

# Pastoral Land Condition Report - 2007/2008 Financial Year



A report prepared for the  
Pastoral Lands Board of Western Australia  
by the  
Department of Agriculture and Food, Western Australia

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Government of **Western Australia**  
Department of **Agriculture and Food**



## **INTRODUCTION**

The Commissioner of Soil and Land Conservation is required under section 137 (2) of the *Land Administration Act 1997* to provide the Pastoral Lands Board with a report on the current condition of land under pastoral leases in the State. This report presents information from the Department of Agriculture and Food's pastoral lease inspection program for the 2007/2008 financial year.

Pastoral leases cover 36% (89 million hectares) of Western Australia and range from the tropical grasslands in the north through to the arid shrublands in the south, with rainfall ranging from 1,400 mm in the north Kimberley to less than 200 mm on the Nullarbor Plain in the south. Pastoral leases are used for grazing of livestock on native vegetation. There are 467 pastoral stations made up of 516 pastoral leases in Western Australia.

This report refers to the northern rangeland region comprised of the East Kimberley (Kununurra Office), West Kimberley (Derby Office) and Pilbara (Karratha Office) pastoral districts, and the southern rangelands comprised of the Gascoyne-Murchison (Carnarvon Office) and Goldfields-Nullarbor (Kalgoorlie Office) pastoral districts.

## PASTORAL LAND CONDITION

### *Pastoral lease reports*

The Department of Agriculture and Food, Western Australia (DAFWA) provides advice on the State's pastoral leases to the Pastoral Lands Board under a Memorandum of Understanding. A total of 137 reports were prepared for the Board in 2007/08. Table 1 provides a summary of these reports on a district basis. Of the total number of reports, 77 constituted scheduled or sale Rangeland Condition Assessments (RCAs) that provide a baseline assessment of range condition.

**Table 1. Summary of reports to the Pastoral Lands Board in 2007/08**

District Office	RCAs	Sale RCAs	Sale letters	Follow-up reports	Permit comment	Other
Derby	11	-	-	3	3	4
Kununurra	4	3	-	3	-	4
Karratha	9	3	-	-	-	5
Carnarvon	6	9	2	4	5	8
Kalgoorlie	25	7	3	6	2	8
<b>Total</b>	<b>55</b>	<b>22</b>	<b>5</b>	<b>16</b>	<b>10</b>	<b>29</b>

'Other' reports include comments on: agistment applications (10); destocking applications (7); management plans (5); sublease proposals (3); monitoring site reports (2); subdivision applications (1); and proposals to amalgamate Unallocated Crown Land into pastoral leases (1).

### *Land management issues*

Table 2 provides the number of stations with land management issues on a district basis identified while undertaking Rangeland Condition Assessments during 2007/08. Of the 77 stations inspected, land management issue were identified on 53 stations (69%). In 2004/05 62% of stations inspected had identified land management issues, in 2005/06 79% had identified issues, and in 2006/07 77% had identified issues.

**Table 2. Issues identified in Rangeland Condition Assessments in 2007/08**

District office	Number of stations inspected	Number of stations with issues identified	Number of stations with no issues
Derby	11	4	7
Kununurra	7	5	2
Karratha	12	8	4
<b>Northern region</b>	<b>29</b>	<b>17</b>	<b>13</b>
Carnarvon	15	15	-
Kalgoorlie	32	21	11
<b>Southern region</b>	<b>46</b>	<b>36</b>	<b>11</b>
<b>State total</b>	<b>77</b>	<b>53</b>	<b>24</b>

Table 3 outlines the various types of land management issues that were identified. It should be noted that more than one issue may have been identified on a station.

**Table 3. Types of issues identified in Rangeland Condition Assessments in 2007/08**

Issue	Northern Region	Southern Region
Animal management	-	1
Areas of severe degradation and erosion	3	13
Destock an area	-	1
Destock paddocks	1	-
Declared weeds	-	2
Excessive stocking rate	7	5
Fire management	3	-
Grazing rights	-	1
Historical degradation	1	7
Feral horses	1	-
Infrastructure	3	6
Kangaroos	-	1
Management	2	2
Photo monitoring sites recommended	5	8
Rangeland degradation	9	27
Soil erosion	1	8
Unmanaged goats	-	3
Vegetation decline due to overstocking	2	6
Vegetation decline near water point	-	6
Water point distribution/maintenance	1	6
Woody weeds	-	2
<b>TOTAL</b>	<b>39</b>	<b>105</b>

#### *Lease category*

DAFWA categorises pastoral stations to introduce an appropriate follow up regime where land management issues have been identified, and as a tool to assist in prioritising the inspection schedule to ensure effective use of resources.

