Large Old Trees

Why they are important, their threats, and how we can help them

Connecting Country AGM 2022

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What is a Large Old Tree (LOT)?

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Ecological Importance

- Habitat and food
- Soil quality
- Connectivity
- Flow on ecosystem effects
- Erosion control

Anthropological Importance

- Cultural and amenity values
- Protection for pastures, crops and stock
- Flow on ecosystem effects
- Erosion and salinity control, nutrient recycling
- Firewood from fallen limbs

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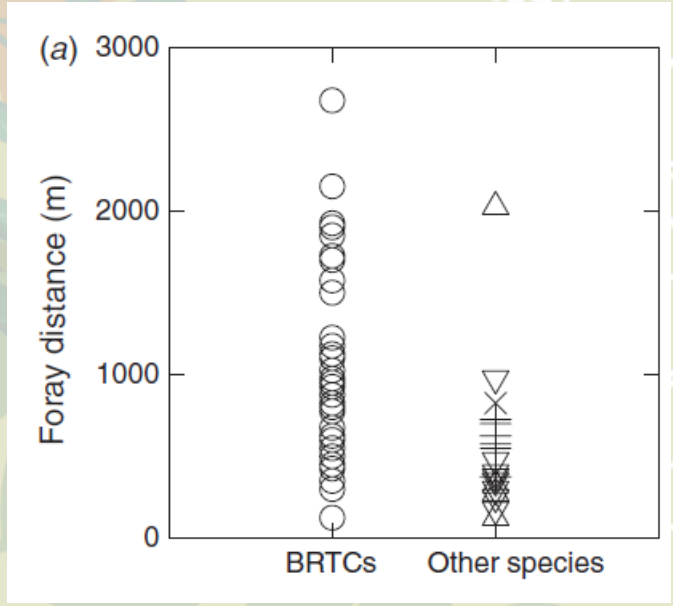
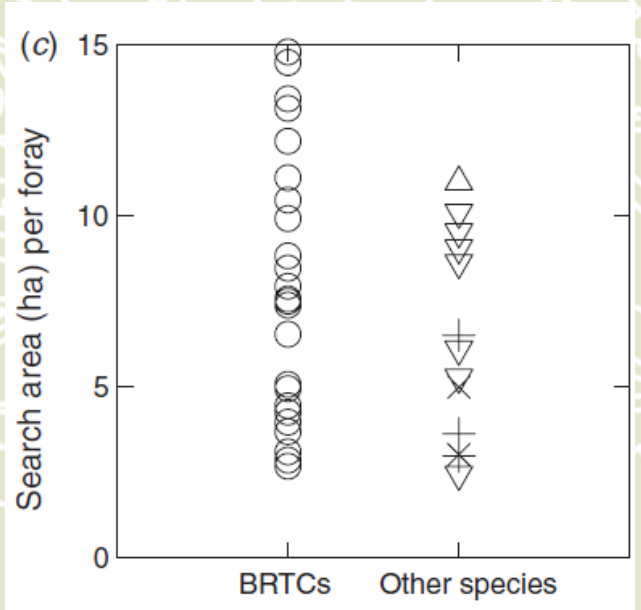
Example 1 - Woodland birds

CSIRO PUBLISHING
www.publish.csiro.au/journals/emu
Emu, 2011, **111**, 71–83

Dispersal behaviour of Brown Treecreepers predicts functional connectivity for several other woodland birds

Veronica A. J. Doerr[A,B,C], *Erik D. Doerr*[A,B] *and Micah J. Davies*[A]





