

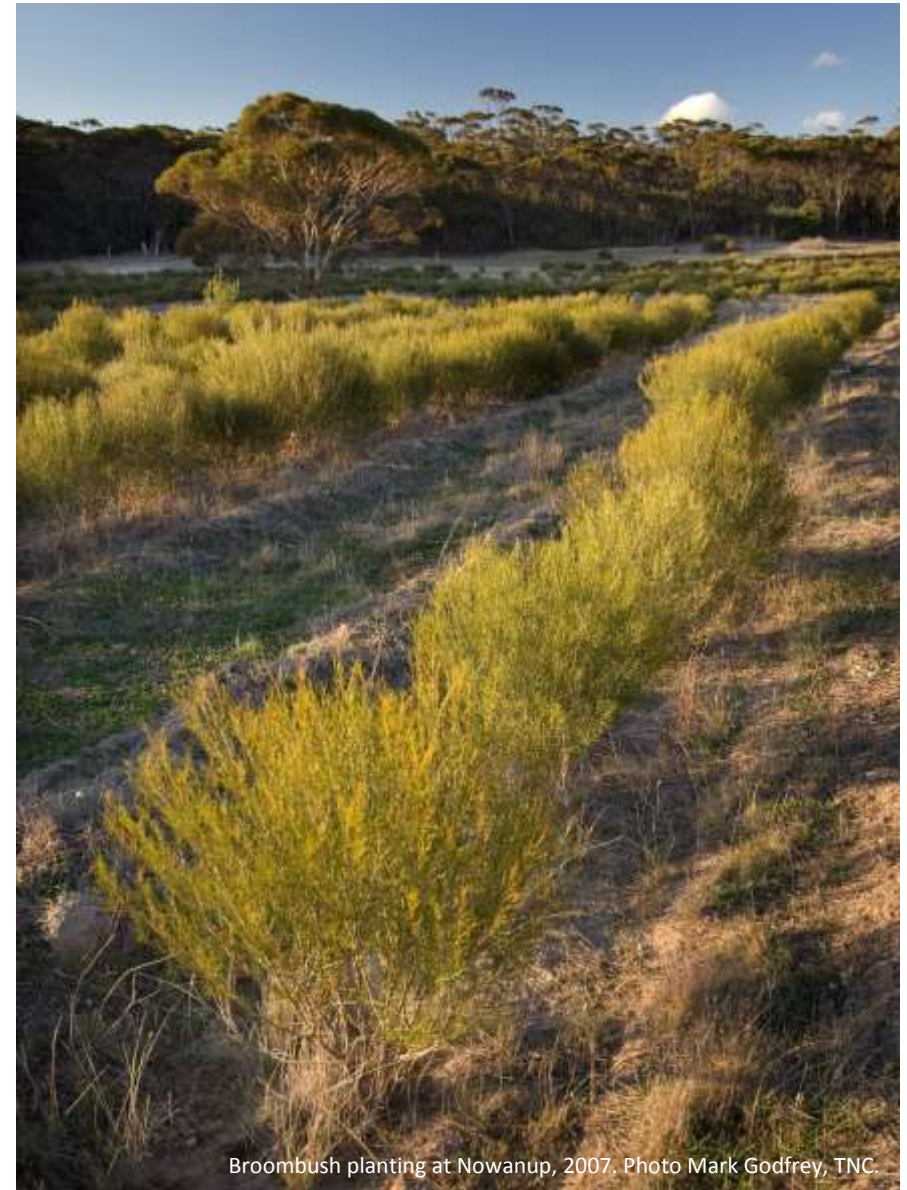
# Gondwana Link RESTORATION STANDARDS

**October 2010**  
**Version 1.1**

**Version 1** was prepared in 2009 by Paula Deegan (University of Queensland) with input from Keith Bradby and Amanda Keesing (Gondwana Link Ltd), Simon Smale and Barry Heydenrych (Greening Australia), Angela Sanders (Bush Heritage Australia) and Justin Jonson.

