

From revegetation to restoration in Gondwana Link

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Photo borrowed from Todd Berkinshaw who almost certainly borrowed it from someone else

ARE WE THERE YET?...



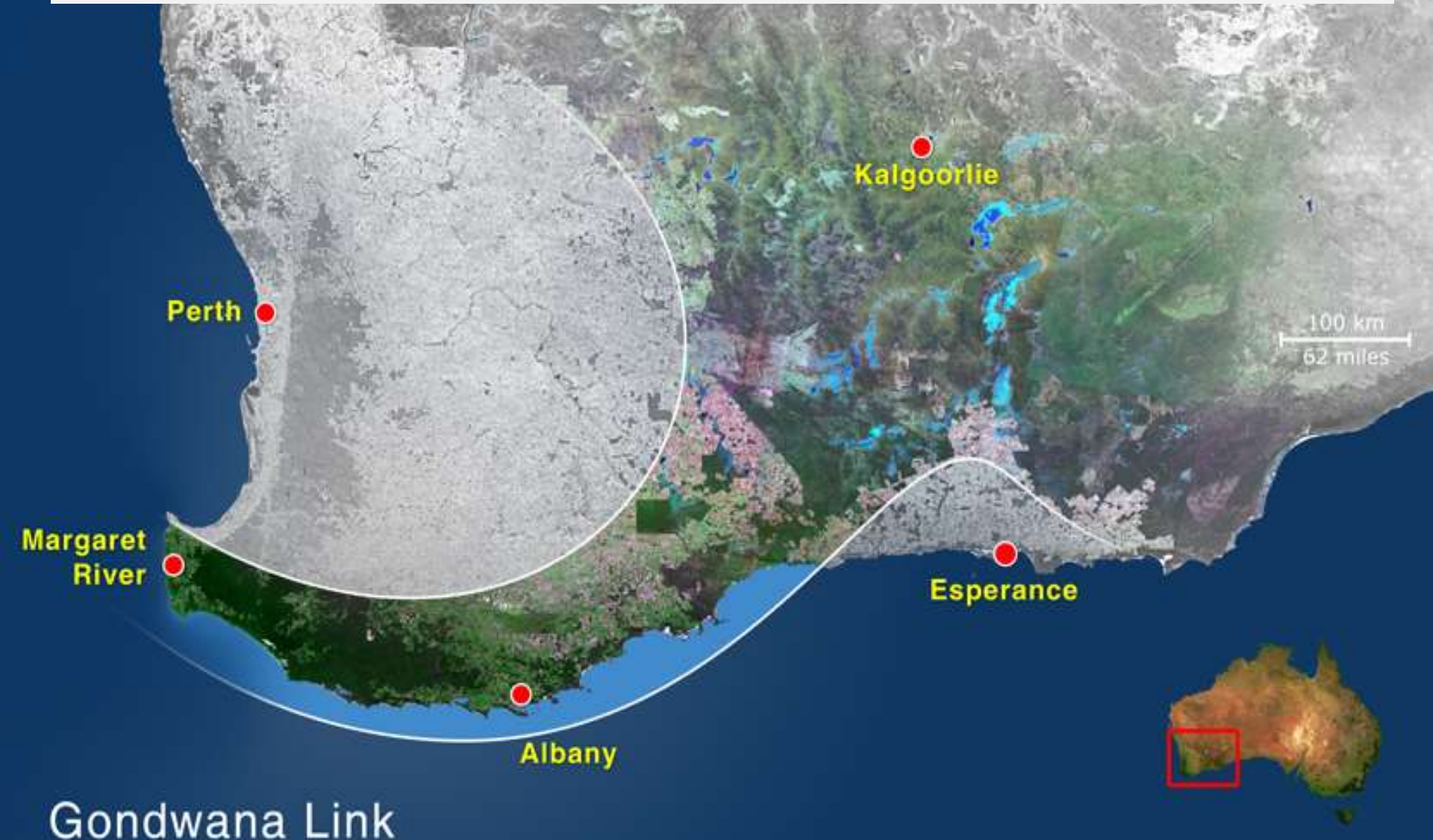
THANK GOODNESS FOR
ALL THE ELECTRONIC
GADGETS THAT KEEP
THEM OCCUPIED ON
THESE LONG TRIPS!

