



KIT 3A
RAPID ASSESSMENT
BRIGALOW BELAH SCRUB



Queensland
Government



Acknowledgments

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Date: _____
 Site: _____
 Paddock: _____
 Location (GPS or description): _____



Land type: **BRIGALOW AND BELAH SCRUB** Regional ecosystem: 11.9.5

SITE-BASED FEATURES: Circle the relevant score and sum at base of the page.

Tree species richness Number of different native tree species. A tree is a woody plant with a single-stem, more than 2m tall.	SCORE	0	2.5	5		
	VALUE	0 species	1–3 species	≥4 species		
Tree canopy cover The percentage of the assessment area that would be under shadow cast by tree foliage if the sun were directly above. (See the Shrub Canopy Cover Guide)	SCORE	0	3	5		
	VALUE	<5%	5–34%	≥35%		
Shrub species richness Number of different native shrub species. A shrub is a woody plant that is multi-stemmed from the base, or single stemmed and less than 2m.	SCORE	0	2.5	5		
	VALUE	0–1 species	2–4 species	≥5 species		
Shrub canopy cover The percentage of the assessment area that would be under shadow cast by shrub foliage if the sun were directly above, regardless of trees. (See the Shrub Canopy Cover Guide)	SCORE	0	6	10		
	VALUE	≤2%	3–10 or >45%	11–45%		
Large live trees The number of all trees larger than 30cm diameter at breast height (DBH) or 90cm circumference, within a 50 x 50m area.	SCORE	0	5	10	15	20
	VALUE	0 trees	1–3 trees	4–6 trees	7–10 trees	≥11 trees
Woody debris The number of logs or branches on the ground that are >10cm diameter and >0.5m in length within a 10m radius from the site marker.	SCORE	0	6	10		
	VALUE	<1	2–7 or >32	8–32		
Preferred and intermediate grass cover The percentage of the assessment area that is covered by preferred and intermediate native grass species. (See the Land Type Information Sheets and the Cover Guide)	SCORE	0	2	6	10	
	VALUE	<5% cover	5–15% native cover or >10% non-native cover	16–29% native cover	≥30% native cover	
Litter cover The percentage of the assessment areas that is covered by fine and coarse organic material such as fallen leaves, twigs and branches <10cm diameter. (See the Cover Guide)	SCORE	0	3	5		
	VALUE	<5% cover	5–24% cover	≥25% cover		
Non-native plant cover The percentage of the assessment area that is covered by non-native plant species.	SCORE	0	3	5	10	
	VALUE	<5%	≥5–25%	≥25–50%	>50%	

SITE FEATURES TOTAL SCORE

LANDSCAPE SCALE FEATURES

Circle the relevant score and sum at base of the next page.

CONTEXT

The percentage of a 1km circular area, centred on the assessment site, which is covered by remnant and/or high value regrowth native vegetation. Wetlands, lakes and rivers can be included as 'native vegetation'.