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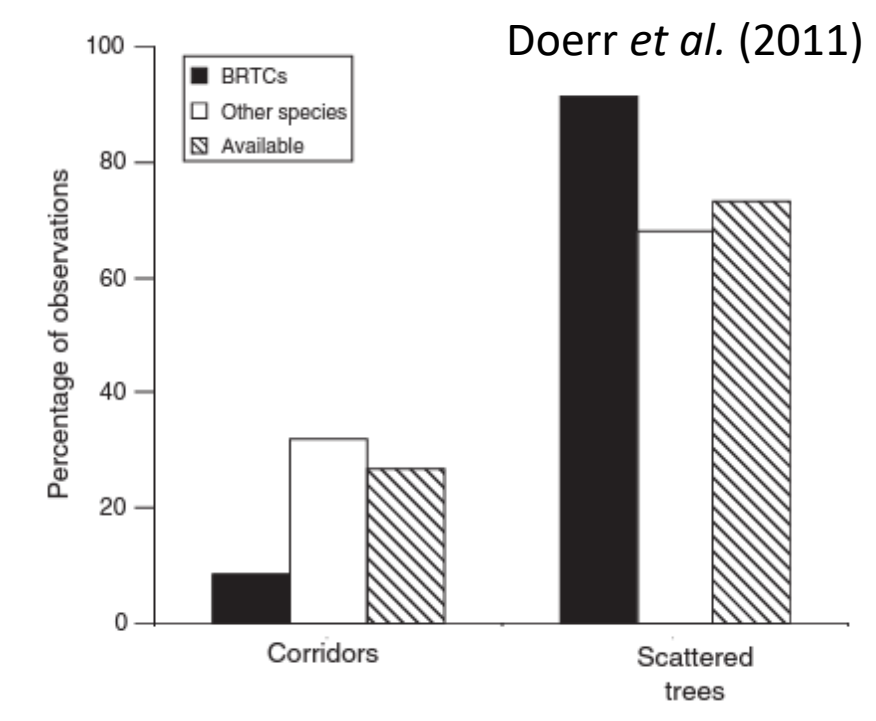
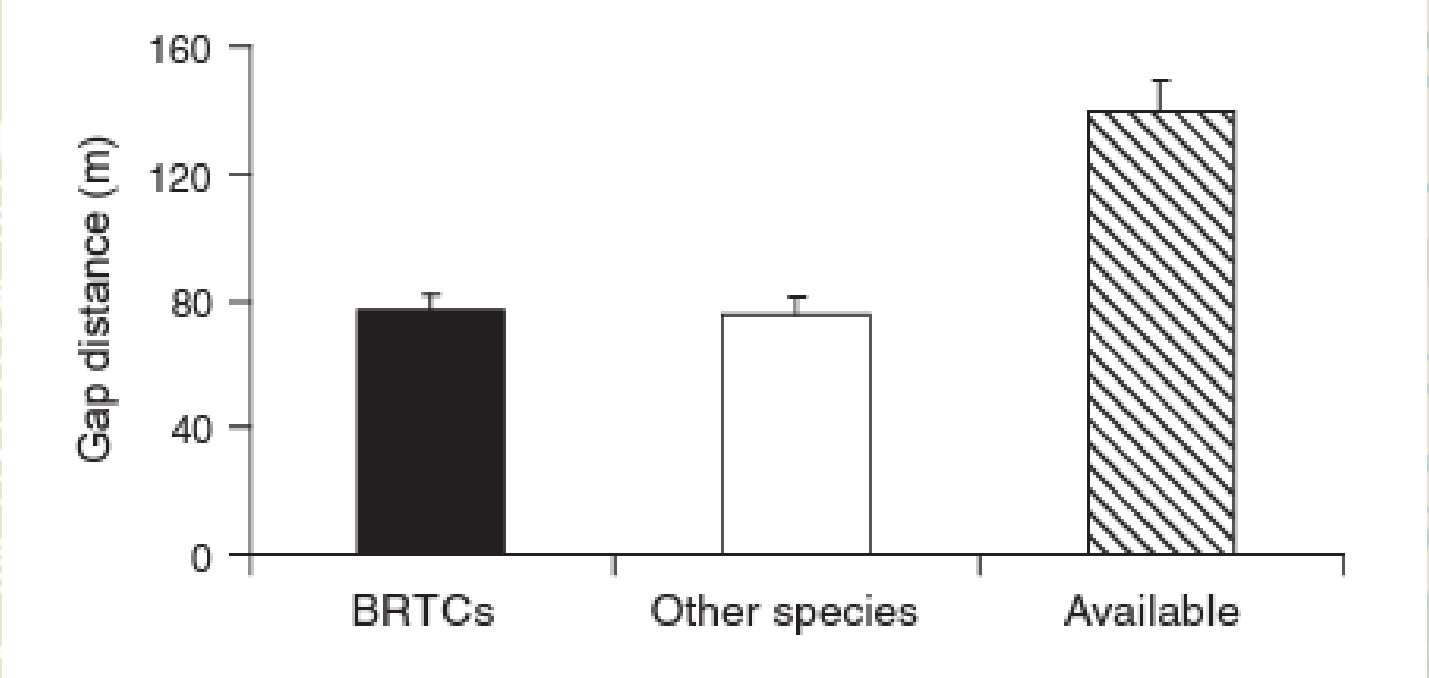
Example 1 – Woodland birds

