

National Standards for the Practice of Ecological Restoration in Australia: How will they work?

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SER Australasia

RIAWA 'Setting the Standards'
VENUE: HBF Stadium Lecture Theatre
100 Stephenson Ave Mt Claremont 6010
20 & 21 September 2016



National Standards - Partners

Society for Ecological Restoration Australasia (SERA)

In collaboration with 12 Partner NGOs:

- Australian Association of Bush Regenerators (AABR)
- Australian Institute of Landscape Architects (AILA)
- Australian Network for Plant Conservation (ANPC)
- Australian Seed Bank Partnership (ASBP)
- Bush Heritage Australia (BHA)
- Gondwana Link
- Greening Australia (GA)
- Indigenous Flora and Fauna Association (IFFA)
- The Nature Conservancy (TNC) (Advisor)
- Trees For Life (TFL)
- Trust for Nature Vic (TFN Vic)
- WetlandCare Australia (WCA)





Purpose - to improve the success of all restoration and rehabilitation projects, whether

- **Mandatory** – i.e. mandated by a regulator as part of consent conditions, *or*
- **Non-mandatory** – i.e. undertaken by agencies and communities to repair past damage.
(Therefore we draw on experience from both)





THE NEED FOR RESTORATION ACROSS AUSTRALIA IS NOW VERY LARGE AND PRESSING

(Protected areas are insufficient to meet the needs
of nature conservation)





1. Standards for OUTCOMES:
5-star recovery tool

2. Standards for PRACTICE:
Section 3 - table of 20 actions

- Planning
- Implementation
- Monitoring

Six Key Principles:

Principle 1. Ecological restoration practice is based on an appropriate **local indigenous reference ecosystem** (*adapted if necessary to environmental change*)

Principle 2. Restoration inputs will be dictated by level of resilience and degradation (to most efficiently *rebuild* resilience)

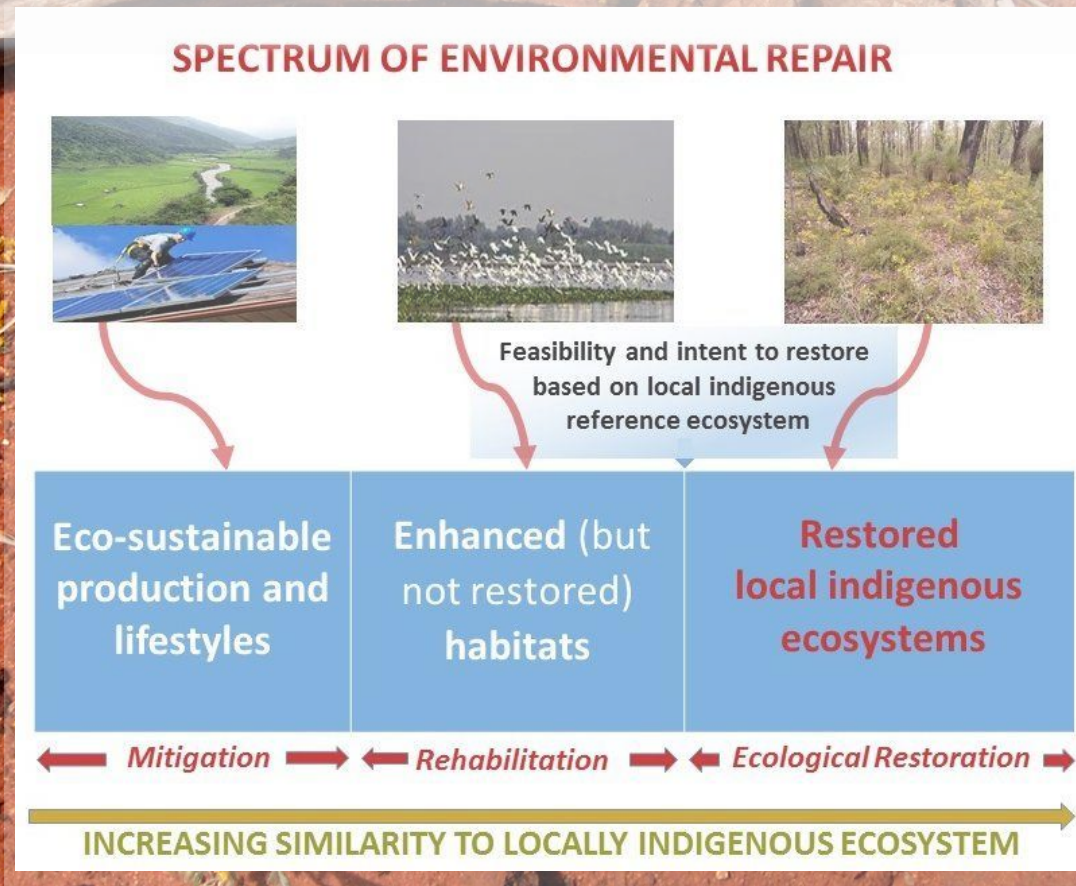
Principle 3. Recovery of ecosystem attributes is facilitated by identifying clear targets, goals and objectives