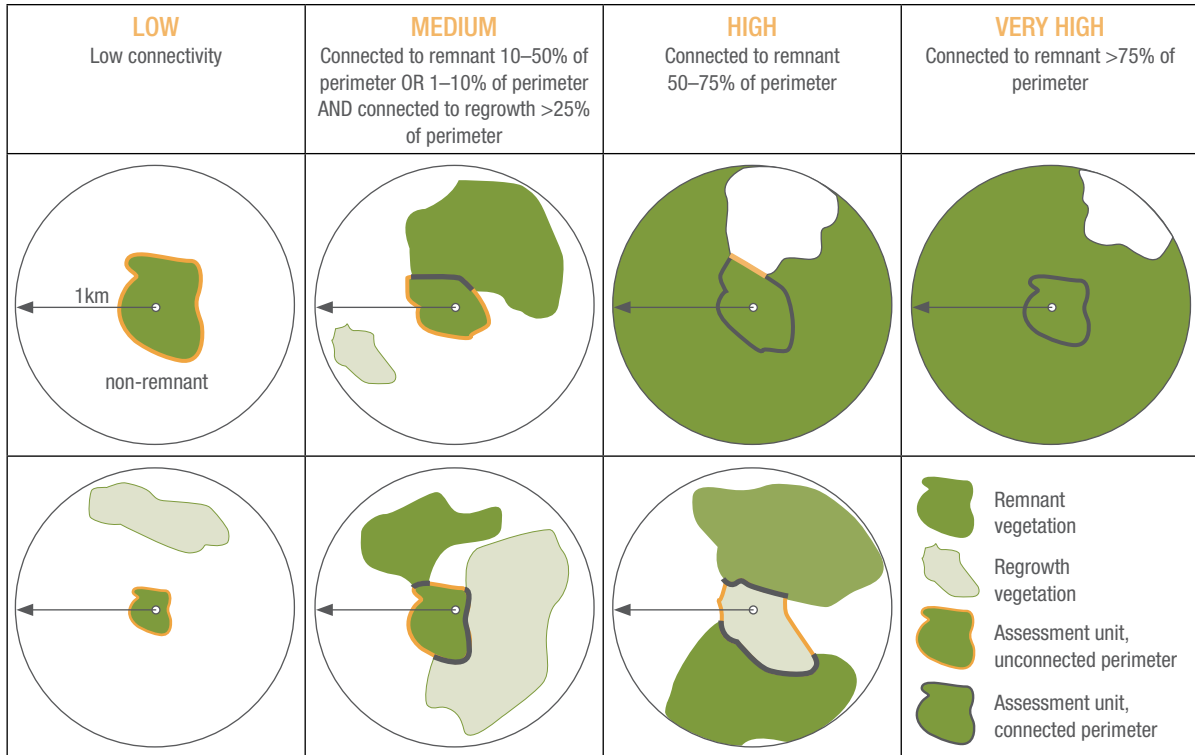
SCORE	0	2	5	10
VALUE	Low	Medium	High	Very high

LOW <10% remnant and <30% regrowth	MEDIUM 10–30% remnant and <30% regrowth OR <10% remnant and >30% regrowth	HIGH 30–75% remnant OR 10–30% remnant and >30% regrowth	VERY HIGH >75% remnant

CONNECTIVITY

The degree to which the landscape facilitates or impedes species movement among patches of habitat. It is based on how much the perimeter of the assessment patch adjoins a remnant or high value regrowth patch.

SCORE	0	2	5	10
VALUE	Low	Medium	High	Very high



BIODIVERSITY SCORE Obtained by adding the site and landscape features scores together to get a score out of 100. Scores can then be categorised as a rating of '1' (for very high condition) to '4' (for low condition).	Condition class	Score range
	1	>80
	2	60–80
	3	40–59
	4	<40

LANDSCAPE FEATURES TOTAL SCORE

Sum of scores for context and connectivity

TOTAL BIODIVERSITY SCORE

Site and landscape scores added

AT A GLANCE

BRIGALOW BELAH SCRUB

Land type: **BRIGALOW AND BELAH SCRUB**

Regional ecosystem: **11.9.5**

RATING 1: Very high



- Four or more tree species and high canopy cover (more than 35%).
- More than four shrub species and cover (more than 10% but not more than 45%).

- More than 11 trees larger than 30cm DBH* (or 90cm circumference)#.
- More than six logs in a 10m radius from a given point.
- More than 30% of the ground covered by native intermediate and preferred grass species.
- More than 25% of the ground covered by litter.
- Less than 5% of the site covered by non-native plant species.
- Is well connected with other remnant vegetation.
- More than 75% of the surrounding landscape contains remnant and/or high value regrowth vegetation.

RATING 2: High



- Three tree species with medium canopy cover (20–35%).
- 2–4 shrub species with medium cover (5–10%).
- 6–10 trees larger than 30cm DBH (or 90cm circumference).

