

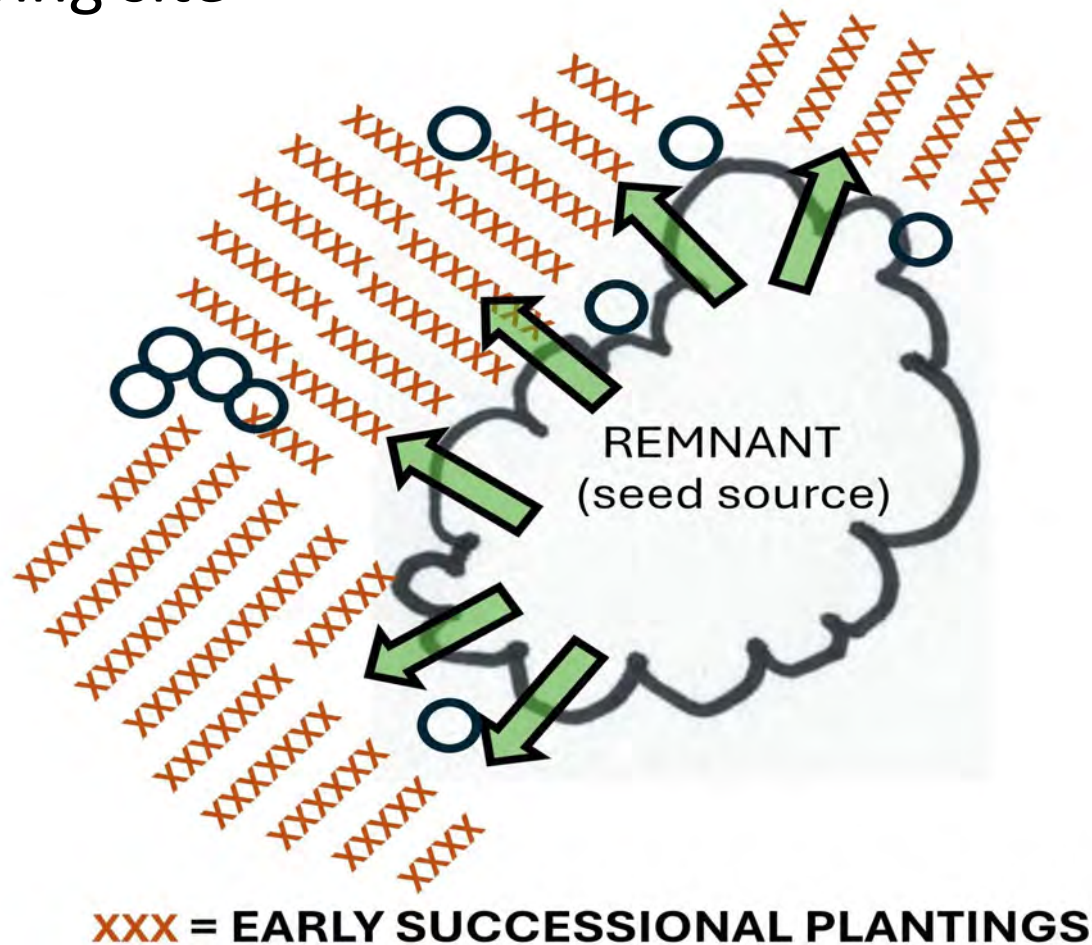
A photograph of a large tree trunk with prominent buttresses and roots in a forest setting. The tree trunk is thick and has a rough, textured bark. Several large, horizontal buttresses are visible, and many roots hang down from the trunk. The background is dark and filled with other trees and foliage.

