

# The ABCD pasture condition guide

## Mulga and Mitchell grass

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# The ABCD pasture condition guide

Mulga and Mitchell grass

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## Why ABCD land condition matters

The ABCD land condition framework is a part of the Grazing Land Management (GLM) education package. ABCD is a framework that classes grazing land in four condition classes (A, B, C or D), from good (A) to very poor (D).

In your GLM training, you will have learnt how to assess the three components of land condition—soil, pasture and woodland condition. The standard assessment for pasture condition is a simple visual inspection. From this inspection, pasture is classed in one of the four ABCD categories. It's a simple approach, designed for rapid use by land managers.

This manual shows how to measure *pasture condition* more precisely. The improvement comes from making some simple pasture measurements, and using a tool called an ABCD Pasture Chart. This method will suit those who want more detail, or greater confidence in their ability to rate pasture condition. It can be applied to most pastures in the Mitchell grass and Mulga regions of western Queensland (Figure 1).

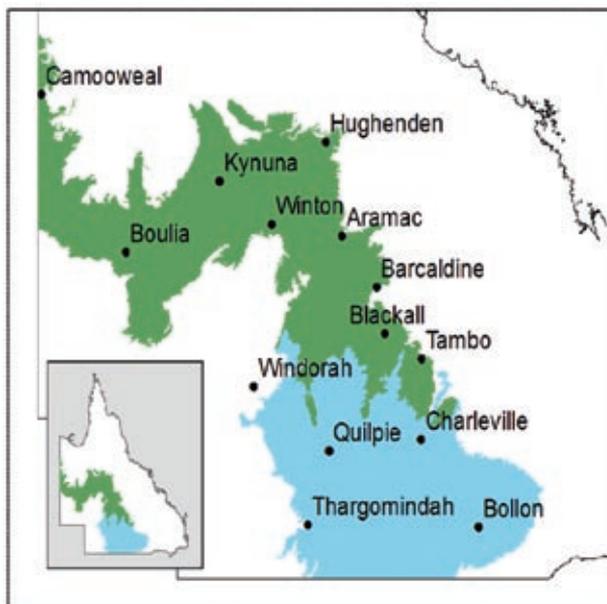


Figure 1. The mulga (blue) and Mitchell grass (green) bioregions of Queensland. The methods in this manual can be applied to most pastures in these regions.

## Crown cover

To determine pasture condition we look at the *crown cover* of your perennial grasses. The crown cover of a perennial grass tussock is the cross-section through the tussock base in contact with the ground (Figure 2). Crown cover is generally expressed as a percentage of a given area.

Crown cover is a very good indicator of how much forage a pasture can produce—greater crown cover means more forage. Not all crown cover is equal though, and *3P grasses* (perennial, palatable and productive grasses) produce a larger amount of useful forage than all the *other perennial (OP) grasses*. For this reason, 3P and OP crown cover have to be assessed separately.

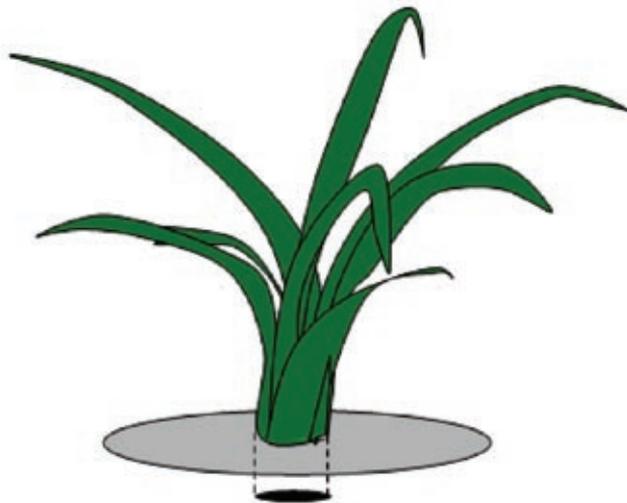


Figure 2. Crown cover is the cross-section of the tussock in contact with the ground (projected in black).

## Photo guides— an explanation

You will use photo guides showing known amounts of crown cover to estimate crown cover in the paddock. The photo guides show pasture in 2 × 2 m quadrats. You don't need a 2 × 2 m quadrat to use the photo guides; laying a stick or similar item of known length on the ground during assessments may give you better perspective.

The photo guide images (Appendix 1) show tussocks that have been clipped to give a clearer view of their crowns. Real pastures can be more complicated though, so sometimes you will need to 'look through' the foliage and inspect tussock bases when you make your estimates.

