# KIT 3C
# RAPID ASSESSMENT
# *SOFT MULGA*

Queensland Government

mla
MEAT & LIVESTOCK AUSTRALIA

***Acknowledgments***

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Date: _____

Site: _____

Paddock: _____

Location (GPS or description): _____

Land Type: SOFT MULGA  Regional ecosystem: 6.5.1, 6.5.7, 6.5.9, 6.5.10, 6.5.14, 6.5.18

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

| | | | | | | |
|---|---|---|---|---|---|---|
| **Tree species richness**<br>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 species | | ≥2 species |
| **Tree canopy cover**<br>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 or 80% | | 35–80% |
| **Shrub species richness**<br>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 | | | | 5 |
| | VALUE | 0 species | | | | ≥1 species |
| **Shrub canopy cover**<br>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 | 0 | | >6% | | 1–5% |
| **Large live trees**<br>The number of all trees larger than 30cm diameter at breast height (DBH) or 90cm circumference, within a 50 x 50m area. | SCORE | 0 | 6 | 12 | 18 | 20 |
| | VALUE | 0 trees | 1–3 trees | 4–5 trees | 6–7 trees | ≥8 trees |
| **Woody debris**<br>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 | 0 | | 1–3 or >14 | | 4–13 |
| **Preferred and intermediate grass cover**<br>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 | <2% cover | 3–9% native cover or >10% non-native cover | | 9–15% native cover | ≥16% native cover |
| **Litter cover**<br>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 | | 5–15% cover | | ≥16% cover |
| **Non-native plant cover**<br>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