The station categories are:

- 1 *Low concern* – The station has no known land management issues. A baseline inspection of the whole property will be undertaken on a six yearly cycle.
- 2 *Minor concern* – The station has minor land management issues. In addition to the whole property baseline inspection every six year, areas of concern will be inspected on a three yearly cycle.
- 3 *Moderate concern* – The station has moderate land management issues. In addition to the whole property baseline inspection every six year, areas of concern will be inspected on a two yearly cycle.
- 4 *High concern* – The station has significant land management issues. In addition to the whole property baseline inspection every six year, areas of concern will be inspected on an annual cycle.

Table 4 provides the number of pastoral stations in each category on a district basis in 2007/08, and identifies if there has been an increase or decrease in the number of stations in that category since the previous year.

**Table 4. Number of stations within each category and change in 2007/08**

District Office	No. of stations	Category 1		Category 2		Category 3		Category 4	
		No.	Change	No.	Change	No.	Change	No.	Change
Derby	56	27	- 1	24	+2	5	- 1	0	-
Kununurra	39	18	- 5	15	+ 4	6	+ 1	0	-
Karratha	64	33	- 3	25	+ 3	6	0	0	-
Carnarvon	157	40	0	75	+2	40	- 2	2	0
Kalgoorlie	140	56	- 2	52	+1	25	+1	7	0
<b>State</b>	<b>456</b>	<b>174</b> <b>38%</b>	<b>- 11</b>	<b>191</b> <b>42%</b>	<b>+ 12</b>	<b>82</b> <b>18%</b>	<b>- 1</b>	<b>9</b> <b>2%</b>	<b>0</b>

There are less stations reported in the Carnarvon and Kalgoorlie district than in 2006/07 due to acquisitions of pastoral leases by the Department of Environment and Conservation.

The proportion of Category 1 leases has decreased from 41% in 2006/07 to 38% in 2007/08 while the proportion of Category 2 leases has increased from 39% in 2006/07 to 42% in 2007/2008. The proportion of Category 3 and 4 leases remained the same.

#### *Range condition trend*

Traverse assessments of range condition are undertaken during the Rangeland Condition Assessment inspection. A Range Condition Index (RCI) is derived from the traverse assessments. RCI values range from 1 (good) to 3 (poor). The average RCI of stations inspected in 2007/08 was 1.72.

Figure 1 shows the Range Condition Index for pastoral stations at the most recent assessment. 119 stations indicate on average good condition, 167 stations indicate on average good to fair range condition, 105 stations indicate on average fair to poor range condition and 19 stations indicate on average poor range condition.

Assessments of range condition during inspections are compared to the previous assessments made during rangeland resource surveys or on previous lease inspections to provide an indication of range condition trend. Some stations have not previously been covered by rangeland surveys, and in some cases a direct comparison can not be made because the assessment route was significantly different or the methodology used for assessments has changed (some surveys date back to 1969/1970) and results can't be directly compared. Figure 2 shows changes in the Range Condition Index between rangeland surveys and inspections. 128 stations had a positive change in overall range condition with 22 stations indicating a large positive change, 42 stations indicating a moderate positive change and 64 stations indicating a small positive change. 71 stations had a negative change in overall range condition with 3 stations indicating a large negative change, 28 stations indicating a moderate negative change and 40 stations indicating a small negative change. 109 stations indicated no significant change in overall range condition. Comparison of RCI values at survey (1972 to 2007) and subsequent inspection for all pastoral stations indicates a marginal improvement from 1.83 to 1.76.

Of the 57 stations inspected in 2007/08 where range condition trend could be assessed, 25 stations improved in range condition, 16 had no significant change and 16 declined in range condition (Table 5). Table 6 provides a comparison with previous years.