Measuring a few crowns is often a useful supplement to the photo guides. On the back cover of this manual are a chart and a ruler designed to help you estimate the size of individual tussocks. The idea is not to measure every crown—just measure a few to get an idea of how much cover individual tussocks contribute. With a little practice you will quickly get an eye for estimating the crown cover of individual tussocks.

You will need to exercise some judgment in using the photo guides. For example, if you think crown cover is closer to 2% than 4% you might estimate 2.5% cover, whereas if you can't decide whether crown cover is closer to 2% or 4%, then estimate 3% cover.

Finally, don't include dead tussocks in your cover estimates. Tussocks can die completely or in fragments. Dead material can generally be identified by a combination of being grey, brown, or even decayed, and easy to uproot (DPI&F's *Mitchell grass response and suggested management guidelines*—see References—has a useful guide for identifying dead tussocks). Where substantial areas of crown cover are dead, it may be easier to estimate the crown cover of all perennial tussocks (dead and alive), and then subtract the portion you think is dead rather than try to imagine the pasture without dead plants and compare that to the photo standards.

# Taking the measurements

**Equipment:** One crown cover sheet (Appendix 2) for each site, a pencil/pen, this booklet.

## Instructions

- 1. Details first.** Fill in the paddock name, site, date, assessor and land zone details at the top of the crown cover sheet (Figure 3). See page 13 for blank cover sheet.
- 2. Break the site into its parts.** Walk around the site and see how perennial grass crowns are arranged. Are tussocks spread evenly across the site or are there distinct areas of the site with different amounts of crown cover? If crown cover is not spread evenly, mentally divide the site into two or three parts, within each of which crown cover is evenly spread (Figure 4).
- 3. How big is each part?** Estimate the percentage of the site covered by each part, and record these values in column A (Figure 3). If crowns are spread evenly, the site will have only one part; just write '100' in the top row of column A, leaving other cells of this column blank. No matter how many parts your site has, column A should always add up to 100.
- 4. Estimate crown cover in each part.** Find a 2 × 2 m patch of pasture that is typical of part 1 in step 3. Estimate total crown cover in that patch using the photo standards (Appendix 1) and visual aids on the back cover. Divide this estimate into its 3P and OP portions, and write these two values in column B and C (hint: the sum of values you write in column B and C should equal your crown cover estimate for the quadrat). If you listed only one part in step 3, go to step 5. Otherwise repeat step 4 for each part on the site.
- 5. Collect your points.** Fill in the last two columns of the crown cover sheet by multiplying as shown, and then add the values in each column to calculate your total 3P and OP points (every 100 points = 1% of crown cover).
- 6. Get your rating!** Go to the appropriate ABCD pasture chart for your site (Appendix 3) and plot your rating on the chart, using your 3P and OP points as coordinates (Figure 5). The position of the coordinates indicates the ABCD rating. Write the rating in the space provided on your crown cover sheet. This is the pasture rating for your GLM land condition assessments.

**Paddock:** West      **Site:** No.1      **Date:** 5/01/06

**Assessor:** Bob      **Land zone:** Hard Mulga

	% of area (A)	3P crown cover (B)	OP crown cover (C)	3P points (AxB)	OP points (AxC)
<b>Part 1</b>	20	$\frac{1}{2}$	3	10	60
<b>Part 2</b>	40	$\frac{1}{2}$	$1\frac{1}{2}$	20	60
<b>Part 3</b>	40	$\frac{1}{2}$	$\frac{1}{2}$	20	20
<b>Total points</b>					<b>140 (E)</b>

**ABCD Rating:** B

Figure 3. A completed crown cover sheet.