Principle 4. Full recovery is the goal of ecological restoration but outcomes may take long timeframes (*continual improvement*)

Principle 5. Restoration science and practice are synergistic

Principle 6. Social aspects are critical to successful ecological restoration.

Ecological restoration differs from other forms of environmental repair – as it is fully based on the use of an appropriate *local indigenous ecosystem* model





Restoration = process of assisting the recovery of degraded ecosystems (with the aim of full recovery)

Rehabilitation = process of reinstating ecosystem functionality (where full recovery is far from the aspiration)

BUT emphasis is on *level of recovery* and highest and best effort to achieve net gain



5-star 'recovery scale'

This is designed to track the degree of recovery being achieved at a site over time relative to the project's locally indigenous reference model.



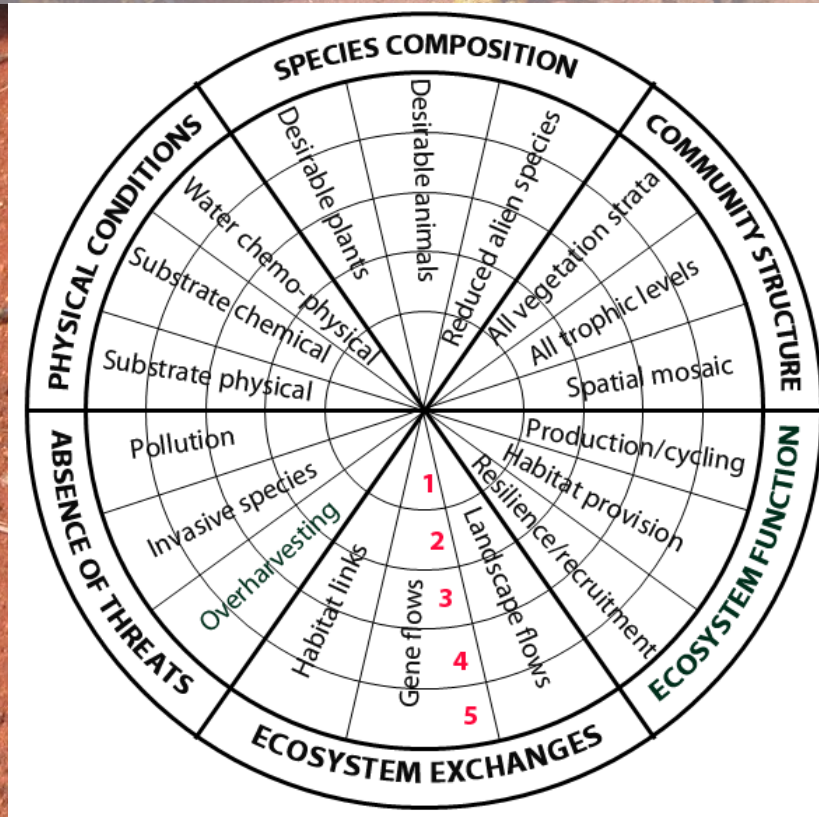
It is tracked for each of six attributes:

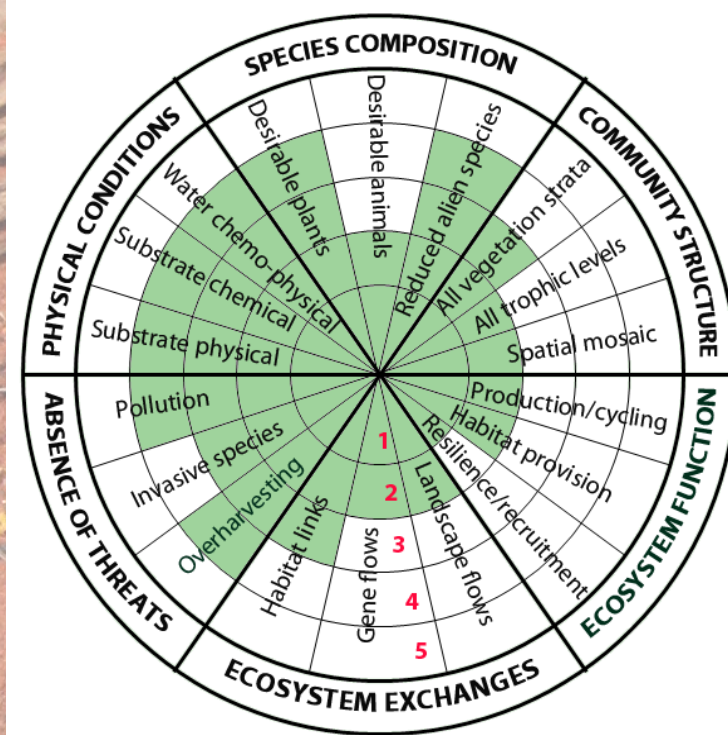
1. Absence of threats
2. Physical conditions
3. Species composition
4. Community structure
5. Ecosystem function
6. External exchanges