**Version 1.1** incorporates comment received and was revised by Keith Bradby, Paula Deegan and Justin Jonson.

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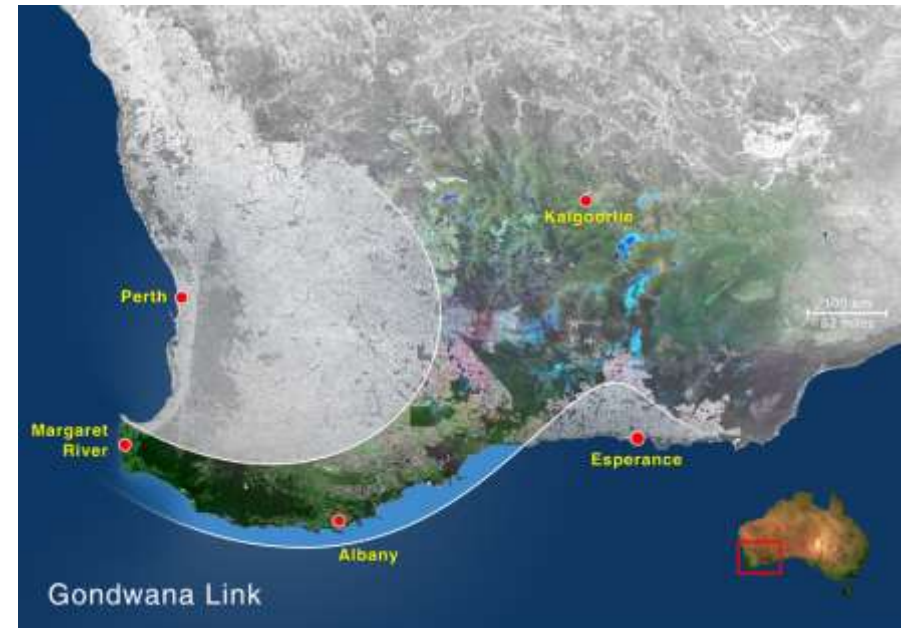
Broombush planting at Nowanup, 2007. Photo Mark Godfrey, TNC.

## Gondwana Link

The Gondwana Link vision is ***'Reconnected country, from the wet forests of the far south west to the woodland and mallee bordering the Nullarbor, in which ecosystem function and biodiversity are restored and maintained.'***

Gondwana Link works through partnering – formally or informally – with many organizations and individuals who share the vision for an ecologically resilient landscape across south western Australia. Many different actions can contribute to achieving the vision, including protecting existing native bushland; managing threatening processes such as *Phytophthora cinnamomi* dieback, invasive species and inappropriate fire regimes; reducing the adverse ecological impacts of commercial enterprises; supporting commercial enterprises that contribute to biodiversity enhancement; or restoring areas of ecologically functional native vegetation.

[www.gondwanalink.org](http://www.gondwanalink.org)