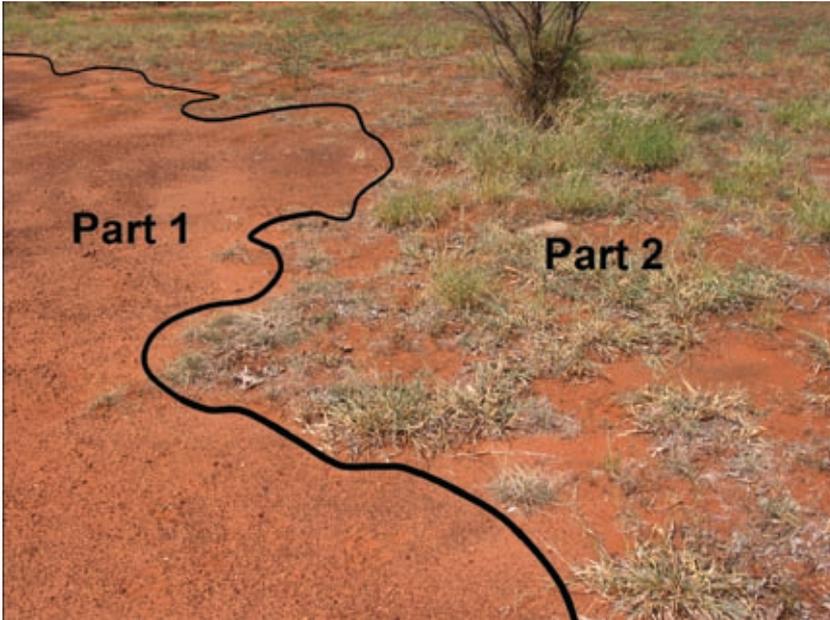


Figure 4. Breaking a site into its parts. Visually separate the site into no more than three parts based only on the amount of perennial grass crown cover in each part. Ignore litter, trees, shrubs or other forms of cover. In this example, parts 1 and 2 have low and high levels of crown cover respectively. A part can consist of disconnected patches, so long as those patches have similar perennial grass crown cover.

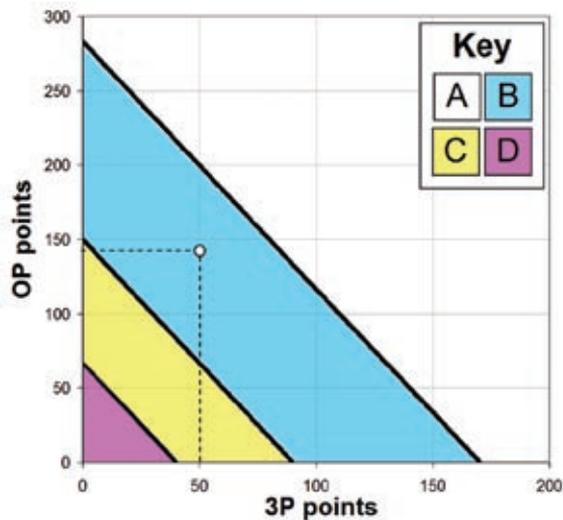


Figure 5. Using an ABCD pasture chart. A, B, C and D condition pastures will plot in the white, blue, yellow and pink zones respectively. This example follows from Figure 3, showing a hard mulga site scoring 50 points for 3P crown cover and 140 points for OP crown cover. These coordinates plot in the blue zone, so the pasture is in B condition.

## Getting it right

This booklet is designed to help you assess pasture condition, but it is also important to be guided by your experience and common sense. If you use methods suggested in this publication and get a result that doesn't seem right, there are two likely reasons.

The first possibility is that you have made an error in your calculations in estimating crown cover, or in your choice of ABCD chart. In these cases, retrace your steps and check for errors. Misclassifications can result from a single error.

Alternatively, there may be a few circumstances in which this assessment method is biased. This bias is a result of assessing a complex range of pasture types by a single simple method—this method will work well most of the time, but not all of the time. Common sense will be your best guide if this is happening.

In either case, it will be beneficial to discuss the issue with your GLM provider. They can help you identify an error if you have made one, and, if you have not, they can note the circumstances of your pasture assessment and update their advice to other producers. This means your information will contribute to improved pasture assessment in your region.

## References

D Phelps and L Rolfe (2006). Mitchell grass response and suggested management guidelines. *Department of Primary Industries and Fisheries*.