Successful outward migration of the Victoria Park remnant into secondary plantings - implications for landscape level restoration

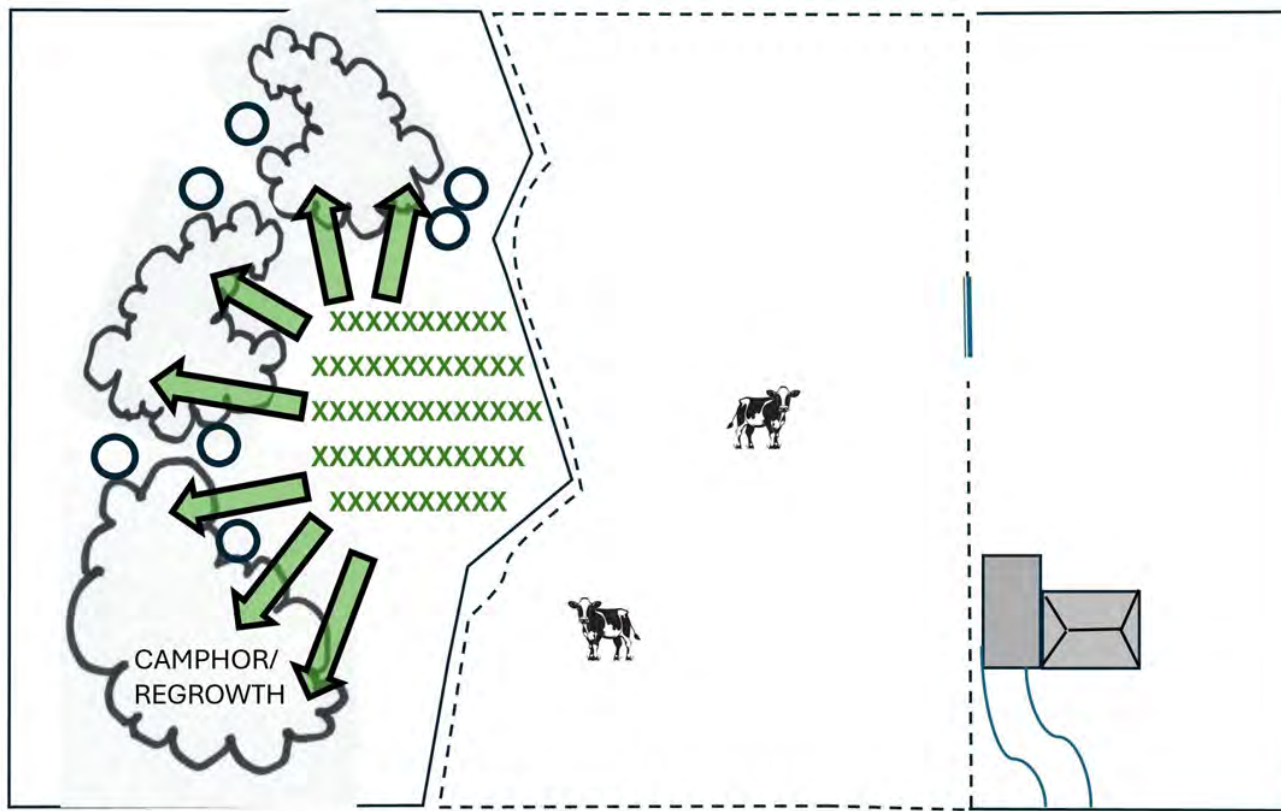
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2630, Australia

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Lismore, 2480 NSW, Australia

Main focus of presentation = the power of the seed source when it is located adjacent to a 'secondary' receiving site