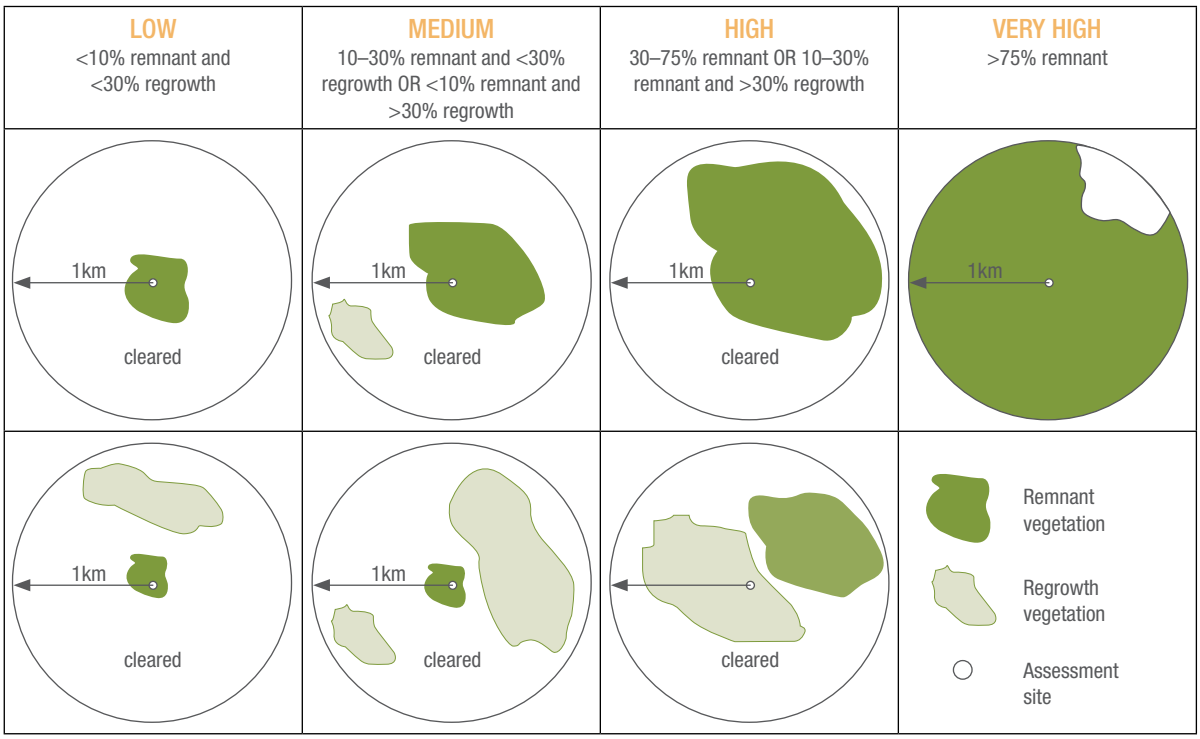
# LANDSCAPE
# SCALE FEATURES

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 |

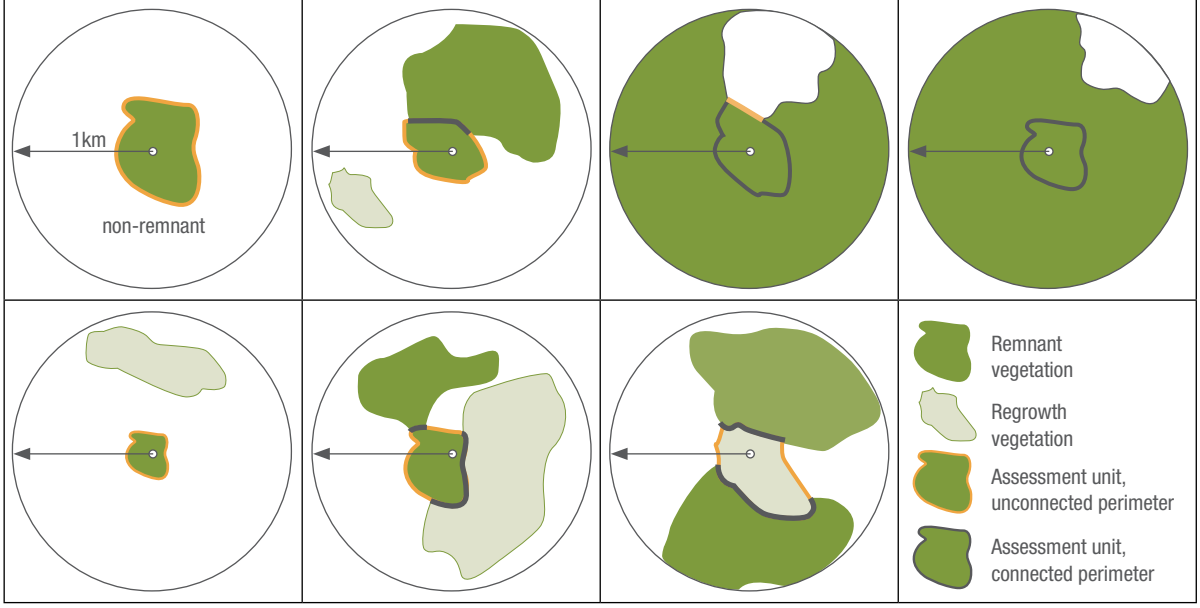


# CONNECTIVITY

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 |

| LOW | MEDIUM | HIGH | VERY HIGH |
|---|---|---|---|
| Low connectivity | Connected to remnant 10–50% of perimeter OR 1–10% of perimeter AND connected to regrowth >25% of perimeter | Connected to remnant 50–75% of perimeter | Connected to remnant >75% of perimeter |




## 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
# SOFT MULGA

**Land type: SOFT MULGA** **Regional ecosystem: 6.5.1, 6.5.7, 6.5.9, 6.5.10, 6.5.14, 6.5.18**

## RATING 1: Very high

- Two or more tree species and high canopy cover (more than 35%).
- More than one shrub species and cover more than 1%.
- More than eight trees larger than 30cm DBH* (or 90cm circum.)#.
- More than four logs in a 10m radius from a given point.
- More than 16% of the ground covered by native intermediate and preferred grass species.
- More than 15% 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 regrowth vegetation.

## RATING 2: High

- One tree species with medium canopy cover (20–35%).
- One shrub species with isolated individuals.
- 4–7 trees larger than 30cm DBH (or 90cm circumference).
- 2–3 logs in a 10m radius from a given point.
- 9–15% of the ground covered by native intermediate and preferred grass species.
- 10–15% of the ground covered by litter.
- ≥5–25% of the site covered by non-native plant species.
- Well connected with other remnant and/or regrowth vegetation.
- More than 30% of the surrounding landscape contains remnant and/or regrowth vegetation.