EXAMPLE FOR ONE ATTRIBUTE – SPECIES COMPOSITION:

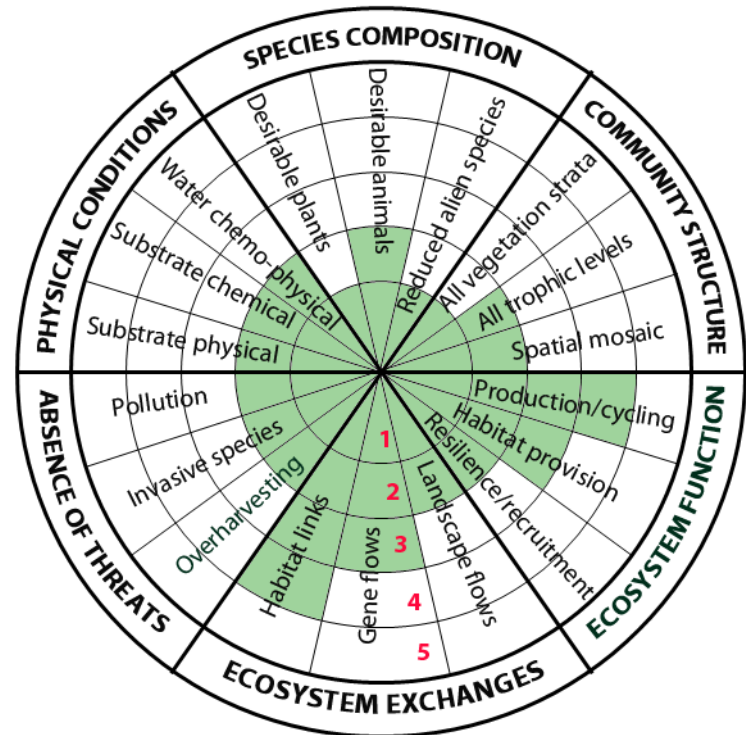
ATTRIBUTE	1-STAR	2-STAR	3-STAR	4-STAR	5-STAR
Species composition	~2% of reference. No threat to regeneration niches.	~10% of reference. Low threat from exotic invasive or undesirable species.	~25% of reference Nil to low threat from undesirable species	~60% of reference No inhibition by undesirable species	>80% of reference and improved potential for colonisation