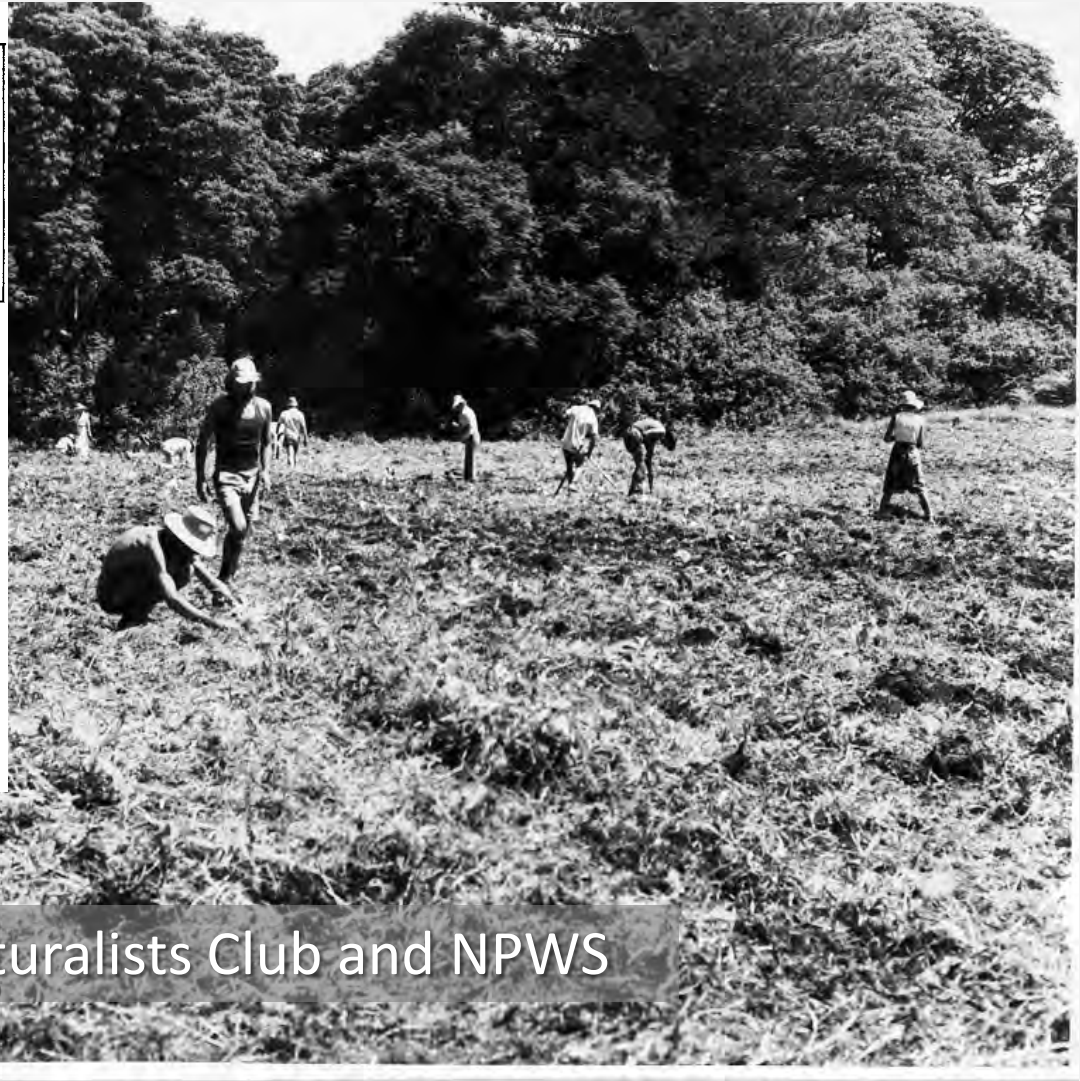
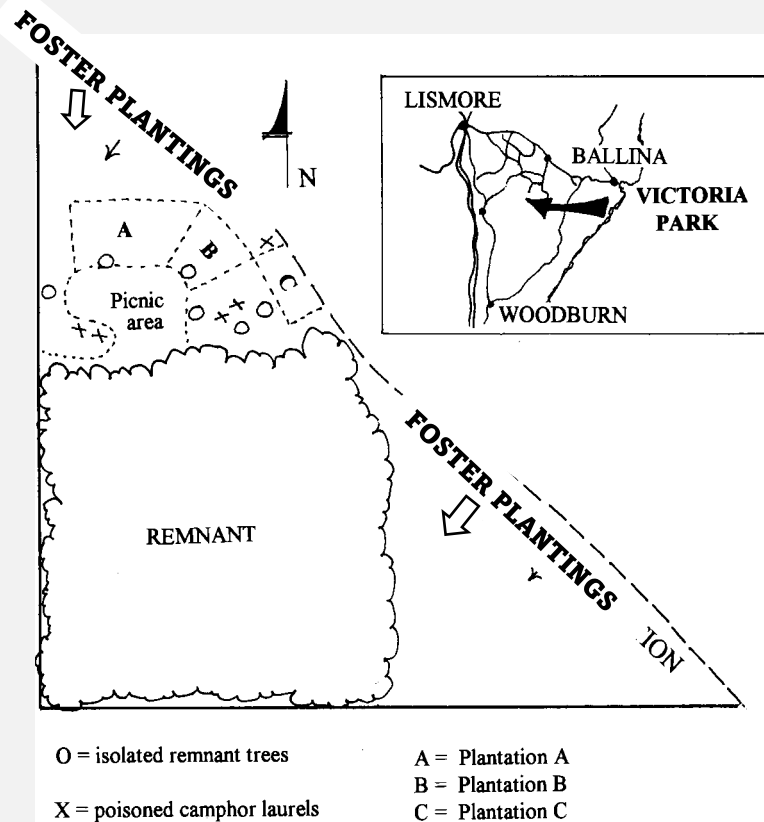
Implication: Huge potential for restoration programs to plant 'later successional seed source islands' (create artificial remnants) near camphor/regrowth areas that are widespread in the Big Scrub and NE NSW landscapes.