## RATING 3: Moderate

- One tree species and low tree canopy cover (5–20%).
- 6–20% shrub cover.
- 1–3 trees larger than 30cm DBH (or 90cm circumference).
- One log in a 10m radius from a given point.
- 3–9% 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 regrowth vegetation.

## RATING 4: Low

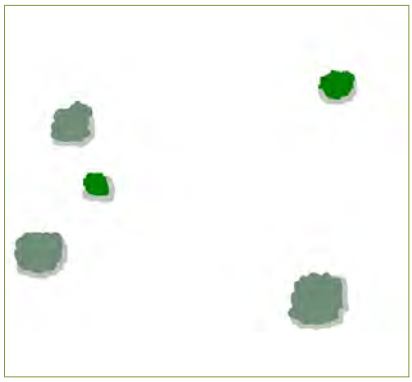
- Very few trees, if any with little tree cover (less than 5%).
- Absence of shrubs OR an over-abundance of shrubs (more than 20%).
- No logs.
- Less than 2% of the ground covered by native intermediate and preferred grass species .
- Less than 5% of the ground covered by litter.
- More than 50% of the 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 regrowth vegetation.

Note: The site should have at least five 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

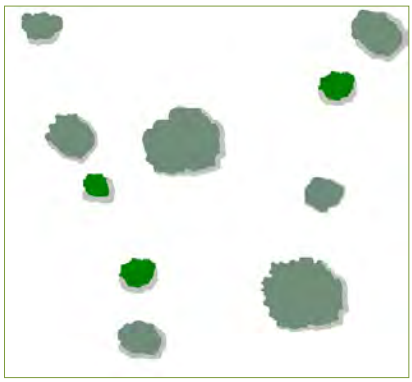
# TREE CANOPY COVER GUIDE

Land type: SOFT MULGA – Aerial perspective of site cover
(Shrubs shown in dark green, trees in grey green)

<10%

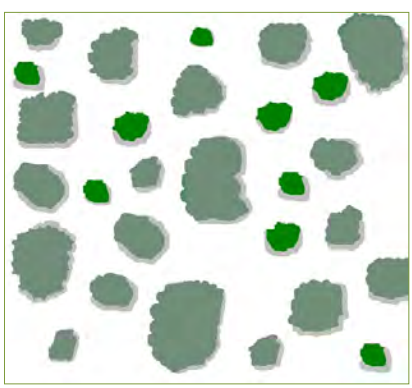


10–30%



30–50%

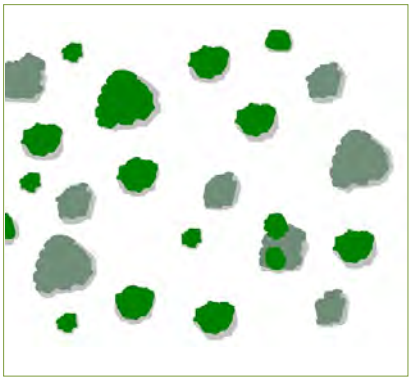
>50%



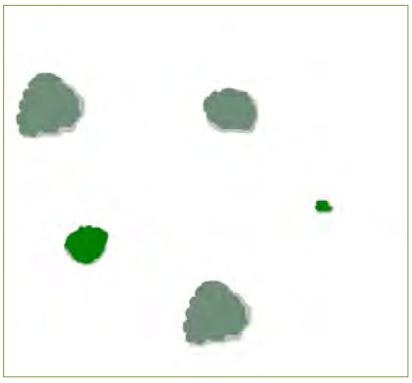
# SHRUB CANOPY COVER GUIDE

Land type: SOFT MULGA – Aerial perspective of site cover
(Shrubs shown in dark green, trees in grey green)