Doerr *et al.* (2011)





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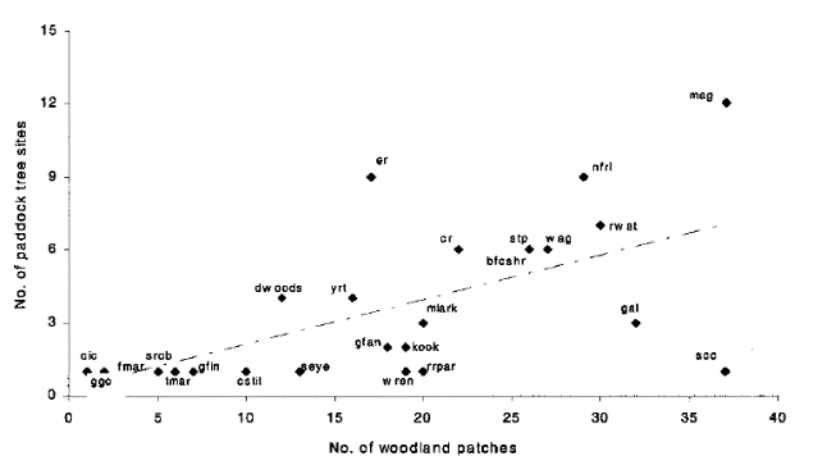
Birds and large old trees

Table 3
β Values[a] for relationships between study species and landscape variables.

Variable	JW	Rfly	EYR	WBB	BTC	CST	RW	DF	BCHE	SP	HR	DWS	WBWS
PT_500	+2.93	+1.81		+1.90	+4.13	+2.78		+1.93	+2.59	−3.53		+2.22	+1.72



"the number of paddock trees within 500m of sites was a stronger predictor of occupancy than the amount of remnant vegetation in the cases of all but three species." Montague-Drake *et al*. (2009)

"Fifty-five bird species (including incidental observations) were observed in the study area in March 2000. Of these, 44 were observed using paddock trees." Fischer & Lindenmayer (2002)

On barking owls: *"Habitat preference is strongly bias towards areas that provide a high density of large trees greater than 60cm diameter and a high density of hollow trees of a range of sizes, including large hollows greater than 15cm diameter which are suitable nesting places for barking owls.*
Surveys conducted in 1998-1999 found that hollows were two three times more prolific at sites where Barking Owls were recorded compared to no owl sites (Taylor & Kirsten, 1999)." SWIFFT (2022)

Example 2 – Squirrel gliders

- Mason Crane's PhD work from ANU
- Spotlighting: importance of remnant trees
- Collared and tracked gliders
- Old, living trees preferred for denning, multiple needed per glider
- Will forage in acacias where available
- *Eucalyptus melliodora* was a favourite species
- Large trees preferred even when not flowering