NEXT SERVICES



HOPE
17.1.15

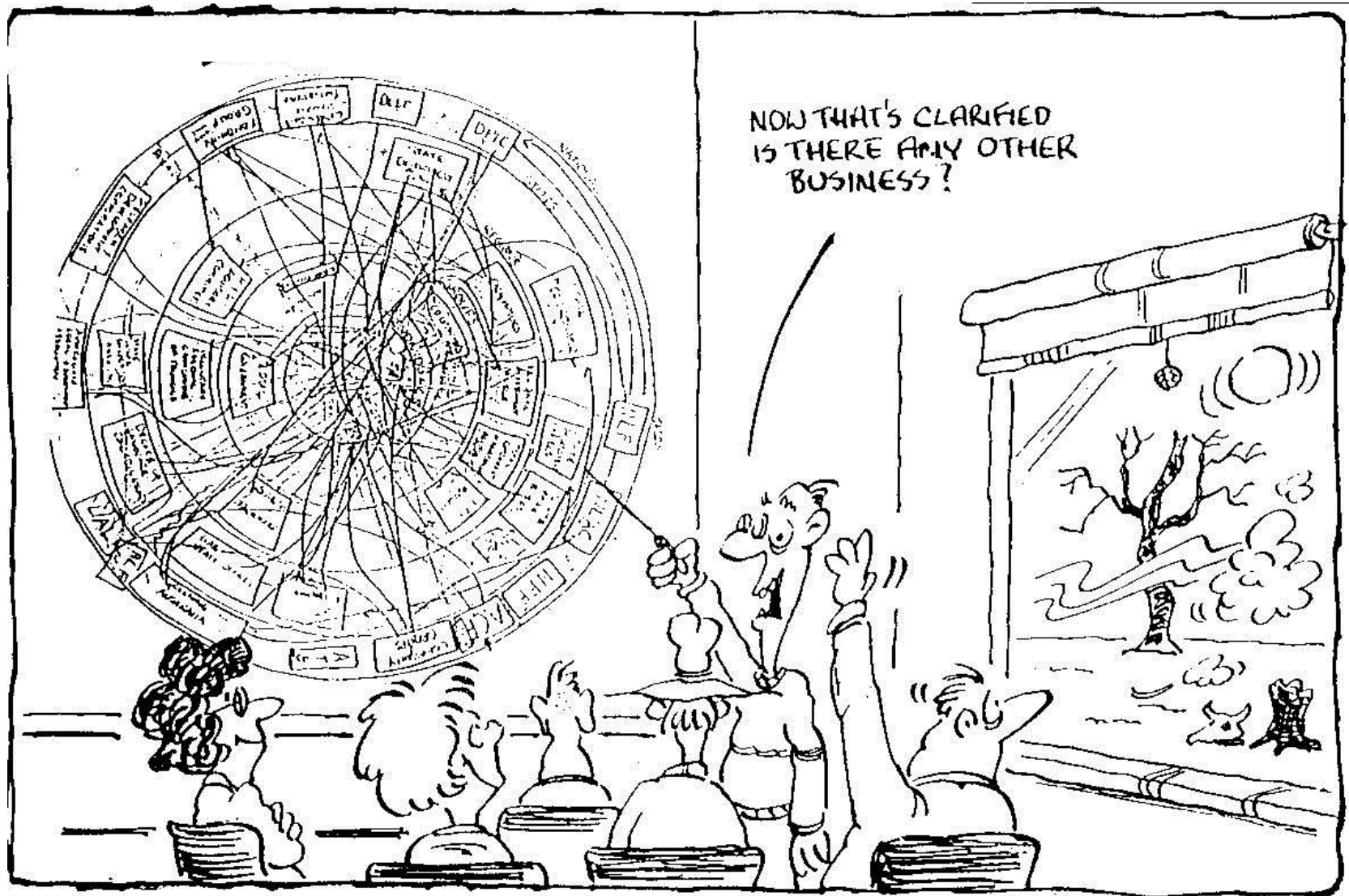
"Reconnected country across south-western Australia, from the Karri forest of the south-west corner to the woodlands and mallee bordering the Nullarbor plain, in which ecosystem function and biodiversity are restored and maintained"







Life isn't tidy





What is restoration?

Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed. (SER 2004)

Principle 6: Social aspects are critical to successful ecological restoration

Conserving and restoring ecosystems . . . depends upon appreciation by society of the negative and positive effects of different behaviors; and involvement by all stakeholders in finding solutions to ensure that ecosystems and society mutually prosper.

Standards Reference Group SERA (2017) *National Standards for the Practice of Ecological Restoration in Australia. Second Edition*. Society for Ecological Restoration Australasia. Available from URL: www.seraustralasia.com

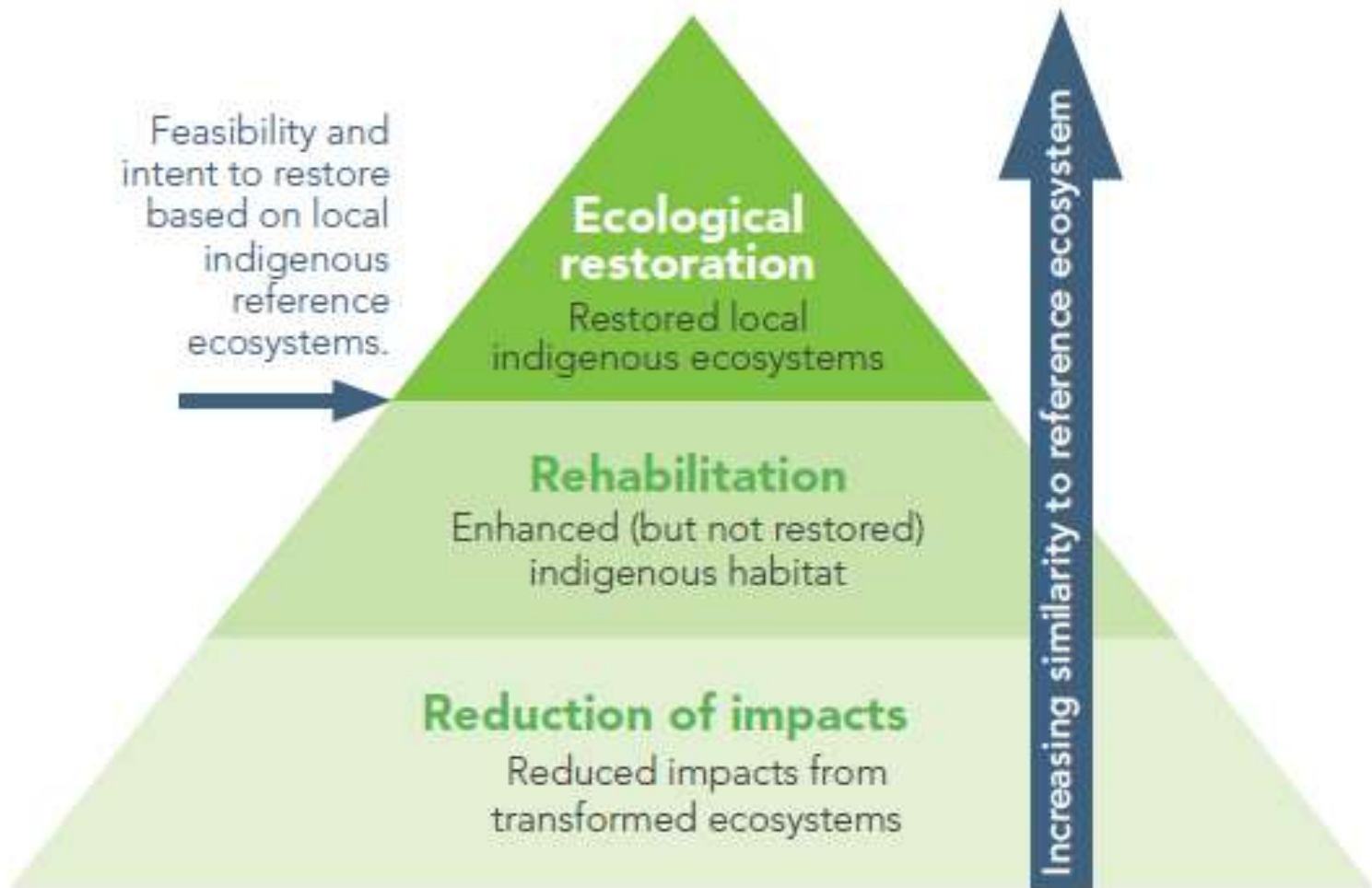


Figure 3 Broader context of 'environmental repair'. Ecological restoration fits within a range of complementary activities undertaken by various sectors of society to repair damage to the broader environment, with the broader context referred to in the Standards as 'environmental repair'. 1