**Table 5. Trends in range condition from Rangeland Condition Assessments in 2007/08**

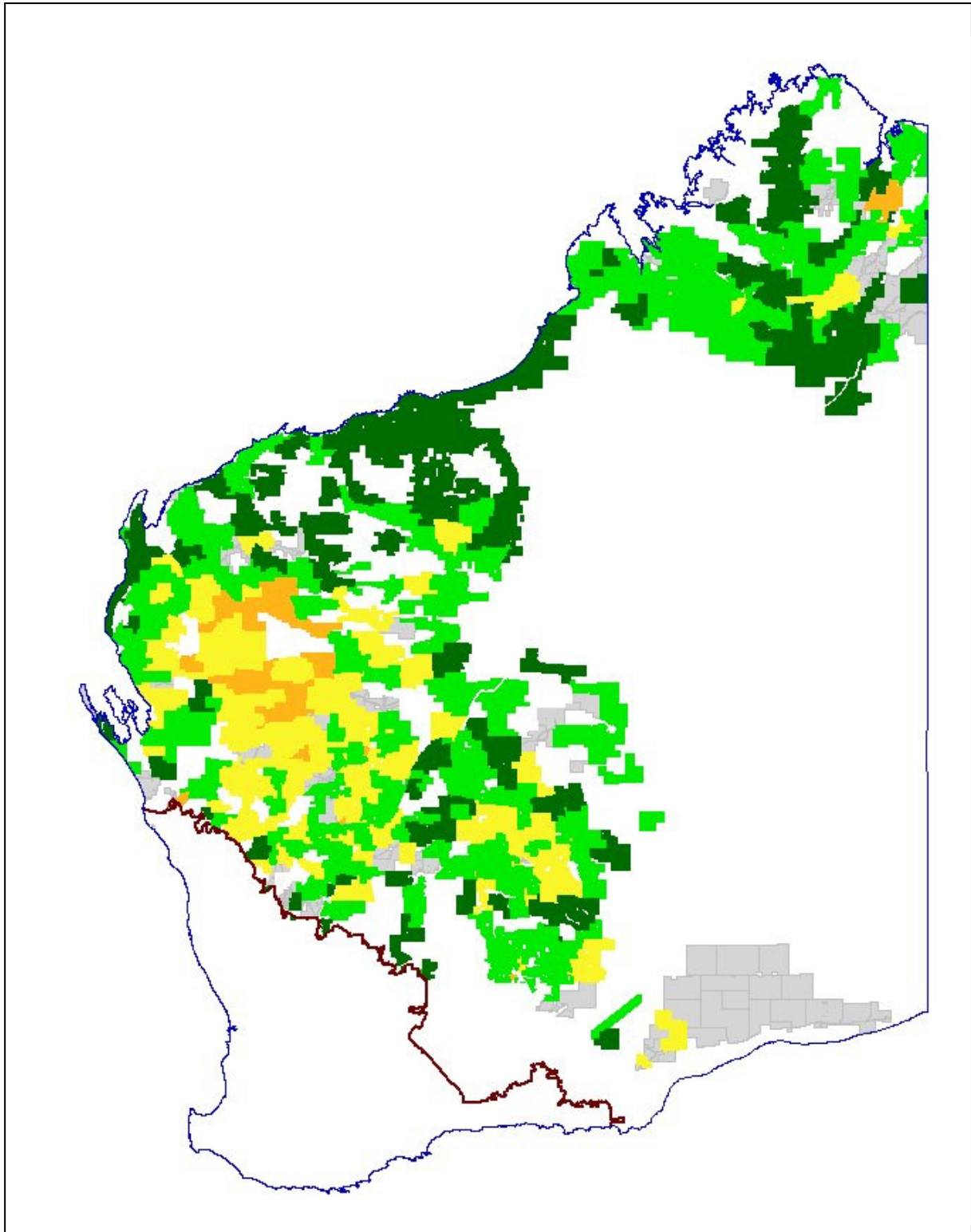
Office	Improved	No significant change	Declined	Unable to assess	Total RCAs
Derby	5	4	1	1	11
Kununurra	4	1	1	1	7
Karratha	3	6	2	1	12
Carnarvon	4	2	8	1	15
Kalgoorlie	9	3	4	16*	32
<b>Total</b>	<b>25</b>	<b>16</b>	<b>16</b>	<b>20</b>	<b>77</b>

\*This number is high because stations on the Nullarbor have not been previously assessed.

