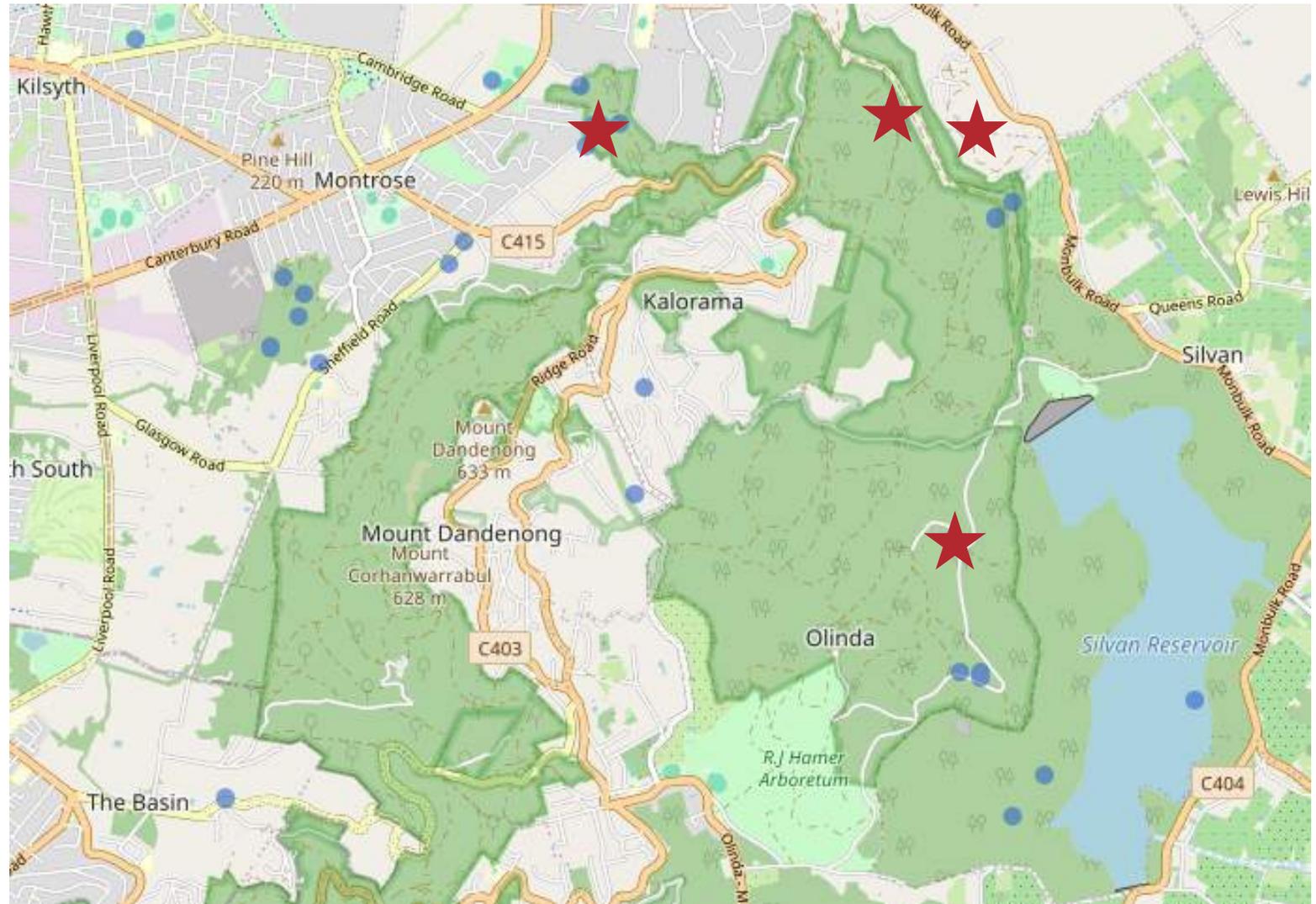
Challenge of protecting remaining Hairpin Banksia populations, while managing fuel risk

- fire intervals for seed production
- seed availability before burning
- weather suitable for recruitment
- exclude some banksia patches
- ongoing monitoring

# Restoring populations / insurance populations

## Planted new patches in 2020

- Alpina Tk (Parks Vic)
- Eagle Nest Rd (Parks Vic)
- Sheffield Rd Nth (Parks Vic)
- Mt Evelyn Aquaduct (MEG)



OFFICIAL

# Growing Hairpin Banksia from seed



- Grown by Candlebark nursery
- Cones heated in oven to extract seeds
- Seeds soaked in smoke water, germinated in seed raising mix, grown on in tubes



# Replanting Hairpin Banksia in Dandenongs

- Guards to protect from deer and wallabies
- Good survival rate at every site (1 death per 14 plants)