XXX = DIVERSE (LATER PHASE) SEED SOURCE PLANTINGS

Victoria Park remnant, north coast NSW

'Foster' (cover crop) plantings of early secondary species were established in paddocks north and east of the 8 Ha RF remnant



1980s Richmond Valley Naturalists Club and NPWS

The planted species found in our eighteen monitoring quadrats in 1995 (10-15 yrs on) were mainly early successional.

Species	Planting A	Planting B	Planting C
<i>Alphitonia excelsa</i> (Red ash)	0	3	4
<i>Commersonia bartramia</i> (Brown kurrajong)	18	8	16
<i>Duboisia myoporoides</i> (Corkwood)	0	3	0
<i>Grevillea robusta</i> (Silky oak)	1	0	13
<i>Melia azedarach</i> (White cedar)	0	1	7
<i>Omalthanthus populifolius</i> (Bleeding Heart)	7	6	12
<i>Toona ciliata</i> (Red Cedar)	4	5	0
TOTALS / 300m²	30	26	52

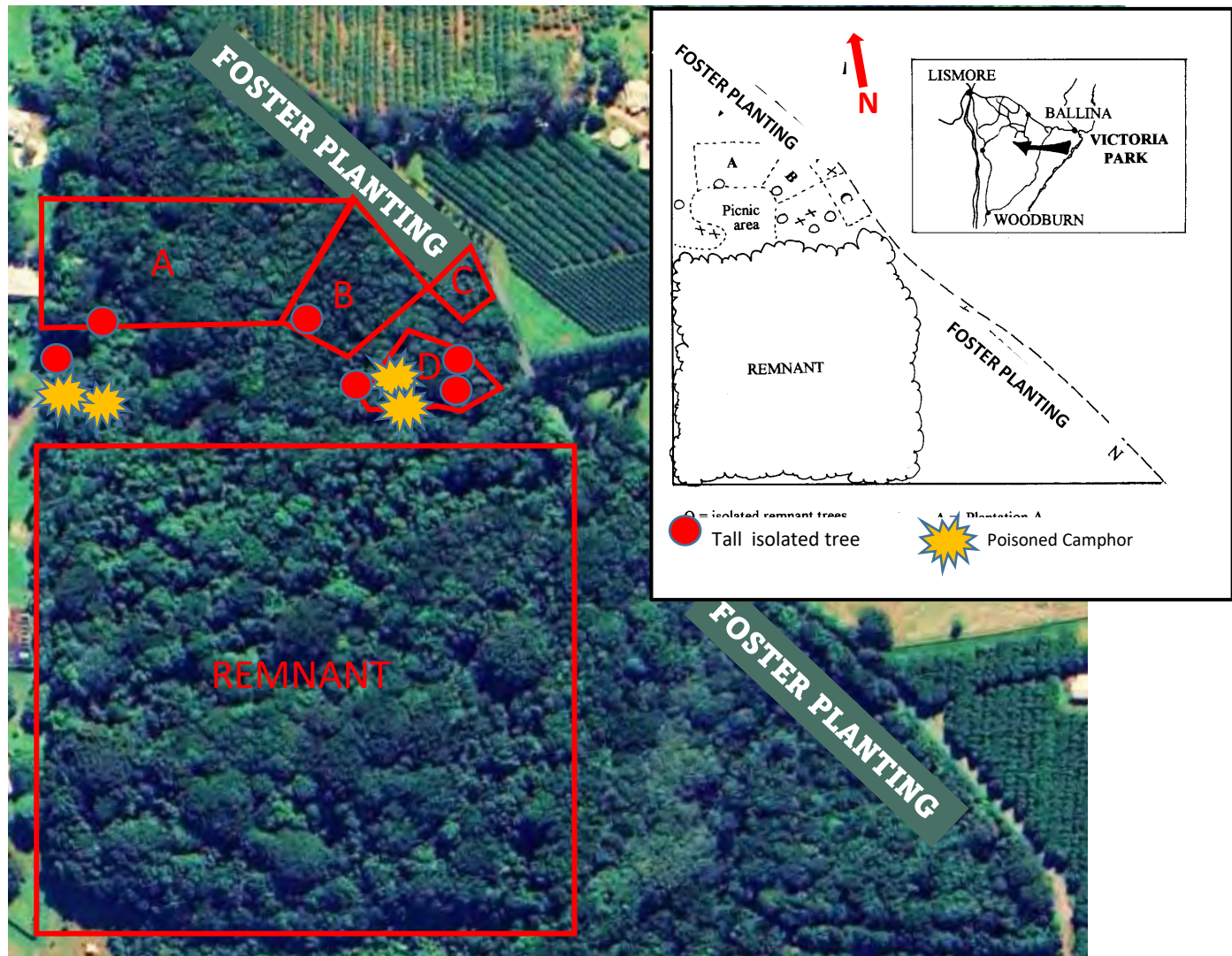
However a range of other species were also planted.