- 3–5 logs in a 10m radius from a given point.
- 16–29% of the ground covered by native intermediate and preferred grass species.
- 10–25% of the ground covered by litter.
- ≥5–25% of the site covered by non-native plant species.
- Well connected with other remnant and/or high value regrowth vegetation.
- More than 30% of the surrounding landscape contains remnant and/or regrowth vegetation.

RATING 3: Moderate



- Two tree species and low tree canopy cover (5–20%).
- One shrub species and low shrub cover (3–5%).

- 1–5 trees larger than 30cm DBH (or 90cm circumference).
- Two logs in a 10m radius from a given point.
- 5–15% of the ground covered by native or more than 10% non-native intermediate and preferred grass species.
- 5–10% of the ground covered by litter.
- ≥25–50% of the site covered by non-native plant species.
- Not well connected with other remnant vegetation.
- 10–30% of the surrounding landscape contains remnant and/or high value regrowth vegetation.

RATING 4: Low



- Very few trees (<5% cover), if any, none large.
- Few shrubs of same species (less than 2% cover) OR an over-abundance of shrubs (more than 45%).

- None or one log in a 10m radius from a given point.
- Less than 5% of the ground covered by native intermediate and preferred grass species.
- Less than 5% of the ground covered by litter.
- More than 50% of the site covered by non-native plant species.
- Less than 10% of the surrounding landscape contains remnant OR less than 30% of the surrounding landscape contains remnant and high value regrowth vegetation.

Note: The site should have at least 5 features as described in a category to achieve the rating

*DBH—Diameter at breast height (measured at 1.3m above the ground) # Count within a 50 x 50m area

TREE CANOPY COVER GUIDE

Land type: **BRIGALOW AND BELAH SCRUB** – Aerial perspective of site cover
(Shrubs shown in dark green, trees in grey green)

<10%



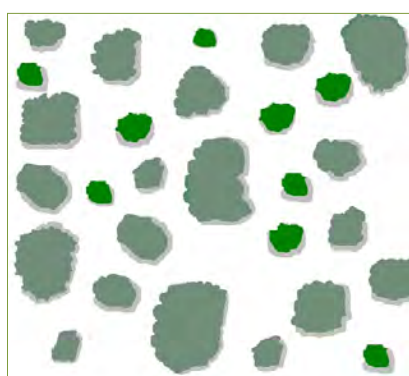
10–30%



30–50%



>50%



SHRUB CANOPY COVER GUIDE

Land type: **BRIGALOW AND BELAH SCRUB** – Aerial perspective of site cover
(Shrubs shown in dark green, trees in grey green)