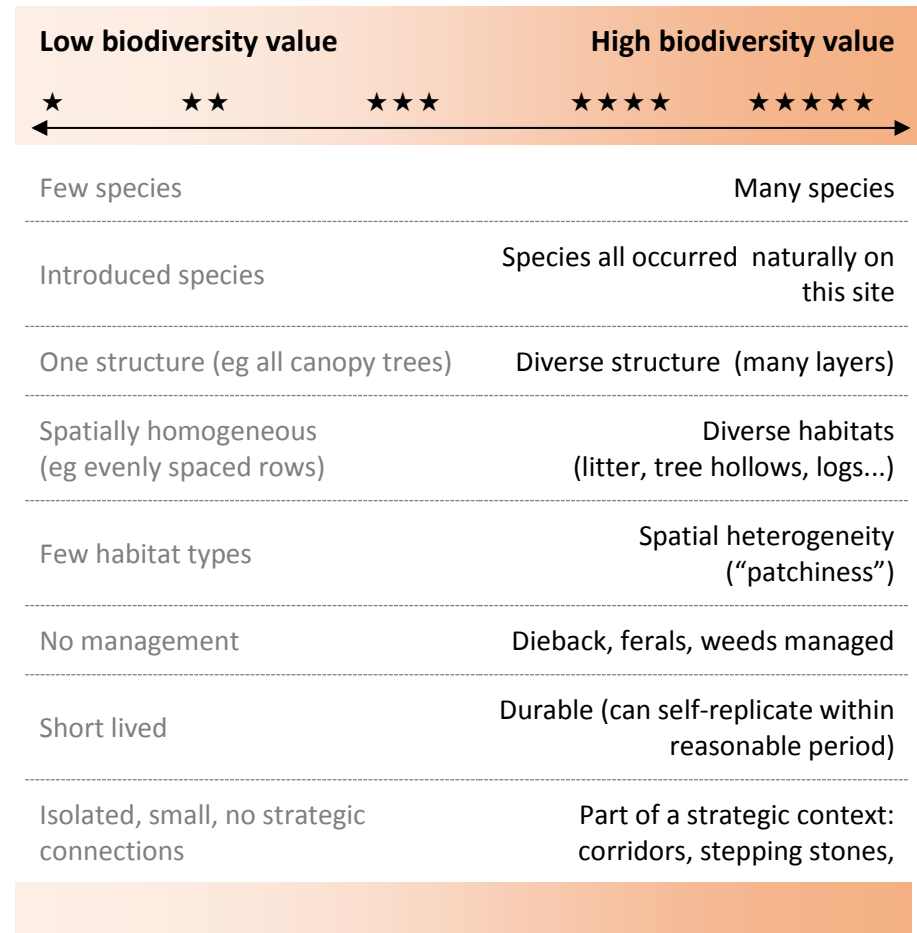
## Gondwana Link restoration standards

These standards provide guidance on the design and implementation of **revegetation for ecological restoration, in order** to help ensure that the best possible ecological outcomes are achieved. The standards are particularly applicable to any project aimed at restoration of native systems; they may also be applied to other revegetation projects, such as the development of commercial enterprises, revegetation for catchment hydrology or erosion control, or revegetation for amenity and other purposes on farms.

What the standards recognize is that not all revegetation – even of native species – can be considered to contribute equally to ecological function and biodiversity, and so to refer to any standard of revegetation of native species under the one label of “biodiverse” can be very misleading (see Figure 1). The use of standard ratings for different revegetation activities based on the relative ecological benefits will assist those involved in Gondwana Link to identify the contributions made by various plantings to the Gondwana Link vision. The standards are intended to be used to:

- Provide restoration standards for projects to be undertaken as part of recognised Gondwana Link efforts.
- Assist groups and individuals undertaking revegetation activities in the Gondwana Link areas, or elsewhere, to consider in their planning and implementation the range of factors which increase the ecological benefits.
- Clarify the appropriate use of terms such as “restoration”, “biodiverse revegetation” and “biodiverse enterprises” by providing consistent criteria.

Figure 1. Continuum of biodiversity and ecological values (illustrative example)



## Strategic location

The standards do not include detailed criteria on strategic location, as they are intended to be applicable across a wide area in which the particular landscape context will also need to be considered. In time, it is envisaged that Gondwana Link Limited, in conjunction with its member groups, will develop spatially-explicit plans to identify priority restoration areas in which “5 star” restoration would be required if agreed Gondwana Link ecological objectives are to be met. These plans may also indicate areas where a lower standard may be acceptable and appropriate (eg upper catchment areas in which perennial revegetation assists in protecting high biodiversity values lower in the catchment through salinity control, in which case, however, such revegetation would not necessarily be described as “biodiverse”).

In the interim (before completion of any spatial plans), landscape context should be considered in site selection and planting design. Some of the factors to be considered are:

- Proximity to other native vegetation and potential beneficial effects (eg increasing available habitat area for particular species) or risks (eg potential for spread of dieback if already present or there is any risk of introduction to otherwise uninfected areas).
- Position in relation to high value and/or sensitive areas such as creeks, wetlands, areas containing short range endemic species, threatened or rare species or communities, or communities that are of restricted occurrence. Revegetation in such sites should be assessed for its protection value and its possible range extension value.

- Catchment position and hydrological trends (ie whether groundwater levels are rising as a result of too little perennial vegetation).
- Size and shape. Generally, larger blocks of plantings are more beneficial for wildlife (if other criteria are met) and areas with a low perimeter/area ratio (ie round, square rather than long and thin) are more likely to be durable as they are less prone to disturbances such as weed invasion and wind throw. However, some small plantings can be of great value if they are in the right locations, carefully designed for ecological benefits and there is adequate management to ensure they survive in the long term.
- Enhancement of degraded native vegetation areas can be cost-effective and ecologically beneficial if the causes of degradation are also addressed.

## Some useful definitions

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

**Ecological resilience** is the capacity of a system to undergo disturbance and maintain its functions and controls, and may be measured by the magnitude of disturbance the system can tolerate and still persist (Wallington, Hobbs & Moore 2005).

## **Underlying principles**

It is always useful to be mindful of the principles underlying our work. While we may need to refine a set directly applicable to the work in Gondwana Link, for the moment we propose that this set, borrowed from a Parks Canada document, “*Principles and Guidelines for Ecological Restoration in Canada’s Protected Natural Areas*”, be used to guide work in Gondwana Link.