## Appendix 1. Photo guides











## Appendix 2. Crown cover sheet

Paddock: \_\_\_\_\_ Site: \_\_\_\_\_ Date: \_\_\_\_\_

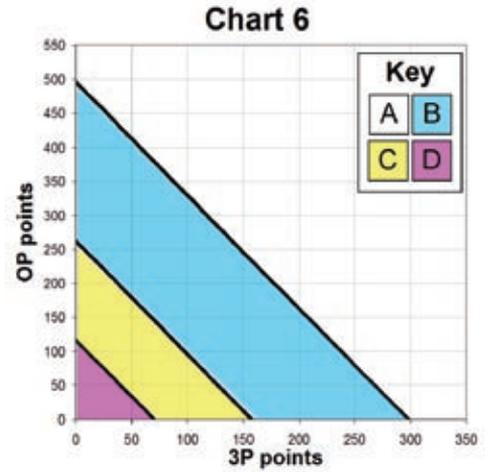
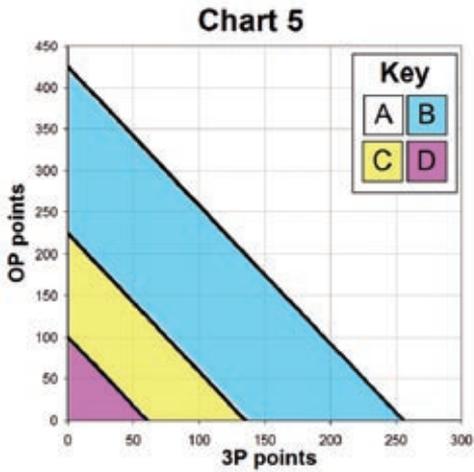
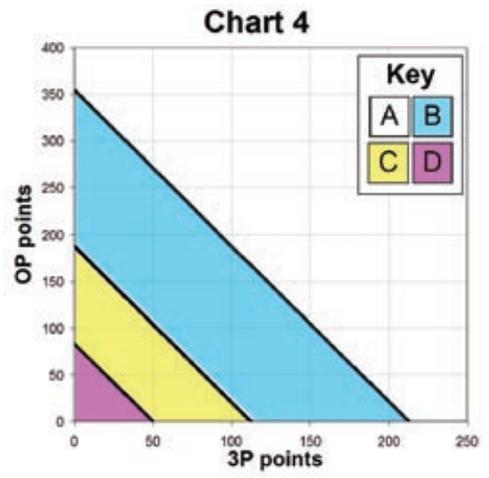
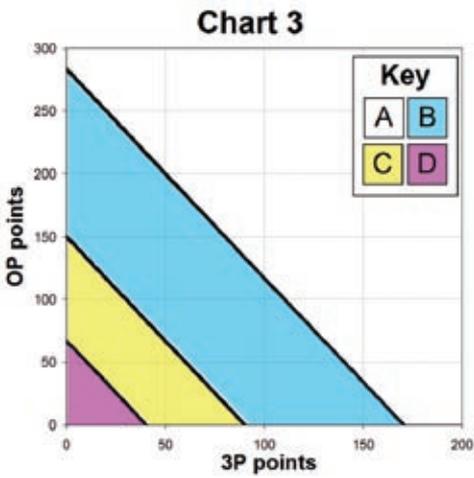
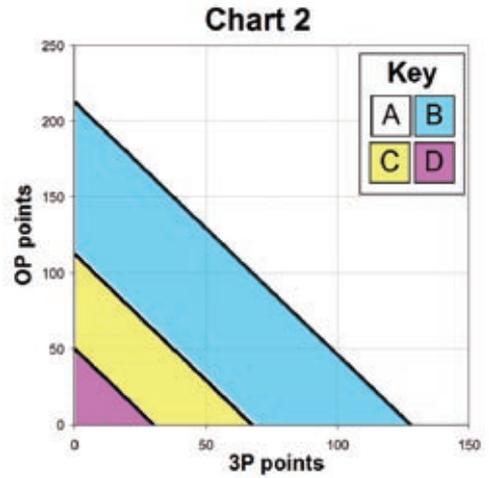
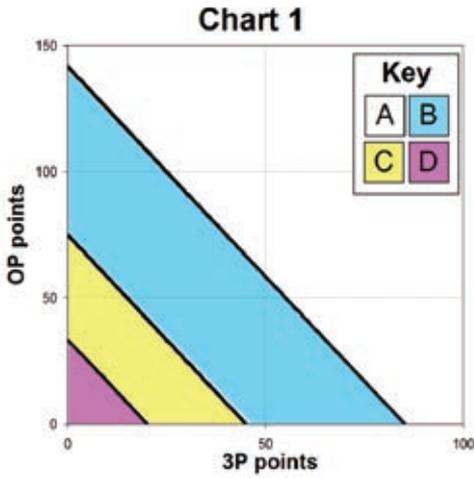
Assessor: \_\_\_\_\_ Land zone: \_\_\_\_\_

	% of area (A)	3P crown cover (B)	OP crown cover (C)	3P points (AxB)	OP points (AxC)
Part 1					
Part 2					
Part 3					
Total points				(D)	(E)