0%



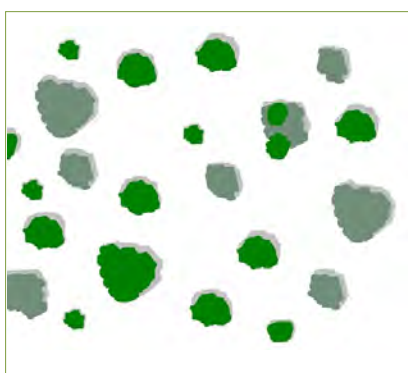
<10 or >50%



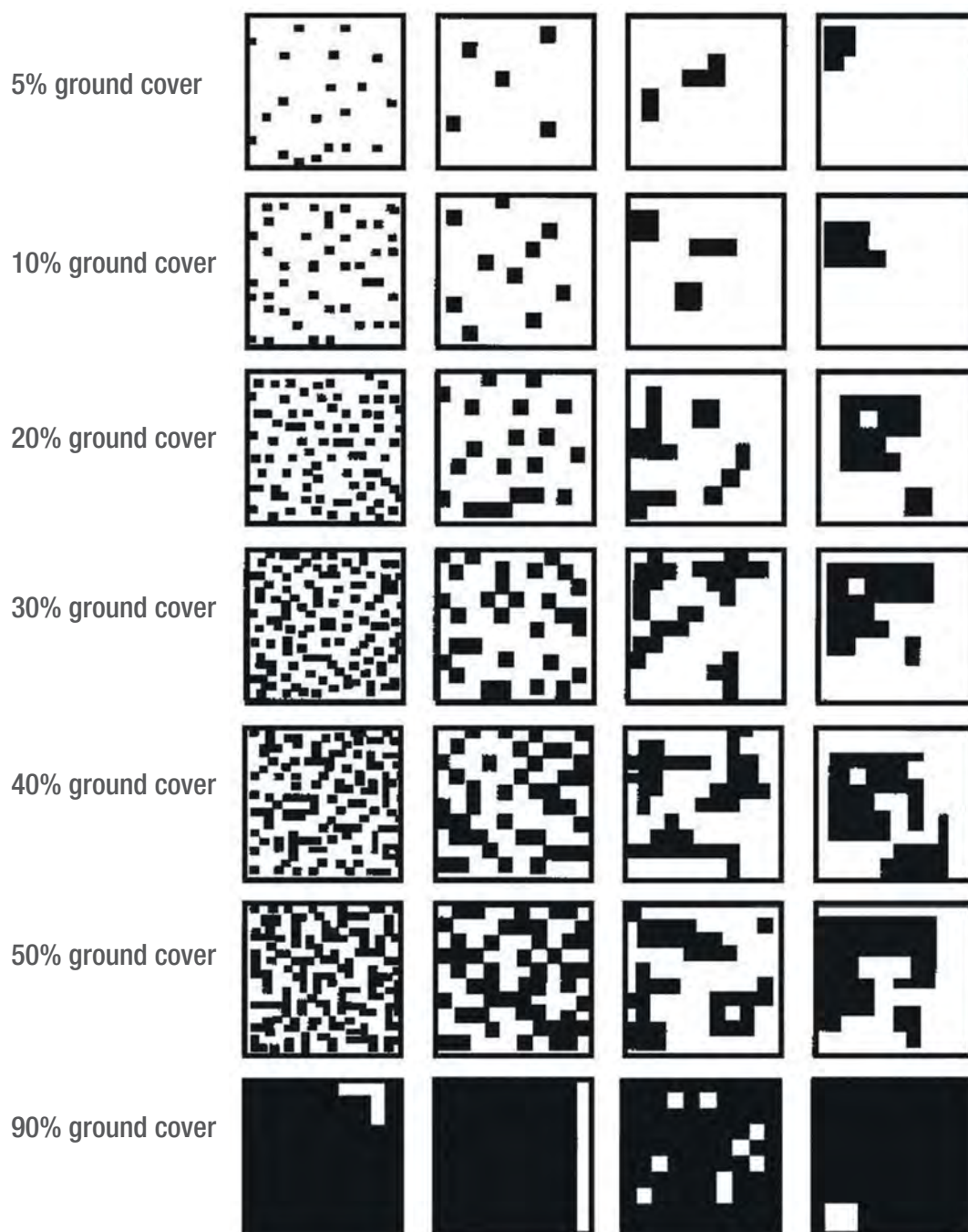
10–20%



20–50%



COVER GUIDE



The symbols above represent cover of an area. The box sizes reflect an area within which the average cover can be determined. Typically the box area represents a 1ha (100m x 100m) site however it may be easier to assess an average of 10m² or 1m² quadrats. The black shapes (pixels) represent cover (thus the white areas represent bare ground). Various cover amounts (as a %) may be evenly spread across the site or distributed in patches (as shown from left to right).

Stylised examples of cover proportions.

(Adapted from Grass Check, Queensland Department of Primary Industries, 1994)