### ***Ecological restoration is efficient***

*when it:*

- *Strives for consistent and timely results.*
- *Is mindful of limited resources and creative in seeking novel means for accomplishing objectives and partnerships.*
- *Fosters creativity, innovation and knowledge sharing to ensure best future science and practice.*
- *Is responsible to the individuals, communities and institutions upon which the project(s) depends for success.*

*because it:*

- *Takes advantage of synergistic partnerships*
- *Encourages a minimum level of intervention*

*recognizing that it:*

- *Ensures long-term capacity for ecosystem maintenance through monitoring, intervention, and reporting*
- *Reports and communicates on actions and activities undertaken.*

### ***Ecological restoration is effective***

*when it:*

- *Restores the natural ecosystem's structure, function, composition and dynamics (e.g., perturbations, retrogressive or progressive succession) within the constraints imposed by medium to long-term changes.*
- *Strives to ensure ecosystem resilience over time.*
- *Endeavours to increase natural capital.*

*because it:*

- *Respects the present and changing biophysical environment of the natural region.*
- *Is attentive to historical ranges of spatial and temporal variability, allowing for evolutionary change.*
- *Depends on a judicious blend of the best available scientific knowledge, Aboriginal traditional knowledge, and local knowledge.*
- *Avoids adverse effects on ecosystem components, cultural resources and socio-economic conditions.*
- *Is conducted according to these principles and guidelines as well as the implementation framework...which encompasses key aspects of planning (e.g., consultation), execution, and follow-up.*

*recognizing that it:*

- *Typically requires continued commitment.*
- *Requires humility in the face of complex ecological and cultural uncertainties.*

## ***Ecological Restoration is engaging***

*when it:*

- *Integrates the heritage value of cultural resources, especially where these are highlighted in the protected area's designation.*
- *Provides opportunities for people to more deeply connect with nature and enhances their understanding and appreciation of the relationships between cultural and ecological patterns and processes.*
- *Offers (people) opportunities to discover and experience ... nature in ways that help to broaden their sense of attachment to the protected areas.*
- *Provides opportunities for community members, individuals, and groups to work together towards a common vision.*
- *Assists in promoting community wellness*
- *Creates opportunities for culture-nature reintegration that results in spiritual order and balance and enhances human well-being.*

*because it:*

- *Is inclusive and creates opportunities for meaningful engagement in restoration activities that support the development of a culture of conservation.*
- *Recognizes cultural<sup>1</sup> practices as ecological values to be restored or maintained.*

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<sup>1</sup> The term "cultural practices" in this context refers to ecologically sustainable traditional practices of long-standing application (i.e., usually, one thousand years or more; e.g., traditional use of fire by Aboriginal people).

*recognizing that it:*

- *Ensures that proper consultation with Aboriginal peoples is conducted if there is a possibility that the restoration project or activity might have adverse effects on Aboriginal rights or title, even those that are claimed but unproven.*

*These principles of ecological effectiveness, practical and economical efficiency and socio-cultural engagement should be interwoven in the application of the guidelines and the framework for the planning and implementation for ecological restoration.*

## **Further information**

**Society for Ecological Restoration (SER).** The SER provides a selection of publications on-line, including "***The SER Primer on ecological restoration***" which includes useful definitions and discussion on restoration aims and issues.

<http://www.ser.org/pdf/primer3.pdf>

## Gondwana Link Restoration Standards

Criteria	Comment	Score				Weighting** 1=low, 2=medium 3=high (more important)
		2	1	0	-1	
<b>A. Planting design</b>	Ecological restoration is designed to replicate, insofar as is possible, the mix of habitats and species that were present on-site prior to clearing. Vegetation associations have characteristic species and structural compositions that have evolved with the soil types and other conditions (hydrology, aspect etc) found at the particular site. Vegetation associations that are characteristic of the site are most likely to support a full suite of ecological functions and processes, including evolutionary processes and those related to fauna (invertebrate and vertebrate). For many parts of Gondwana Link, vegetation mapping is not able to differentiate the fine-scale mosaic of vegetation associations, so site analysis and comparison with any native vegetation on similar site types in the proximity is necessary.					
A1. Proportion (by species number) of the full suite of plant species that naturally occurred on the site that will be incorporated into revegetation.	This criterion reflects the degree to which the revegetation reflects the characteristic composition of the naturally occurring vegetation associations. Ideally, as many as possible of the taxa which would naturally occur on the soil and landscape types would be included in the planting design.	At least 30% of plant species that would be expected to occur naturally on site included in the seed mix <b><i>NB 3 points can be scored if seed/seedling mix includes 70% or more of species.</i></b>	1-30% of plant species that would be expected to occur naturally on site included in the seed mix	0%	NA	3
A2. Use of local provenance genetic material	Given the intense speciation across most of the Gondwana Link area there is a serious risk of genetic pollution unless seed is sourced locally or from similar genetic material to that which grew on the site. The flora within this region is dispersal limited and has therefore evolved in relative isolation over millions of years. Risk of loss of specialized genotypes could be minimized through genetic testing or, as a simpler approach, through the use of material obtained from similar landscape units within 15kms of the planting site. Unless genetic testing is undertaken, we are using proximity to the planting site as a guide to determine if the appropriate genetic material is	85% sourced within 1km of the site; remaining seed sourced within 5km of site	No seed sourced beyond 15km of site.	If any seed was sourced outside 15km from the site	NA	3