0% or >20%

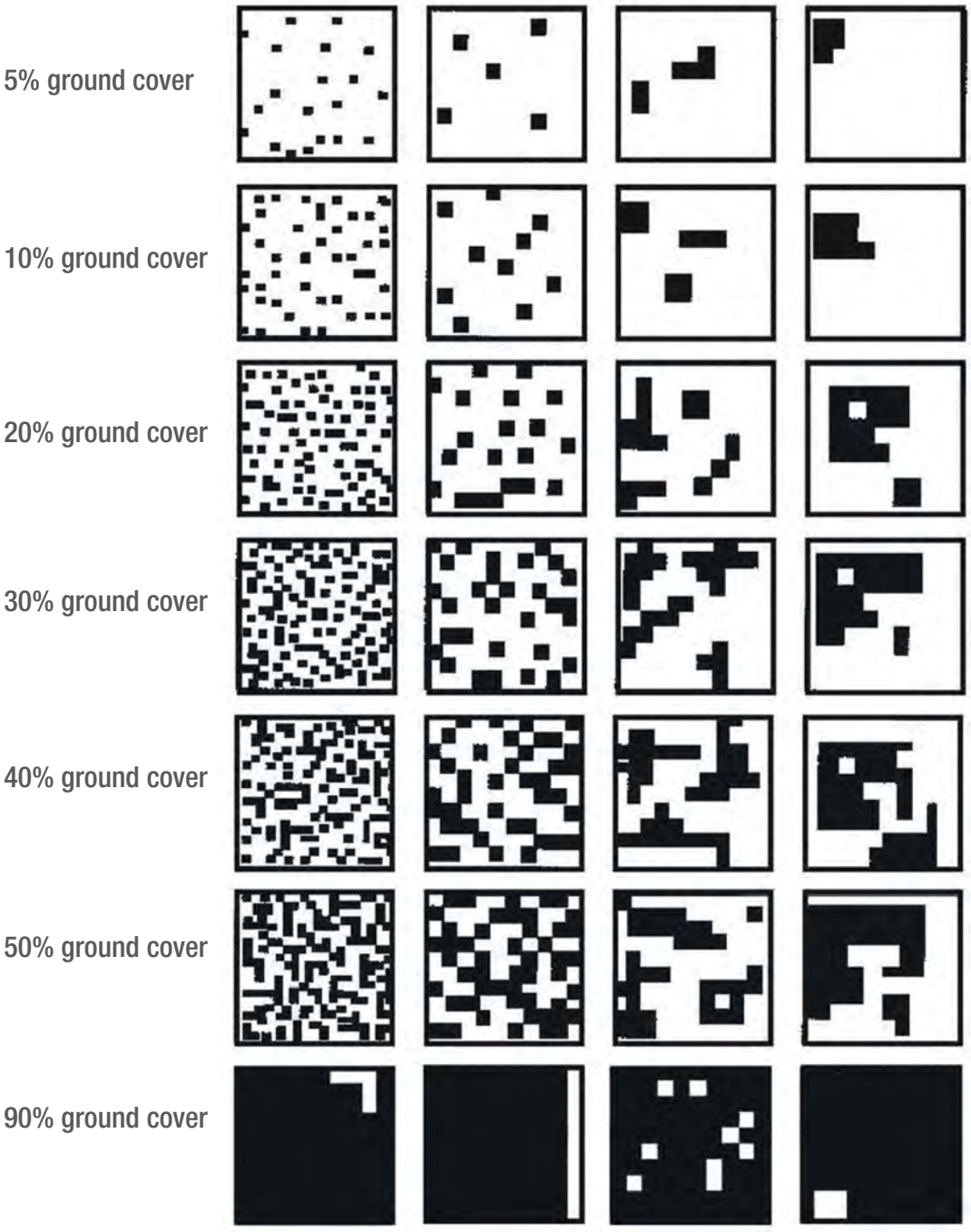


1–4%



5–20%

# 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 $10m^2$ or $1m^2$ 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)**