Communicating outcomes for 6 attributes: *Recovery wheels*





A young *restoration* project



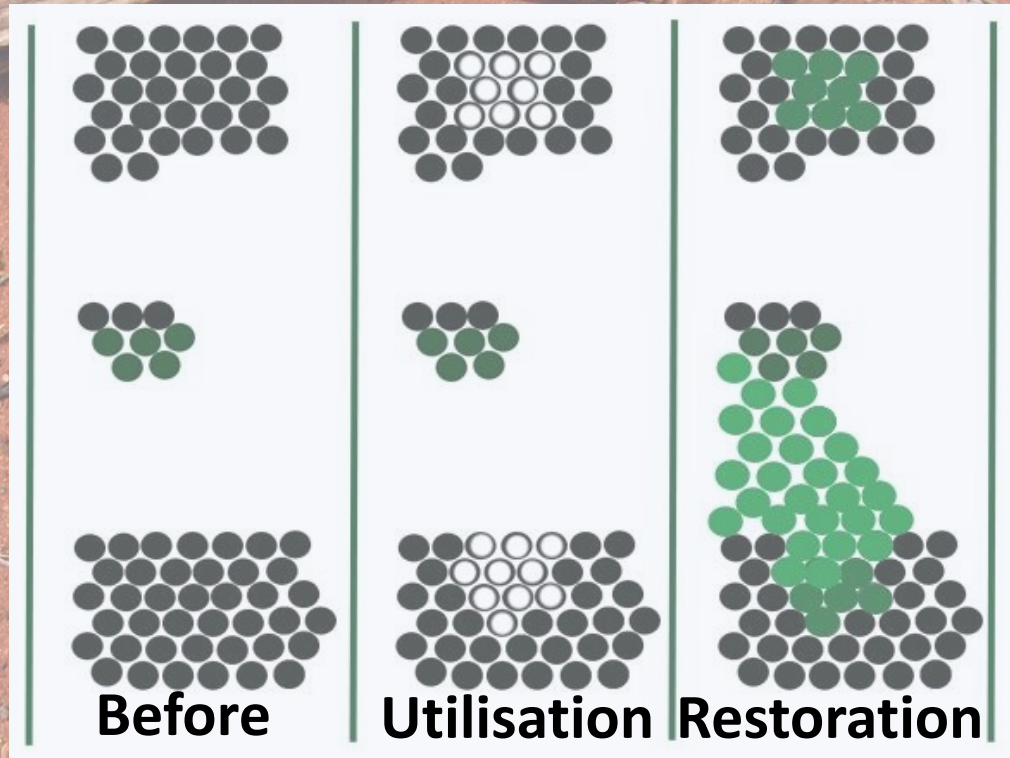
A mature *rehabilitation* project

How will the Standards work?

- Voluntary adoption for highest and best outcome
- Influencing regulators to use terminology and model
- Dovetailing with SER certification and training
- Ongoing industry-wide sharing of knowledge to *optimise* the realisation of sustainability goals

Ethic of restoration: Highest and Best effort

Mandatory restoration → Full recovery (or at least '*no net loss*')



Non-mandatory restoration → net gain recovery

Agricultural landscape – endangered rainforest, NSW



RESULTS: Lantana ‘slashing’– Forest Edge
(previously dominated by Lantana thickets – and some scattered regrowth trees)

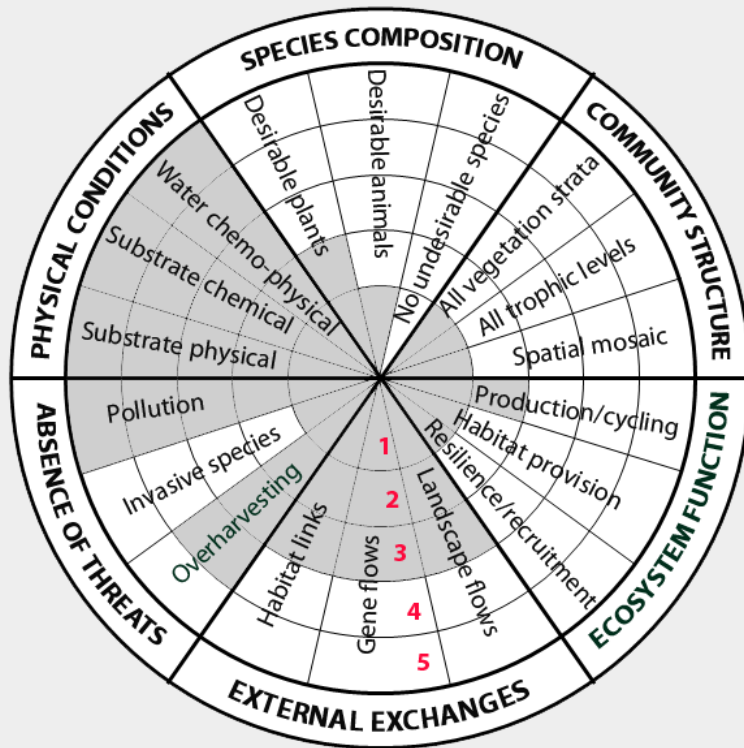
← **Just after treatment** (approx. 1992).

24 years after treatment (2016)