Criteria	Comment	Score				Weighting** 1=low, 2=medium 3=high (more important)
		2	1	0	-1	
	used. It is recognised that future studies may show a wider genetic mix to have advantages, particularly in a time of accelerated climatic change, but in the complete absence of studies to determine precise guidelines for how this might operate 'the precautionary principle' is followed.					
A3. Structure	Structural diversity is one of the most important characteristics of revegetation for enhanced fauna habitat. Having different layers in the vegetation provides different fauna habitats required for foraging, nesting, shelter, and predator evasion For many communities, the emergence of all strata may take many years depending on the growth rates of the tallest structural components. This can be hastened in some cases by inclusion of seedlings as well direct seeding in the revegetation design.	Planting design provides for all the strata as present in the equivalent natural system.	Contains at least a native overstorey and understorey strata	Structurally homogeneous (single stratum)	NA	3
A4. Spatial heterogeneity	There are two main aspects to consider in spatial heterogeneity: First is the fine scale mosaic of vegetation types that would occur as a result of soil types, hydrology, aspect, elevation and species interactions within a site. Secondly, there is the density of plantings. In most naturally occurring systems, there is some variation in stem densities reflecting site conditions and disturbance factors.	Mosaic "patchiness" incorporated in design	NA	Homogenous planting design	NA	3
		Design likely to result in different densities of plantings to ensure development of thickets, tall trees, and spatial irregularity (while minimizing bare or non native grass areas)	NA	Homogenous planting design	NA	2



Criteria	Comment	Score				Weighting** 1=low, 2=medium 3=high (more important)
		2	1	0	-1	
A5. Row placing, spacing and design	A further aspect of spatial heterogeneity is the row spacing and inter-row treatment. In large scale plantings particularly, the use of specialized or modified planting equipment generally results in plants emerging in rows. The ecological and aesthetic values can be increased by minimizing the inter-row distance, and by including inter-row plantings.	Narrow and/or irregular row spacings; inter-row plantings included.	NA	NA	Widely spaced straight rows with no plantings between rows	3
A6. Self replicating	Ecological resilience is the capacity of a system to undergo disturbance and maintain its functions and controls, and may be measured by the magnitude of disturbance the system can tolerate and still persist (Wallington, Hobbs & Moore 2005). Even in a managed system, disturbances such as fire can occur and in a resilient system, it would be expected that regeneration would occur following the disturbance. Inclusion of colonizer and pioneer species in the planting design will help to build resilience.	Within 7 years post establishment, sufficient seed set in a mix of species to allow regeneration of an ecologically diverse community in response to major disturbance (or designed so this will occur).	NA	Unable to replicate after disturbance	NA	3
A7. Provide fauna habitat, especially habitat components that may be in short supply.	Some fauna habitat types have been depleted through clearing, burning or other activities. Restoration can include specific prescriptions for habitat provision. (Eg planting yates for nesting hollows, creating wallaby habitat, ensuring nectar or pollen sources for pollinator species).	Fauna needs and variety of habitat incorporated in design	NA	No specific inclusion of habitat	NA	3
A8. Potential invasiveness of any species used that are not naturally occurring on site.	On some sites, plantings may be primarily for commercial enterprises (eg carbon sequestration) or to redress hydrological imbalances.	No risk of invasive species (all species occurred naturally on site)	NA	Low risk of invasion by any non-endemic species used	High risk or high degree of uncertainty of invasive potential.	2