Some bird species observed at Victoria Park and the no. of plant species utilised as food items

Bird species	No. plant species utilised
Lewin's Honeyeater	35
Figbird	28
Pied currawong	24
Satin bowerbird	14
Brown cuckoo-dove	14
Green catbird	12
Wompoo fruit-dove	11
Rose-crowned fruit-dove	10

(From Holmes, G., 1987, Avifauna of the Big Scrub Region., Report to Australian National Parks and Wildlife Service and (NSW) National Parks and Wildlife Service.)

Satellite image 2024 - the plantings have experienced substantial successional development



Outward migration of tree species over time: (The floristic match with the remnant is yet to be studied)

YEAR (and effective perch age)	No. OF TREE SPECIES IN PLANTINGS ¹	FRUGIVORE DISPERSED	% OF <u>No.</u> TREE SPECIES (94) IN THE REMNANT (at 1995)
1995 (10 -15 yrs)	56	43	60%
2024 (30 - 40+ yrs)	77	49	82%

¹The planted *pioneers* have been excluded from the count. Most have senesced and been replaced by natural recruitment.

Planting B - one of six small zones monitored in 1995 - has been monitored four times over the 4 decades since planting.

It shows substantial migration by later successional species and increases in height of the canopy.

The latest observations in 2024 (40+ yrs after planting) show:

- 24 *later* phase species (including 16 *mature* phase species)
- The top 20-30m stratum includes 10 later phase species:

LATE SECONDARY (5)

Red Bean (*Dysoxylum mollissimum*)
Cudgerie (*Flindersia schottiana*)
Yellowwood (*Flindersia xanthoxyla*)
Bastard's Crows Ash (*Pentaceras australis*)
Red Cedar (*Toona ciliata*) (prob. planted)

MATURE PHASE (5)

Incense Cedar (*Antharocarapa nitidula*)
Black Bean (*Castanospermum australe*)
Moreton Bay Fig (*Ficus macrophylla*)
Red Apple (*Syzygium ingens*) (poss. planted)
Red Carrabeen (*Geissois benthami*)