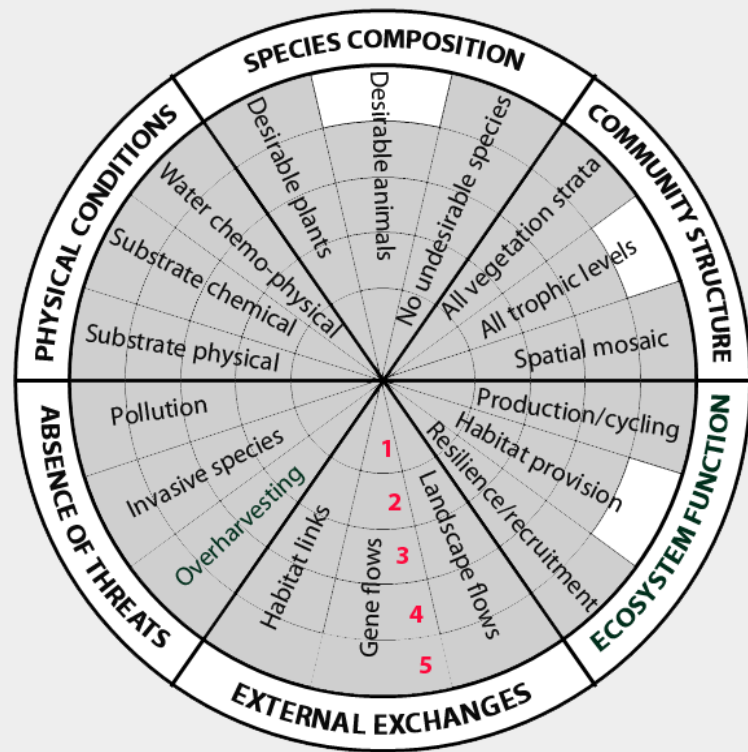


Years after treatment	Total woody species	Earlier phase	Later phase
3	23	14	9
24	35	9	22

Rocky Creek Dam, Forest edge site (ex lantana) – now 70ha recovered



CONDITION IN ~1992



CONDITION 24 YEARS LATER (2016)

Coreen TSR, Riverina NSW, after grazing management (now 1000s hectares treated)



Before - 2004

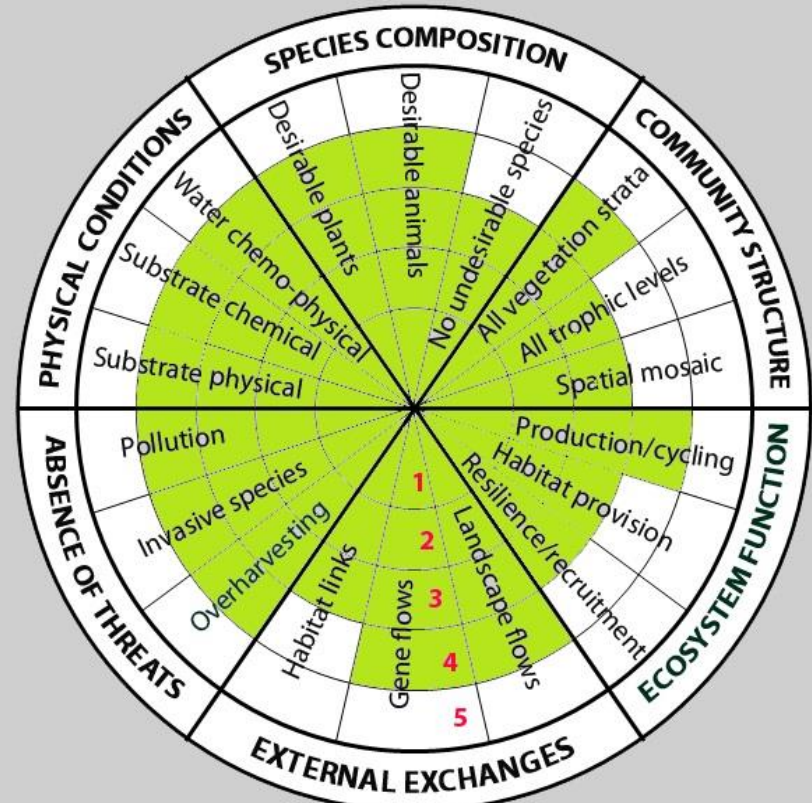
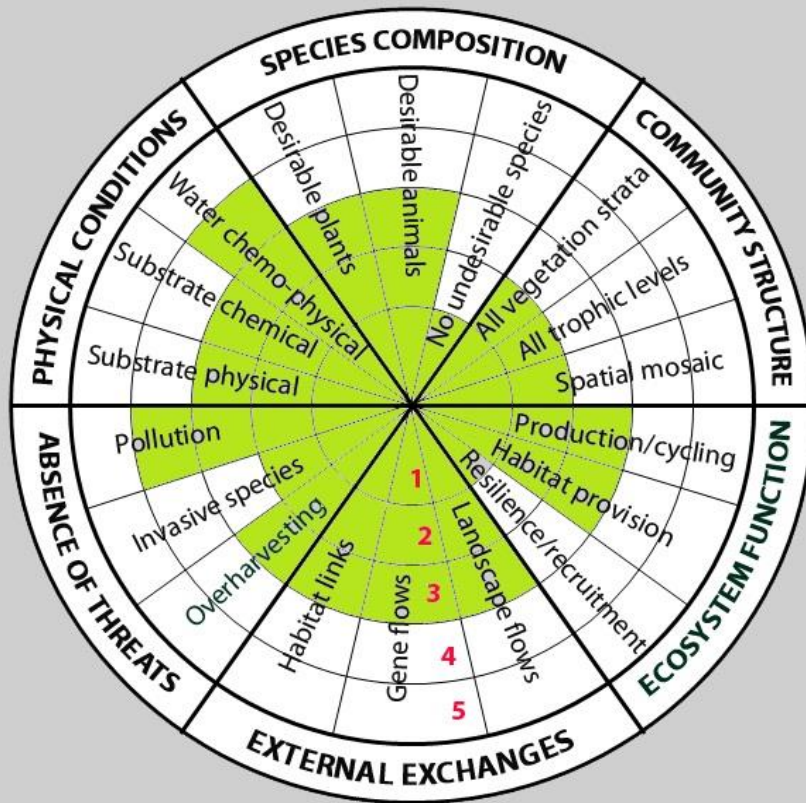