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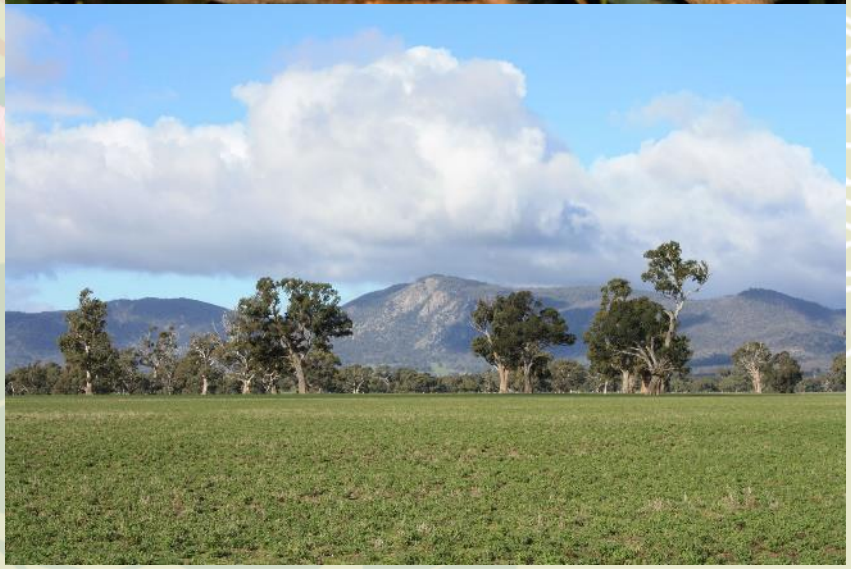
Example 2 – Squirrel gliders



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Threats

- Clearing (legal and illegal)
- Senescing with a significant lack of recruitment over 200 years
- Dieback from nutrient build up, soil compaction, insects, ringbarking
- Bushfires and management fires
- Periods of drought

‘Just sitting there dead’: study finds mass tree losses in NSW after severe drought

Even species ‘superbly adapted’ for Australia’s harsh conditions suffered, with up to 60% of trees dying in some areas

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What can we do to help LOTs?

- Promote their value
- Stock exclusion
- Avoid excess fertiliser use
- Revegetation around existing LOTs can provide them with protection and microclimate

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What is Biolinks Alliance doing?

- Citizen science LOT mapping: https://biolinksalliance.org.au/hero-tree
- LOT video

- School educational visits
- Engaging landholders
- Projects on private property
- Information sharing https://biolinksalliance.org.au/knowledge-hub-resources

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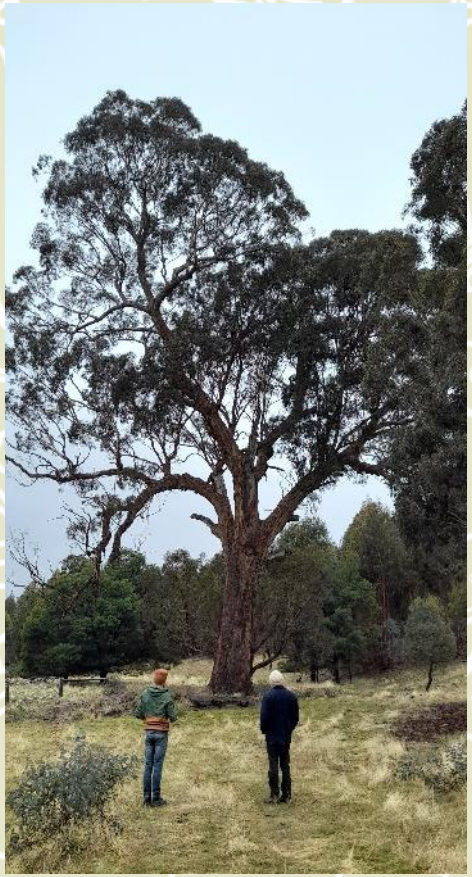
Questions?



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