Large scale – strategically placed



Restoration - not Revegetation Workshop

13 & 14th December, 2004

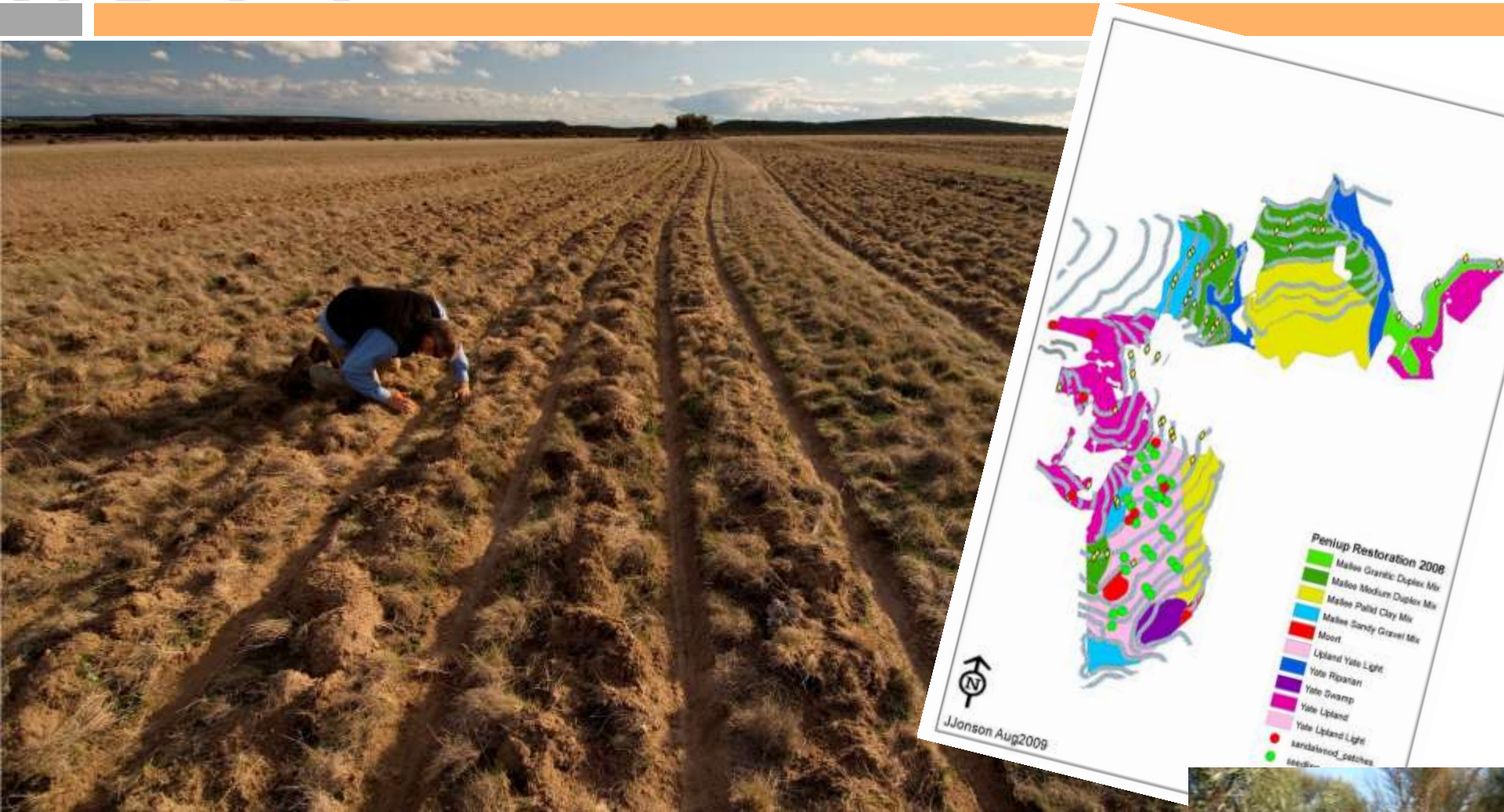




Key principles for first steps

- 1 A vastly increased scale of conservation action is essential.
- 2 Long term conservation requires the repair of ecological functions and strengthening of resilience and change across all scales and sectors of society.
- 4 There is no single solution – environmental diversity requires diversity in approaches.
- 5 All steps taken should be useful in themselves, with the whole being greater than the sum of the parts
- 7 Actions should be informed by the best available evidence-based science interpreted through experience and common sense.
- 8 Ongoing and highly adaptive processes rather than pre-determined conservation area designs and strategies.
- 9 Clarity on objectives and processes is essential for efficient integration.

Scaling up = need for better planning



Justin Jonson (2010) Ecological restoration of cleared agricultural land in Gondwana Link: lifting the bar at 'Peniup' *ECOLOGICAL MANAGEMENT & RESTORATION* VOL 11 NO 1



2010: Standards for clarity

Continuum of biodiversity and ecological values



Low biodiversity value (“1-2 stars”)

- Few species
- Introduced species
- One structure (eg all canopy trees)
- Spatially homogeneous (eg evenly spaced rows)
- Few habitat types
- No management
- Isolated, small, no strategic connections
- Short lived

High biodiversity value (“4-5stars”)

- Many species
- Species all occurred naturally on this site
- Diverse structure (many layers)
- Spatial heterogeneity (“patchiness”)
- Diverse habitats (litter, tree hollows, logs)
- Durable (can self-replicate)
- Part of a strategic context:
- Dieback, ferals, weeds managed



Photo: Graeme Chapman





Building capability in monitoring & evaluating the outcomes of NRM interventions by engaging Citizen Science

Nic Dunlop, Kady Grosser, Merryn Pryor & Tegan Douglas

Making sure the data is comparable and the results are repeatable

In science we have:

Type 1 Errors – When something was recorded as present when it was absent eg. An identification error.

Type 2 Errors – When something was missed when it was actually present. eg. Inadequate sample area or sampling time.

Modelling – Where you can make both Type 1 and Type 2 errors at the same time and not give a shit!