After - 2015

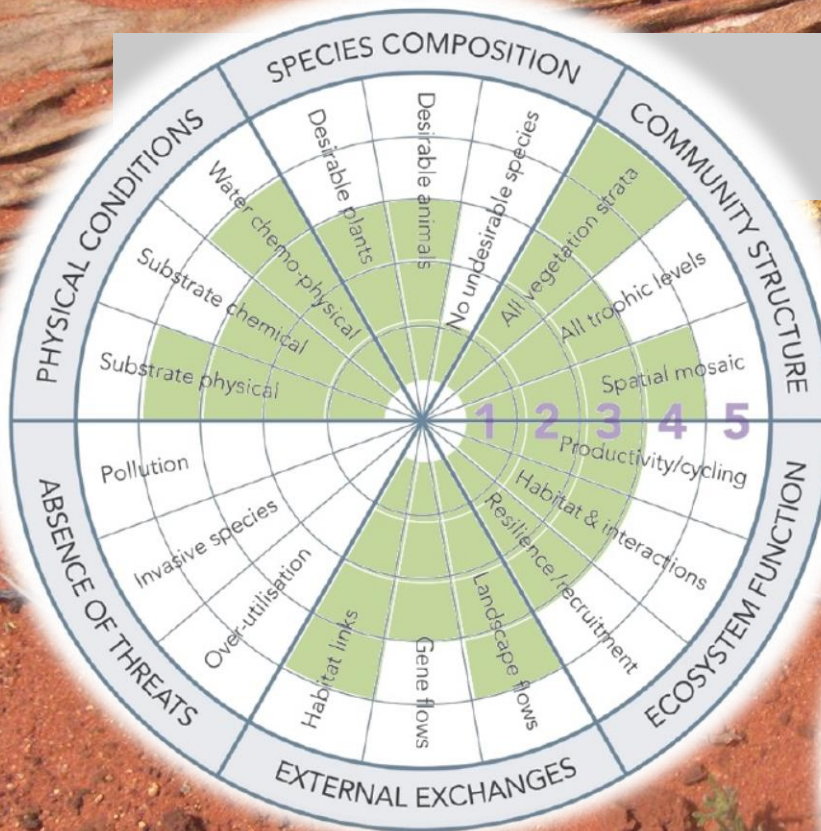
Grazed landscape - Riverina NSW - Coreen TSR