ABCD Rating: \_\_\_\_\_



# Appendix 3. ABCD pasture charts



# ABCD pasture charts

Chart 7

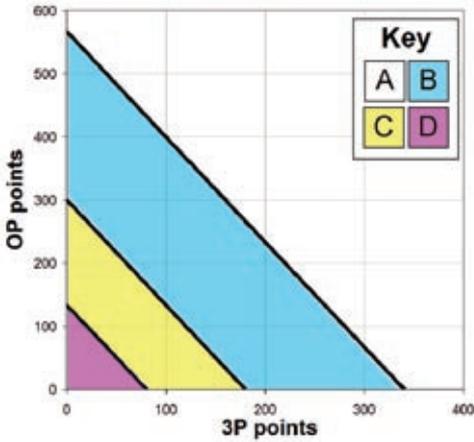


Chart 8

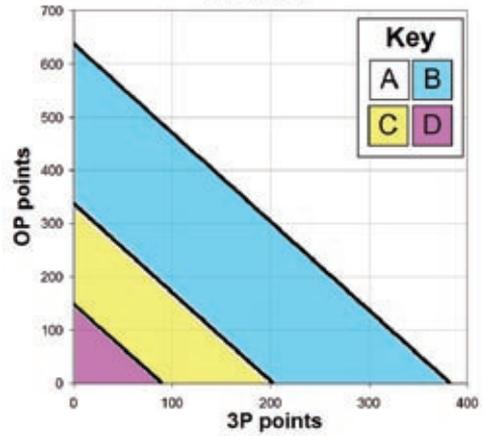


Chart 9

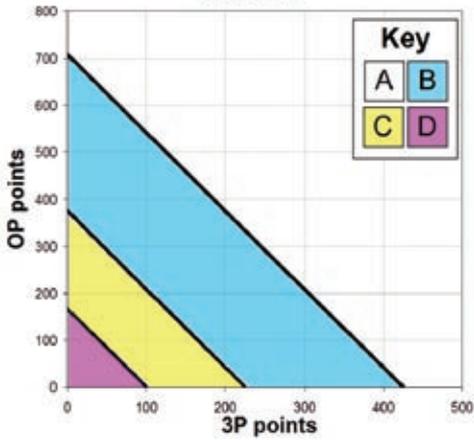


Chart 10

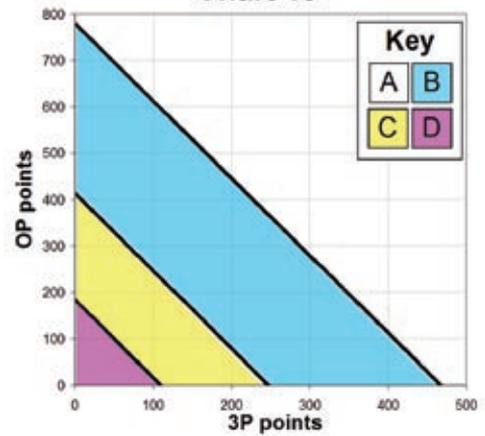


Chart 11

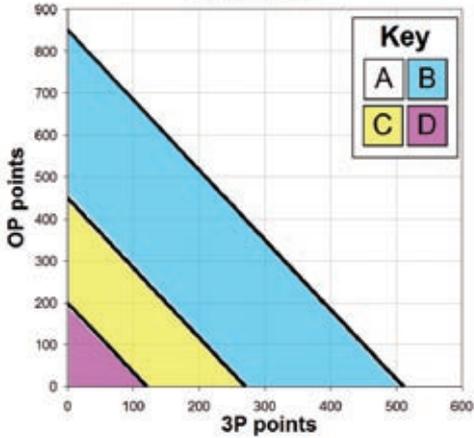
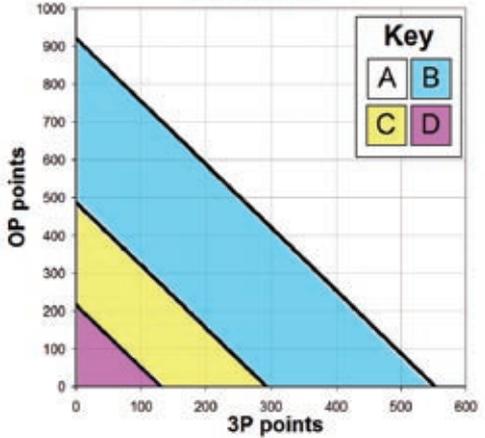


Chart 12





## Basal cover guide

Measure the tussock diameter with the adjacent rule. If the tussock is not circular, average its longest and shortest diameters. Convert the diameter to percent cover in a 2 x 2 m quadrat using the chart below.