Training courses

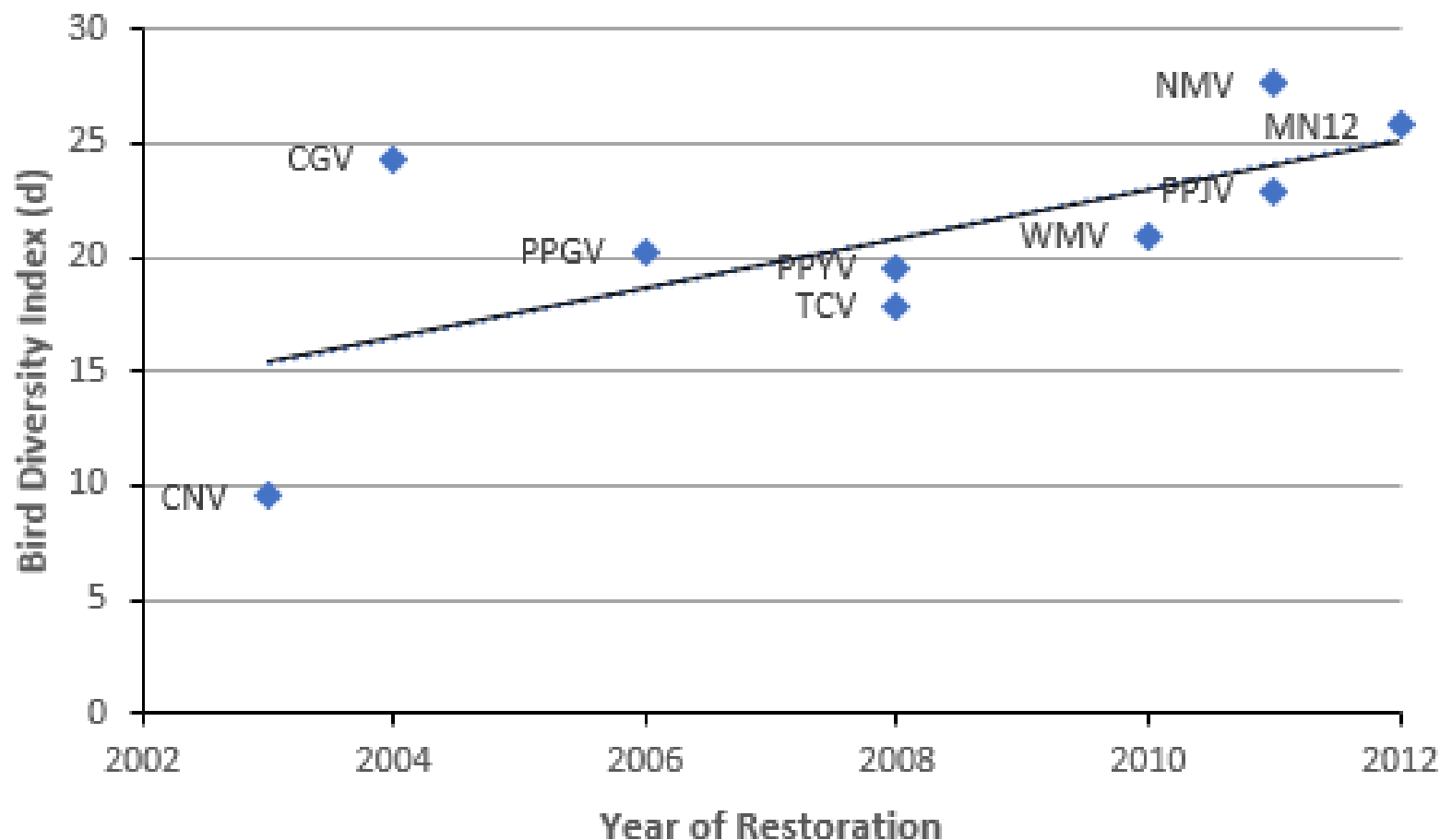


| Activity | Volunteers (n) | Volunteer Field Days (person/days) | Monitoring Observation Hours |
|---|----------------|------------------------------------|------------------------------|
| Ornithology of the Gondwana Link training course | 30 | 162 | |
| Study site set-up week | 8 | 35 | |
| Ant identification assistance | 1 | 2 | |
| Monitoring of study sites using hybrid standard search method | 43 | 166 | 173.3 |

Functional groups

- FG1:** resident, old growth, forest, woodland or mallee.
- FG2:** resident understorey and or canopy insectivores.
- FG3:** resident, ground foraging dense heath or thicket.
- FG4:** Opportunist, forest, woodland, parkland or shrubland.
- FG5:** Edges, grassland, sedgeland, samphire or open heath.
- FG6:** Aerial foraging insectivores.
- FG7:** Eucalypt leaf gleaners, lerp / insect exudate foragers.
- FG8:** Partly (some individuals) resident honeyeaters with mobile flocks.
- FG9:** Nectivorous resource nomads
- FG10:** Cuckoos, nest parasite insectivores

Bird biodiversity & improvements in revegetation technology (restoration approach)



We planted it and they came

Building restoration science by doing restoration.