Before

After

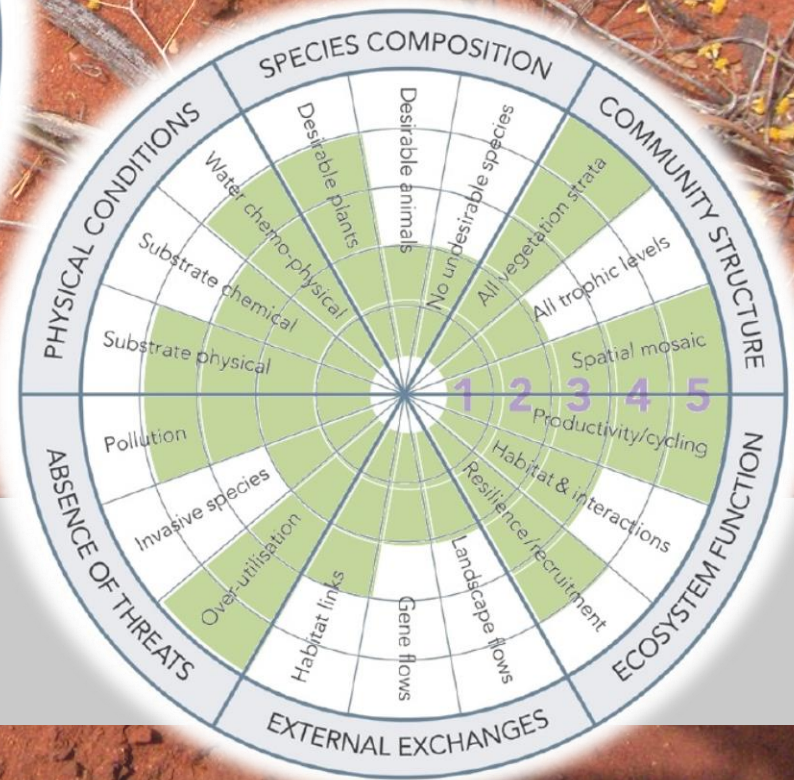


1991

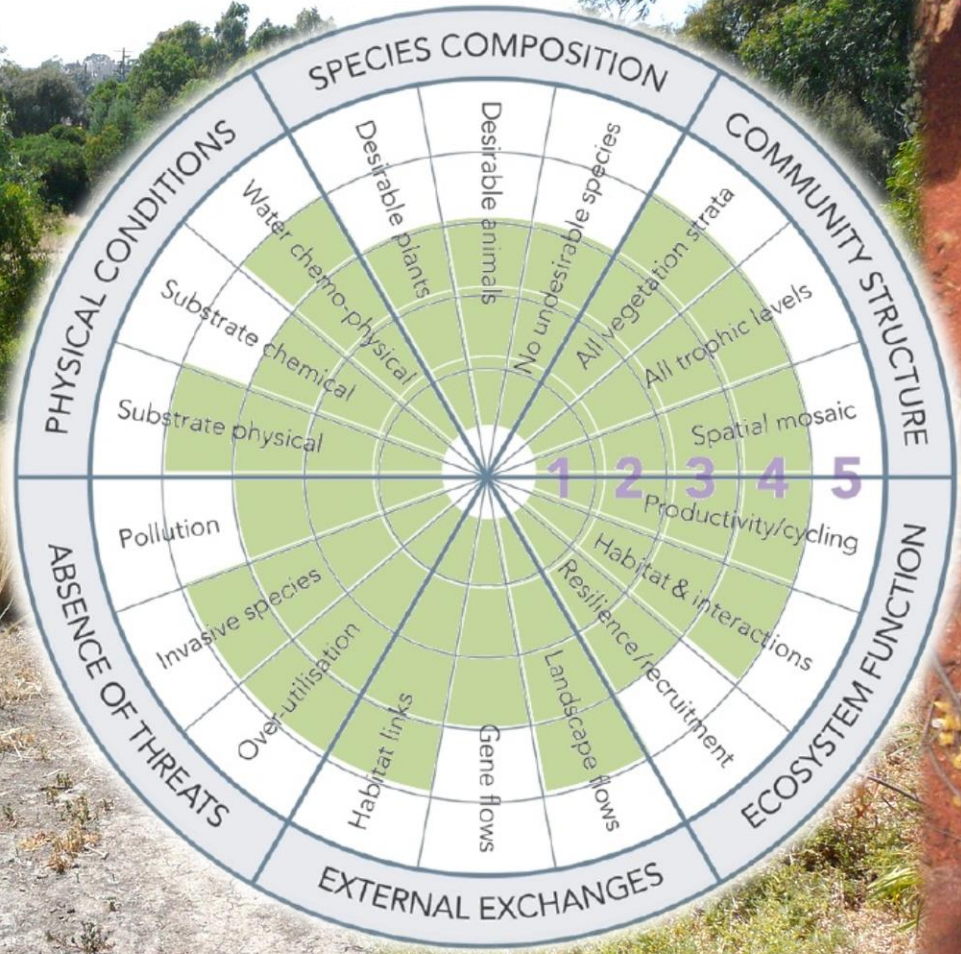


Merri Creek
Melbourne

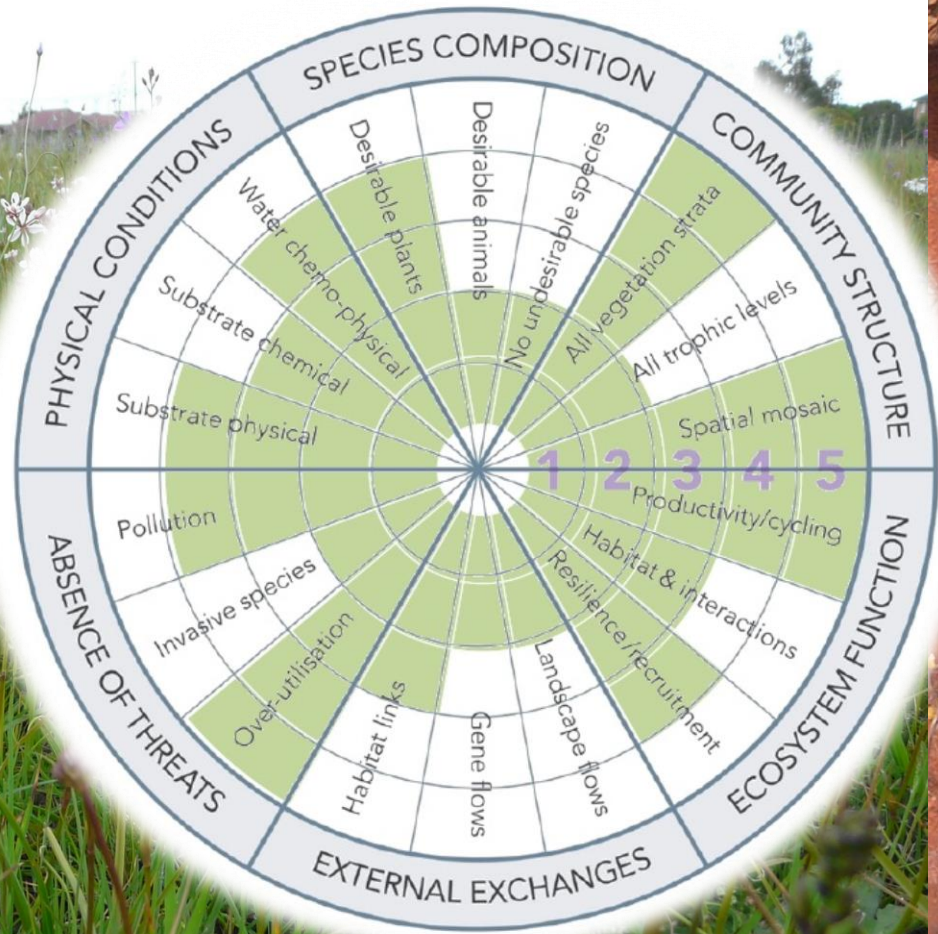
2016



Open Forest



Grassland

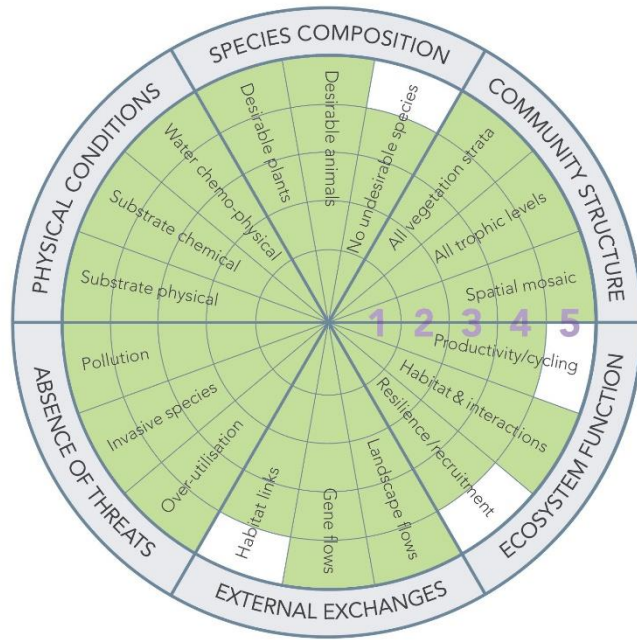


Snowy Mountains, NSW, spoil heaps (Now 18 major sites treated)

Snowy Adit - Kosciuszko National Park



Snowy adit - Kosciuszko National Park



Prior bare site now has > 60 vertebrate species - 36 bird, 17 mammal, 4 reptile and 3 frog. (5 Threatened species.)

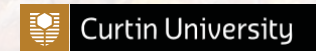
Sponsors

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Indigenous Flora and Fauna Association



A photograph of a desert landscape. The ground is covered in bright red soil. In the upper half, there is a large, weathered, light-brown piece of driftwood. Scattered across the red soil are several small, bright yellow flowers with green stems. A semi-transparent rectangular box is centered in the image, containing the text "Thank you" in a black, sans-serif font.

Thank you

Future directions?

Supplementary document looking at scaling up of restoration – and desirable attributes of *projects*:

1. Strategic advantage in space and time
2. Threatened species potentially benefiting
3. Pervasiveness of threats addressed
4. Degree project informed by ecological knowledge
5. Project culturally embedded
6. Secure institutional support

Project attributes wheel?