# Seed banking / orchards



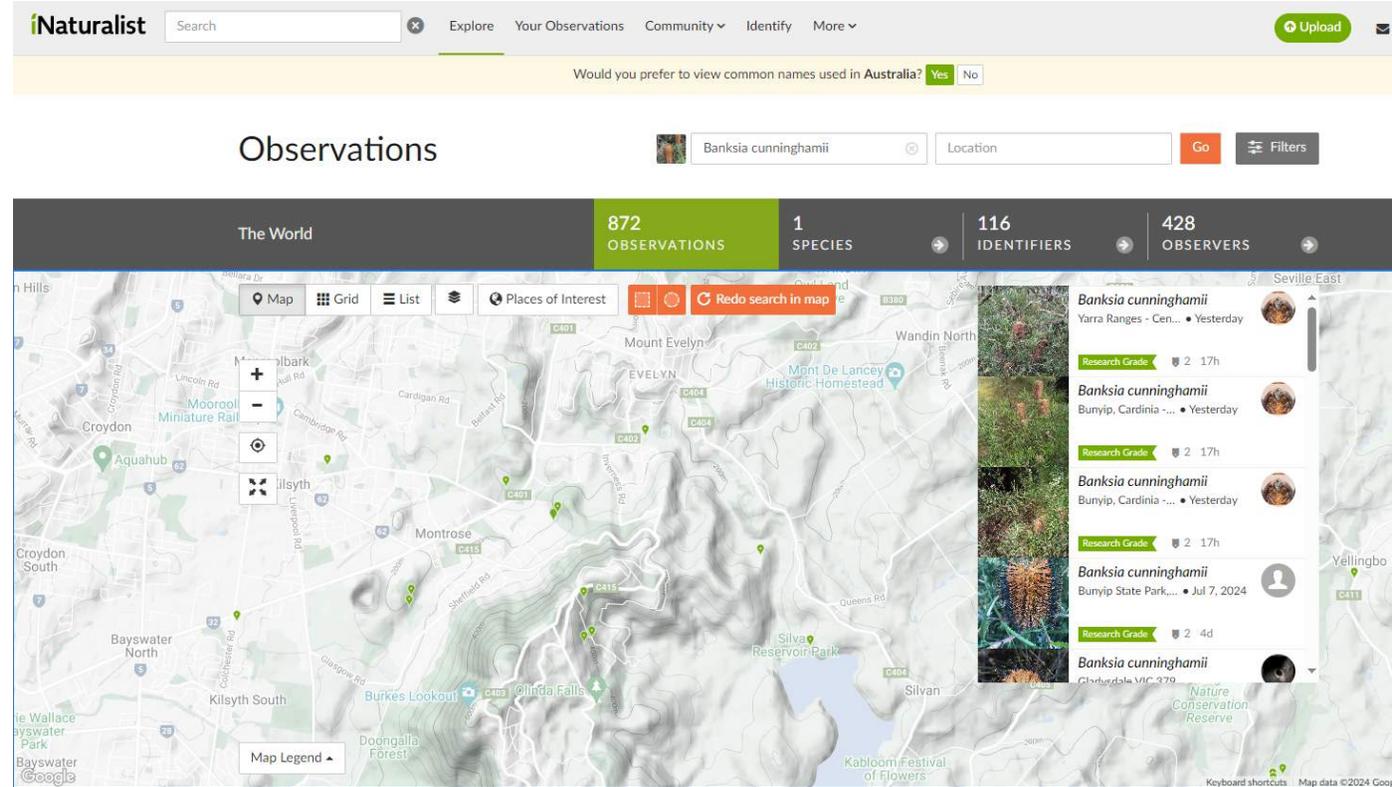
- Seed orchard examples – Silver Banksia
- Friends of Forgotten woodlands, Euroa Arboretum
- Banksias planted on public and private land – seeds collected



Cathy Olive, Euroa Arboretum

# What could we do in the Dandenongs?

- Establish new patches of Hairpin Banksia?
- Plants grown from seeds collected in Dandenongs, Cockatoo, Kurth Kiln
- Public & private land – secure from clearing



Do you know of Hairpin Banksia locations?  
– iNaturalist is a good place to record these

# Hairpin Banksia – conserving its future

## Key Messages:

- Declining in Dandenongs
- Protect from fire for >12 years
- Restoration and seed banking

## Acknowledgements:

- Alan Barnard [Fire regimes for Banksias \(ari.vic.gov.au\)](http://ari.vic.gov.au)
- Dandenong Ranges PV staff: David van Bockel, Trevor Macintosh, Adam Whitchurch, and many others
- Candlebark Nursery: Bernie Heinz
- DEECA Regional and ARI staff: Lucas Bluff, Belinda Rossack, Paul Moloney, Nev Amos, and many others

[Fire regimes for Banksias \(ari.vic.gov.au\)](http://ari.vic.gov.au)

[Banksia Project \(swifft.net.au\)](http://swifft.net.au)



Energy,  
Environment  
and Climate Action