## SOFT MULGA
# LAND TYPE INFORMATION

| | |
|---|---|
| LANDFORM | Flat to gently undulating plains (slopes <1%). |
| WOODY VEGETATION | Mulga low open woodlands to tall woodlands; often associated with poplar box, ironwood, Clarkson's bloodwood and false sandalwood east of the Grey Range, and with western bloodwood and beefwood to the west. Patches with a spinifex understorey are found throughout on very acidic soils. |
| EXPECTED PASTURE COMPOSITION | * Denotes non-native "Expected Pasture Composition" species. |
| PREFERRED | Silky umbrella grass, cotton panic, mulga oats, hairy panic, kangaroo grass, mulga Mitchell. |
| INTERMEDIATE | Silky heads, limestone bottlewashers, woollybutt, purple lovegrass, woollybutt wanderrie, cane panic. |
| NON-PREFERRED | Greybeard grass, wiregrasses (eg Jericho, dark), three-awned wanderrie, mountain wanderrie, five-minute grass. |
| ANNUAL GRASSES | Rhynchosia, gilgai darling pea. |
| COMMON FORBS | Green pussytail, silvertail, longtails, small purple foxtail, daisy burrs, silky bluebush, galvanised burr, goathead burr, copperburrs (tangled, woolly), black roly-poly, tropical speedwell, green crumbweed, *Muelleranthus trifoliolatus*, smooth goodenia, smooth velleia, mulga nettle, hill hibiscus, sidas (eg fine, lifesaver, ridge, shrub), tar vine, parakeelyas, caustic weed, mulga fern, weir vine, potato bushes. |
| SUITABLE SOWN PASTURES | Buffel grass, old man saltbush, mulga Mitchell, mulga oats. |
| INTRODUCED WEEDS | Mesquite to west, saffron thistle to the east, parkinsonia and African boxthorn around water points. |
| SOIL | Shallow to moderately deep (50–150cm) sandy to loamy red earths. |
| DESCRIPTION | ***Surface:*** loamy hard or moderately hard surfaces; ***Surface texture:*** light sandy loam to clay loams; ***Sub-soil texture:*** clay content increasing down profile to light to medium clays; layers of ironshot and charcoal pieces common at depth. |
| FEATURES | Hard setting, hardpans may occur at depth. |
| WATER AVAILABILITY | Low to moderate. |
| ROOTING DEPTH | Can be limited by hardpans (>70cm). |
| FERTILITY | Very low to fair (P, C, N). |

| | |
|---|---|
| SALINITY | Very low. |
| SODICITY | Non-sodic, except when associated with hardpans. |
| pH | Usually acid to slightly acid throughout profile of red loams; tending towards neutral at depth or alkaline values with occurrence of hardpans. |
| UTILISATION | 15%. |
| ENTERPRISE | Breeding ewes and cows. |
| LAND USE AND MANAGEMENT RECOMMENDATIONS | • Mulga fodder provides drought protein reserves.<br>• Stock lightly during dry periods and post drought to maintain ground cover and to minimise water and wind erosion and maximise rainfall capture.<br>• Use fire opportunistically as management tool to control woody weeds and dense mulga. |
| LAND USE LIMITATIONS | • Fragile grazing lands.<br>• Wiregrasses often predominate in areas cleared of mulga and sandier soils.<br>• Mulga density and/or butter bush, fire bush, green turkey bush, false sandalwood and hopbush invasion commonly limits pasture growth.<br>• Strip clearing is preferable to clearing of large areas to minimise erosion, degradation and widespread whipstick mulga regeneration.<br>• Soil nutrient deficiencies (P, S, Ca, Mg), acidity and poor surface structure. |
| CONSERVATION FEATURES AND RELATED MANAGEMENT | • Mulga groves to the north and west may provide habitat for the rare and threatened fauna (pink cockatoo, painted honeyeater, yakka skink and Forest's mouse), and a diverse range of birds (Hall's babbler, thornbills, pardalotes and mallee ringneck, blue bonnet, mulga and red-winged parrots).<br>• Some areas to north and east are highly modified in their structural and floristic composition, and significant areas are in poor condition due to irreversible sheet erosion.<br>• Maintenance of ground cover is important to minimise erosion. |
| REGIONAL ECOSYSTEMS | 4.3.8, 6.5.1, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.16, 6.5.16a, 6.5.18. |

*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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