Criteria	Comment	Score				Weighting** 1=low, 2=medium 3=high (more important)
		2	1	0	-1	
A9. Creation or protection of niche habitat or micro-habitat	Large woody debris (eg hollow logs), rocks, paddock trees and any remaining native vegetation contributes to fauna habitat and can provide micro-climatic conditions for germination of some species. These micro-habitats should be retained where already present, or replaced (eg placement of such material if it can be obtained without harm to other areas) to maximize the chances of faunal colonization.	Active placement of large debris (hollow logs, rock piles, etc) to provide micro-habitat. Retention of 100% of existing micro-habitat.	Retention of materials on ground during planting.	Habitat needs ignored.	Existing microhabitat (e.g. paddock trees) destroyed or lost during re-planting.	2
A10. Consideration of off-site impacts in planting design	A well-designed revegetation project will consider management of hydrology, nutrients and sediment. It will ensure that the planting project does not contribute to loss of water, nutrients or sediment from the site, and will not entail any risk of fertilizer, herbicide or insecticide contamination of native vegetation or impacts on fauna.	Project is beneficial with respect to nutrients, water and sediment (plantings on contours; planting design and implementation incorporates retention of surface water and soil in 1:5 – 1:10 year rainfall events	Project is benign with respect to nutrients, water and sediment	NA	Project exacerbates nutrient, water or sediment problems.	2
A11. Inclusion of <i>Gastrolobium</i> or other poison (sodium monofluoroacetate) containing plants in the seed mix	The native plant species that contain sodium monofluoroacetate will kill stray stock and have a secondary poisoning effect on feral species. Inclusion in planting prescriptions will assist in development of fauna habitat. Poison plants do not occur naturally in all sites but their inclusion in restoration projects is likely to be beneficial for native fauna, particularly if planted in thickets as a major component of understorey.	Thickets of poison peas included in seeding design and established within 5 years	NA	None included	NA	1

Criteria	Comment	Score				Weighting** 1=low, 2=medium 3=high (more important)
		2	1	0	-1	
A12. Inclusion of threatened and locally endemic species of flora	Where possible, inclusion of threatened or local short range endemic species should be encouraged (although inclusion of threatened species may not be cost-effective). Where short range endemics occurred naturally on the site and seed can still be easily obtained, their inclusion is highly desirable. While not officially listed as threatened, there are species and associations that have been largely lost from the landscape (eg upland Yate communities) and their inclusion on appropriate sites in restoration programs should be encouraged.	Restoration includes short range endemics, threatened species or species and communities that have been greatly reduced in extent within the region.	NA	No inclusion of short range endemics, threatened species or species and communities that have been greatly reduced in extent within the region.	NA	1
<b>B. Establishment and management processes</b>	Once the planting has occurred, there are on-going management requirements for at least the first 7-10 years post-establishment. To contribute to the adaptive management process that Gondwana Link supports, there should also be opportunities to learn from every project and this requires some form of monitoring and evaluation to ensure that assumptions made about biodiversity and ecological processes in the design phase are tested and communicated.					
B1. Clear documentation of planning, implementation, management and monitoring	Ecological restoration is a developing area of science and practice, and one in which it is critical to learn from every experience so that methods and outcomes become more efficient and effective over time. Expected outcomes of the project are clearly stated at the outset so the project can be evaluated against them. Good documentation of the project, from goals through to deliberation and sharing of monitored outcomes is part of a continuous improvement and adaptive learning process. ( <i>Documentation will also assist in application of this evaluation</i> )	Project clearly documented to a high standard; documentation available to peers and other practitioners; outcomes clearly stated; deliberation and evaluation occurring or scheduled.	Project documented.	No thorough documentation	NA	3
B2. Ecological monitoring program	Ecological monitoring plan in place that complements and supports the Gondwana Link monitoring program, including through exchange of data and sharing of learning.	In place and resourced	Limited range of monitoring activities	No monitoring planned or implemented	NA	3

Criteria	Comment	Score				Weighting** 1=low, 2=medium 3=high (more important)
		2	1	0	-1	
B3. Use high quality seedlings and seed	Using poor quality seedlings or seed in restoration is likely to result in establishment failures, poor growth and additional costs. Poor root architecture in seedlings may result in plant death up to 15 years after establishment. Seed and seedlings should meet quality standards.	Seed for project meets Florabank quality criteria, has known viability and purity and is correctly identified. Seedlings are grown to accepted quality specifications	Seed or seedlings are from a reputable supplier with a good record of quality control	No quality control in place		
B4. Stock exclusion	Exclusion of stock has been demonstrated to improve native plant germination and a range of soil conditions. Soil cover particularly is degraded under grazing by livestock and can contribute to other ecological degradation such as nutrient cycling, water retention, erosion and recruitment of plants.	Total permanent exclusion	Total exclusion at present but no guarantees in future	Livestock grazing allowed.	NA	3
B5. Ecologically appropriate fire management	<p>The most ecologically appropriate fire conditions for many of the vegetation associations within the Gondwana Link area are not known or agreed as yet. In the absence of detailed fire prescriptions being agreed, rules of thumb are:</p> <ul style="list-style-type: none"> <li>• Areas should not be burnt if they contain ecologically sensitive features (eg dieback areas);</li> <li>• Associations containing obligate seeders should not be burnt more frequently than they re-set seed;</li> <li>• A mosaic of fire ages is preferred, so that at any time there are areas that are mature age, areas of regeneration, and uneven aged</li> </ul>	Robust plan in place and resourced. Plan includes consideration of ecologically sensitive areas and fire sensitive communities. Plan is developed within larger regional context with consultation with other land managers and fire authorities and	Fire management includes meeting basic legal requirements.	No consideration given to fire management	NA	2