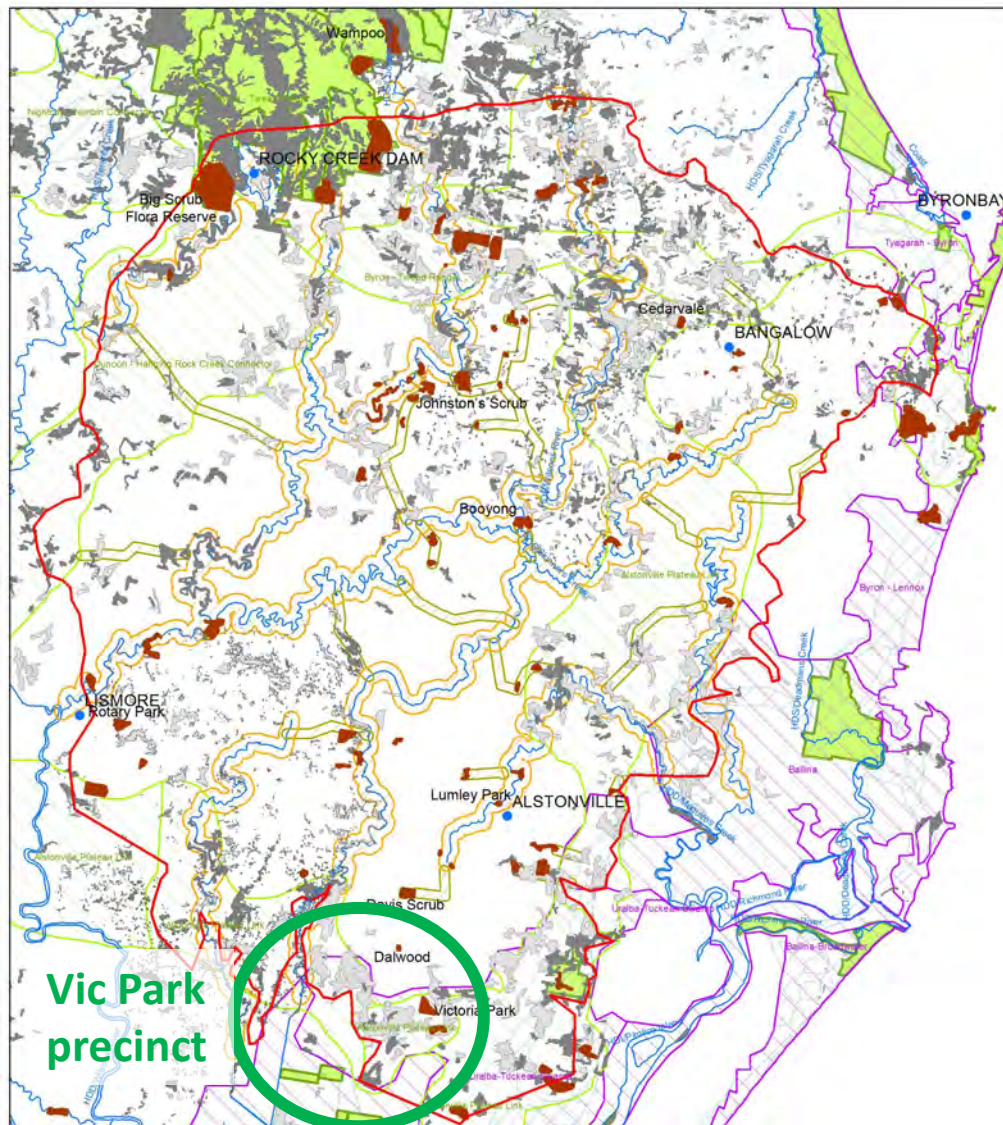
Planting B understorey in May 2024 ...



Why does this matter in the scheme of things?



Remnants and regrowth connections (source: Big Scrub Landcare)