BRIGALOW BELAH SCRUB

LAND TYPE INFORMATION SHEET

LANDFORM	Undulating plains (1–3%) and short footslopes to 8% associated with low hills and ridges.
WOODY VEGETATION	Brigalow open forest and brigalow in association with belah, poplar box or bauhinia.
EXPECTED PASTURE COMPOSITION	* Denotes non-native “Expected Pasture Composition” species
PREFERRED	Queensland bluegrass, buffel grass*.
INTERMEDIATE	Slender chloris, early spring grass, twirly windmill grass, brigalow grass, Warrego summer grass.
NON-PREFERRED	White speargrass, rat's tail couch.
LEGUMES	Rhynchosia, gilgai darling pea.
SUITABLE SOWN PASTURES	Bambatsi, creeping bluegrass (bisset), panic (Gatton), buffel grass, purple pigeon grass, Angleton bluegrass (flore), desmanthes, medic (barrel, burr), stylo (caatinga), lucerne.
INTRODUCED WEEDS	Bladder ketmia, parthenium, noogoora burr, Bathurst burr, prickly pear.
SOILS	Brown or grey cracking clay (brown vertosol).
DESCRIPTION	Surface: finely structured self-mulching; Surface texture: medium clay; Sub-soil texture: heavy clay.
WATER AVAILABILITY	Low.
ROOTING DEPTH	Moderate.
FERTILITY	Low to moderate total nitrogen; low to moderate phosphorus.
SALINITY	Medium to very highly saline.
SODICITY	Subsoils are sodic to strongly sodic.
pH	Surface mildly alkaline; subsoils strongly alkaline; deep subsoils strongly acid.
UTILISATION	30%
ENTERPRISE	Finishing
LAND USE AND MANAGEMENT RECOMMENDATIONS	<ul style="list-style-type: none"> • Most areas of brigalow belah scrub have been cleared and established to improved pastures. • Retain trees on beds and banks of watercourses to minimise erosion. • Maintain vegetation belts for wildlife habitats and corridors. • Suitable for long-term cropping – grain and fodder crops.

- LAND USE LIMITATIONS**
- Regrowth of some species.
 - Surface sealing soils.
 - Lower subsoils are strongly sodic and very dispersible with medium to very high levels of salinity – these conditions reduce the actual rooting depth and hence the available water and nutrients.
 - Dense stands of burrs (galvanised) and broad-leaved plants (mintweed, pigweed, darling pea) may limit pasture growth, productivity and be toxic to stock.

- CONSERVATION FEATURES AND RELATED MANAGEMENT**
- Brigalow, particularly in association with *belah*, provides potential habitat for a wide range of rare and threatened fauna. These include birds (eg glossy black cockatoo, painted honeyeater, black-chinned honeyeater); mammals (greater long-eared bat, little pied bat); reptiles (woma python, golden-tailed gecko, brigalow scaly-foot); frogs; and even some insects (imperial hairstreak butterfly).
 - These areas have a very high bird diversity (eg yellow-tailed back-cockatoo, blue bonnet, red-winged parrot, many honeyeaters, thornbills, speckled warbler, spotted bowerbird), and a high diversity of reptiles (eg velvet geckos, slider skinks (*Lerista* spp.), striped skinks (*Ctenotus* spp.).
 - Some areas are prone to scalding and many areas have been, extensively cleared for cropping and pasture. Use of a combination of soil conservation techniques will help minimise soil erosion and scalding.
 - Introduced pasture grasses (eg buffel or green panic) may invade native pastures, increase fuel loads in the ground layer and make them sensitive to fire damage.
 - Control of feral animals such as pigs and foxes can help to protect native wildlife in this habitat.

REGIONAL ECOSYSTEMS 6.3.25, 6.4.4, 11.3.1, 11.9.1, 11.9.5, 11.9.5a, 11.9.6, 11.9.11.

LAND UNITS; MAP UNITS; LAND RESOURCE AREAS, SOIL ASSOCIATIONS Land units (Galloway *et al* 1974) 40, 41, 43, 53; Map units (DPI 1984) 5, 6, 7, 9 (123, 124, 131); LRA, Soil associations (DPI 1996) Brigalow Rises, Ulimaroa *5a/5b/5c*; LRA (DPI 1987) 2 – Brigalow Uplands.

*Whish G (ed.) (2010). Land types of Queensland. Version 1.3. Prepared by the Grazing Land Management Workshop Team, Department of Employment, Economic Development and Innovation, Brisbane. PR07-3212.

NOTES



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