Criteria	Comment	Score				Weighting** 1=low, 2=medium 3=high (more important)
		2	1	0	-1	
	stands scattered throughout the local and regional area.	meets all legal requirements.				
B6. Management of feral species (rabbits, foxes, cats, pigs, etc)	The establishment of fauna habitat will be ineffective if predator species are not managed. Failure to control rabbits and pigs will lead to degradation of the condition of the revegetated areas as well as surrounding areas. Feral species control should be undertaken at property scale but coordinated at regional scale.	Management in place and resourced	NA	No management	NA	3
B7. Management of <i>Phytophthora</i> dieback and other plant pathogens.	<i>Phytophthora</i> dieback is one of the most significant threats to native flora, particularly to many of the species which provide critical nectar and pollen supplies to vertebrate and invertebrate fauna. Management of <i>Phytophthora</i> and other pathogens requires prevention of introduction and/or spread; buffering by disease-resistant plants where appropriate; hygiene for all operations and access in place and well communicated to staff and visitors.	Pathogen survey conducted on site prior to commencing any activity. Comprehensive management in place at all stages: site preparation, planting, post-emergence.	NA	No control on access and movement	NA	2
B8. Management of weeds	When restoring previously-cleared land, some weed species will be present and will need to be managed both to ensure effective germination and early growth of planted species, but also to ensure that subsequent spread does not occur.	Weeds managed pre- and post-emergence. Management continued until sufficient native vegetation cover established to out-compete weed species.	Weeds only managed for first 2 years to allow successful establishment of seed and seedlings but not managed after that.	No management of weed species.	Weed species introduced or stimulated during planting or post-establishment and not managed.	3
B9. Harvest activity	Where revegetation activities have a commercial driver, they may involve harvesting one or more products from the system. Harvesting of bush products can also occur from revegetation or	No or minimal harvesting (eg selective removal of bush products	Whole plants removed as part of harvest mechanism, but	Removal of all or most vegetation	NA	2

Criteria	Comment	Score				Weighting** 1=low, 2=medium 3=high (more important)
		2	1	0	-1	
	native vegetation managed primarily for conservation. The impacts of harvesting on ecological value depend primarily on how much of is harvested and what mechanism is used. . All sites should be established to allow seed collection for further restoration work. Seed collection should follow Florabank guidelines.	such as quandong nuts, or leaf products that do not affect the plants' survival) Individual plants fully recover from harvesting.	species survival on site not compromised	requiring re-planting		
B10. Post harvest management and rehabilitation	Post harvest management plan in place and associated criteria clearly articulated to ensure re-establishment/maintenance of native vegetation and habitat.	No post harvest management required	In place and resources assured	Nil or post-harvest plan is for removal and conversion to less ecologically diverse landscapes	NA	2
B11. Neighbour relations	Good neighbour relations act as a local 'license-to-operate for restoration projects. This includes management of weeds and feral animals, maintenance of boundary fences and contribution to fire preparedness and fighting.	A neighbour relations plan is prepared and implemented		A neighbour relations plan is not prepared		2
B12.Completion criteria	Revegetated sites may be on-sold or management scaled down in time. In either case, completion criteria establish whether the site has reached a stage where it can be passed onto new owners (or back to the original owners if revegetated under a lease agreement) with a high degree of confidence that ecological values will be maintained in the long term.	Completion criteria clearly establish long term ecological viability, and are documented	NA	NA	Not considered	2
B13. Security of tenure	Revegetating land to meet ecological objectives requires a long term commitment to maintenance of ecological values. Mechanisms are needed to ensure that regardless of the future ownership of the land or changes to	Covenant or equivalent legal caveat attached to land title to protect vegetation and	NA	Agreements in place but not attached to land title.	No mechanism in place for future retention of vegetation and associated habitats	2