Red = Big Scrub remnants

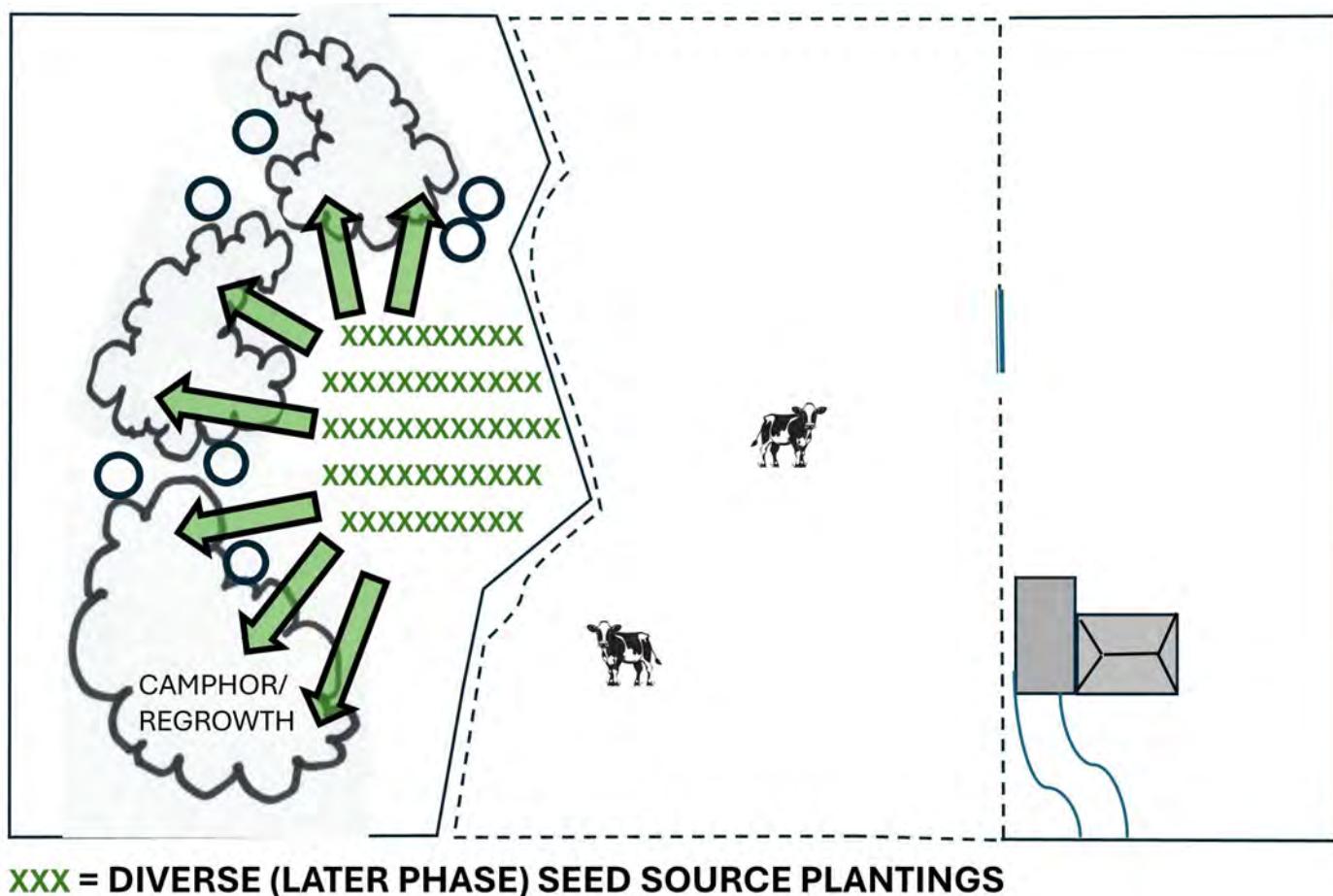
Dark grey = rainforest regrowth

Light grey = camphor dominated

Legend

- Localities
- Rivers
- Original Big Scrub Extent
- Rainforest Remnants
- Camphor Laurel
- Rainforest
- ▨ Big Scrub Riparian Corridors
- ▨ Linking Corridors

The Big Scrub Rainforest Conservancy - Science Saving Rainforests project signals a major step forward. **The next major step forward**, we suggest, is the strategic location of diverse seed source plantings adjacent to receiving sites:



Recommendation:

That Big Scrub Conservancy consider developing two initiatives to tap into the Australian government's international commitments to restoration:

1. Identify and map '**priority degraded areas**' for prioritising restoration investment to help Australia meet our Global Biodiversity Framework (GBF) Target 2.
2. Prepare a Nature Repair **Methodology** for 'landscape scale camphor conversion combined with proximal planting of later successional rainforest species'

THANK YOU

ACKNOWLEDGEMENTS:

Tein McDonald – Monitoring design and analysis 1993-2024

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Tim Roberts – Plant ID in 2002 and 2008)

Sophy Millard – Data processing in 2008)

2002 NAR students Wollongbar TAFE.