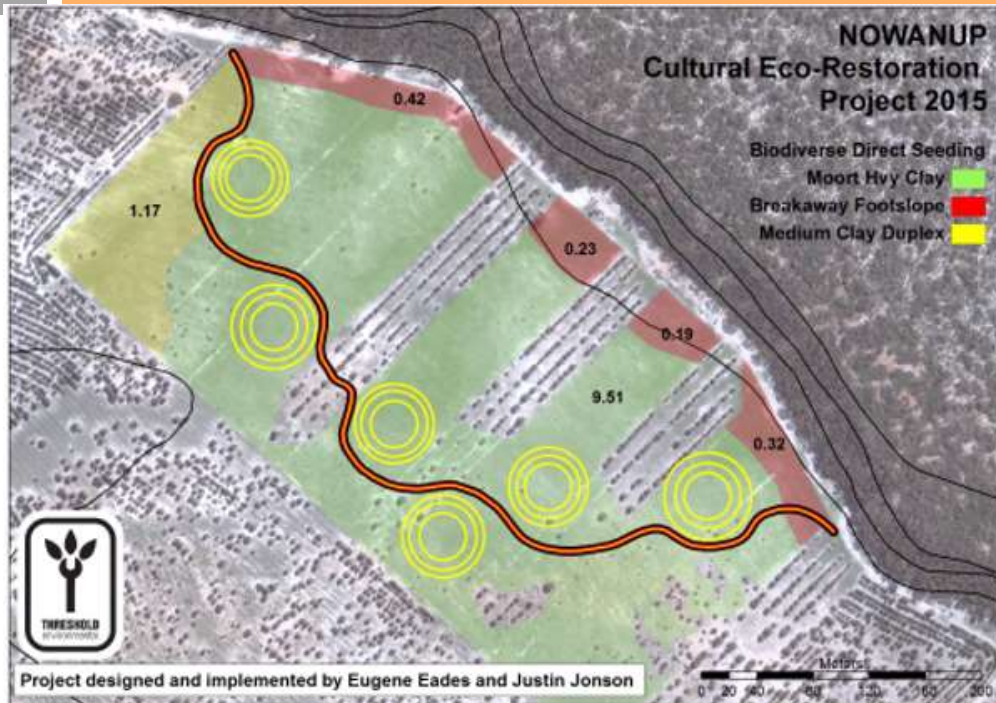


Moving measures of restoration success beyond that of population establishment and survival to incorporate the evolutionary processes that provide long-term resilience, persistence and functional integration of restored populations into broader landscapes.

Australian Research Council Linkage grant of \$400,000:

- led by Professor Steve Hopper, UWA along with:
- Dr's Dave Coates, Margaret Byrne and Melissa Miller from DPaW;
- Dr Sieggy Krauss from the WA Botanic Gardens and Parks Authority.

Eco-cultural restoration



Nowanup rangers at Yarabank, from left, Braden Eades, Jason Bullen, Brett Eades, Jodi, Errol Eades, Eugene Eades and Dean Bullen. Photo: Andrew Keating, Greenpeace UK Ltd



Massive animals growing



SAAT artists make two new and old art pieces emerging from the ground in the south of Western Australia. A 200m long green area is now growing, and the artist of the mountains in the Shire of Nowanup National Park, bringing the land to the Greenhouse Link landscape.

The initiative is a project between the Shire of Nowanup, Greenpeace Australia and environmental groups to restore the central area of the Greenhouse Link landscape.

So how do you design and build a 200m long green area?

Nowanup Eades noted three Greenpeace Australia imperatives that suit him to look at different sites and consider designs. A 200m long green area was chosen for Yarabank, a 200m long landscape and could design the landscape, and a 200m long landscape was chosen for Pithup.

Nowanup artist Fred Eades was given the task of designing the artwork and artwork, and their art-Greenhouse Link and Greenpeace Australia Ltd. Eugene Eades selected the design and artwork to reflect the project's artistic and cultural vision.

Greenhouse Link's Australia Eades was involved with landscape restoration for many years and feels the art piece is a way to give the community a voice.

"Beautiful"

"That's why I'm doing large animals, symbolizing the landscape for our young people and the native animals are some of the most beautiful." said Eades.

"Having Nowanup people will become the custodians of country and the land as a way to give the community a voice and help the people to give the community a voice."

"The country is for the future. It is a way to give the community a voice and the native animals are some of the most beautiful." said Eades.

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The massive artwork emerging at Yarabank in the south of Western Australia

THE KODJ KODJ, WEDNESDAY, SEPTEMBER 6, 2017

The area of Nowanup National Park



Where to now?

- ❖ *Ongoing technical refinement*
 - ❖ *restoration above and below ground*
- ❖ *Can we escape the stop-start cycle?*
 - ❖ *Push-back on 'the forces of mediocrity'*
 - ❖ *Regulatory frameworks that work?*
- ❖ *Cost efficiency - what star rating at what cost covers the most ground best?*
- ❖ *'Blended finance for blended restoration' – how to be more ambitious about getting worthwhile commercial, social and ecological returns on investment?*