Criteria	Comment	Score				Weighting** 1=low, 2=medium 3=high (more important)
		2	1	0	-1	
	institutional arrangements, the planted areas will be maintained in perpetuity.	habitats in perpetuity				
B14. Cost benefit analysis to be done	For all Gondwana Link funded projects, a cost benefit analysis benefit is required to ensure that funding restoration is the most effective strategy to meet ecological objectives. For other (not Gondwana Link) projects, costs-benefit analysis is recommended but up to the project proponent. This criterion therefore applies only to Gondwana Link funded projects or projects which claim to be a significant contributor to Gondwana Link ecological outcomes.	Cost benefit (return on investment) analysis conducted to determine ecological return on investment	NA	No analysis.	NA	1

## RATINGS ASSESSMENT

Ratings for revegetation projects are assessed by:

1. Scoring against each criterion above.
2. Multiplying the score by the weighting (right hand column in table)
3. Applying the following ratings assessment:

- ★ rating: 20-39 points (no rating for less than 20 points)
- ★★ rating: 40-54 points
- ★★★ rating: 55-69 points
- ★★★★ rating: 70-89 points
- ★★★★★ rating: >90 points

NB Plantings that are less than one star rated under these criteria may still have beneficial environmental impacts, particularly where those plantings are in areas subject to excessive groundwater recharge which may be contributing to loss of water quality in rivers and creeks, or to salinisation further down in the catchment. Plantings on farms will also have additional advantages as windbreaks but these are not included in these criteria. For a more complete assessment of the benefits of revegetation against a range of criteria (as well as ecological restoration) see, for example, the Department of Sustainability and Environment (Victoria)'s "*Summary of Native Biodiversity Benefits*" (Fact Sheet No 2, Native Biodiversity Resource Kit, Environmental Management in Agriculture. 2004. [http://www.dse.vic.gov.au/CA256F310024B628/0/E3879BA23AED3E36CA256FCB0010CE13/\\$File/biodiversity-benefits.pdf](http://www.dse.vic.gov.au/CA256F310024B628/0/E3879BA23AED3E36CA256FCB0010CE13/$File/biodiversity-benefits.pdf))

# Gondwana Link Restoration Standards assessment score sheet

SITE: ..... ASSESSED BY: ..... DATE: .....

Criteria	Comment	Score (2,1,0 or-1)	Weighting <small>1=low, 2=medium 3=high (more important)</small>	Total Score
<b>A. Planting Design</b>				
<b>A1.</b> Proportion (by species number) of the full suite of plant species that naturally occurred on the site that will be incorporated into revegetation			3	
<b>A2.</b> Use of local provenance genetic material			3	
<b>A3.</b> Structure			3	
<b>A4.</b> Spatial heterogeneity: Mosaic of patchiness in veg types  Mosaic of planting density			3	
			2	
<b>A5.</b> Row placing, spacing and design			3	
<b>A6.</b> Self replicating			3	
<b>A7.</b> Provide fauna habitat, especially habitat components that may be in short supply			3	
<b>A8.</b> Potential invasiveness of any species used that are not naturally occurring on site			2	
<b>A9.</b> Creation or protection of niche habitat or micro-habitat			2	
<b>A10.</b> Consideration of off-site impacts in planting design			2	
<b>A11.</b> Inclusion of <i>Gastrolobium</i> or other poison (sodium monofluoroacetate) containing plants in the seed mix			1	
<b>A12.</b> Inclusion of threatened and locally endemic species of flora			1	
<b>B. Establishment and management processes</b>				
<b>B1.</b> Clear documentation of planning, implementation, management and monitoring			3	
<b>B2.</b> Ecological monitoring program			3	



Criteria	Comment	Score (2,1,0 or-1)	Weighting 1=low, 2=medium 3=high (more important)	Total Score
B3. Use high quality seedlings and seed				
B4. Stock exclusion			3	
B5. Ecologically appropriate fire management			2	
B6. Management of feral species (rabbits, foxes, cats, pigs, etc)			3	
B7. Management of <i>Phytophthora</i> dieback and other plant pathogens.			2	
B8. Management of weeds			3	
B9. Harvest activity			2	
B10. Post harvest management and rehabilitation			2	
B11. Neighbour relations			2	
B12. Completion criteria			2	
B13. Security of tenure			2	
B14. Cost benefit analysis to be done			1	
<b>ASSESSMENT TOTAL</b>				

## RATINGS ASSESSMENT

Ratings for revegetation projects are assessed by:

1. Scoring against each criterion above.
2. Multiplying the score by the weighting listed in the weighting column
3. Applying the following ratings assessment:

- ★ rating: 20-39 points (no rating for less than 20 points)
- ★★ rating: 40-54 points
- ★★★ rating: 55-69 points
- ★★★★ rating: 70-89 points
- ★★★★★ rating: >90 points

## SOME USEFUL REFERENCES

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