**Table 6. Trends in range condition from Rangeland Condition Assessments between 2004/05 and 2007/08**

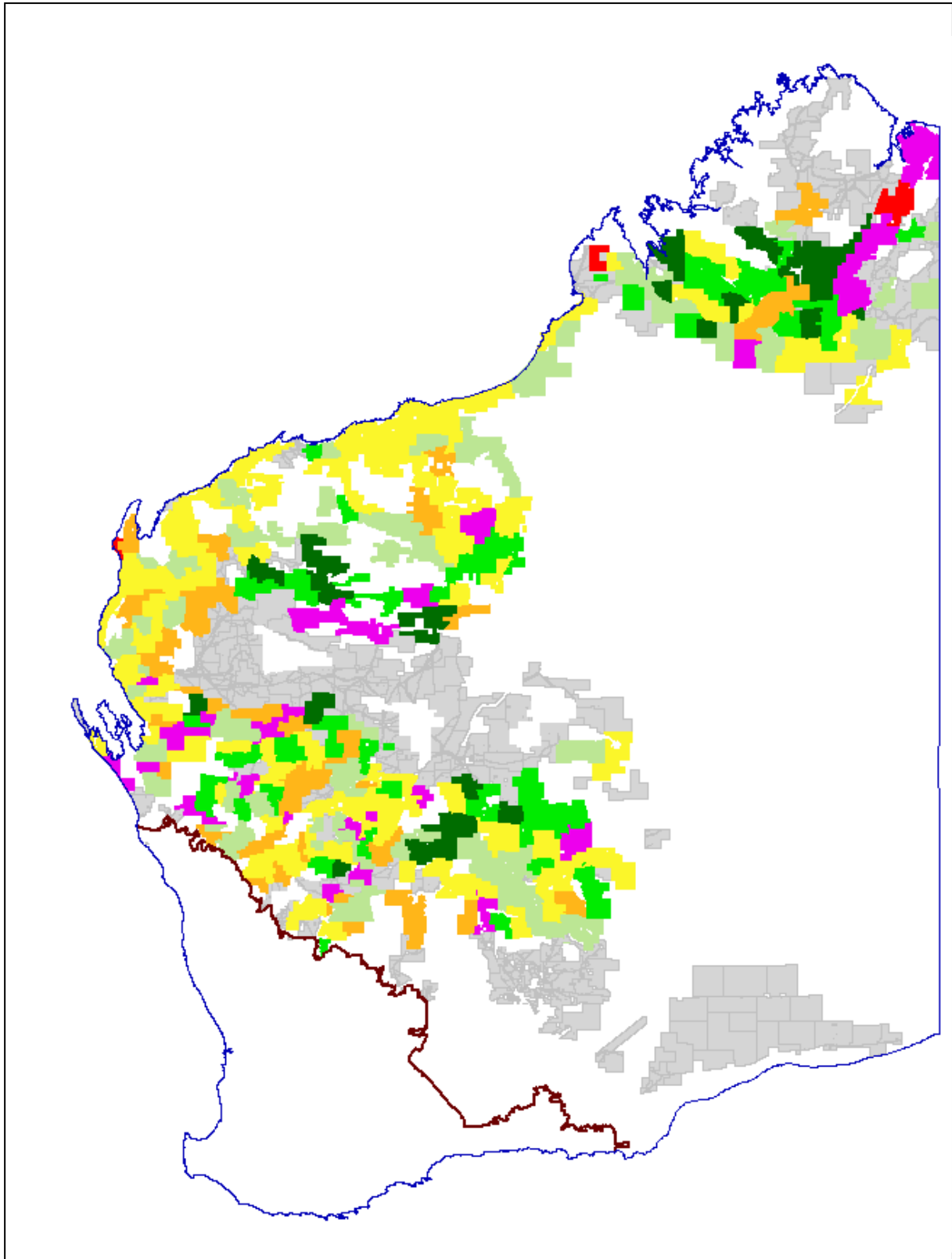
Year	% improved	% no significant change	% declined	No. of RCAs
2004/2005	37	38	25	68
2005/2006	54	31	15	68
2006/2007	52	32	16	50
2007/2008	44	28	28	57
<b>Total</b>	<b>46</b>	<b>33</b>	<b>21</b>	<b>243</b>

When split between the northern and southern rangelands, the 2007/08 figures indicate that, of the stations that could be assessed, in the northern rangelands 44% improved in range condition, 41% indicated no significant change and 15% declined in range condition. In the southern rangelands, 43% improved in range condition, 17% indicated no significant change and 40% declined in range condition.



- |                                  |                                |
|----------------------------------|--------------------------------|
| ■ good - RCI 1 to 1.49           | ■ fair to poor - RCI 2 to 2.49 |
| ■ good to fair - RCI 1.5 to 1.99 | ■ poor - RCI 2.5 to 3          |
| ■ no traverse data               |                                |

Figure 1. Range Condition Index (RCI) at last inspection (inspection can be between 1999 and June 2008)



- |  |   |
|--|---|
| <span style="color: green;">■</span> large positive change (>0.5)                | <span style="color: red;">■</span> large negative change (<-0.5)                |
| <span style="color: lightgreen;">■</span> moderate positive change (0.25 to 0.5) | <span style="color: magenta;">■</span> moderate negative change (-0.25 to -0.5) |
| <span style="color: yellow;">■</span> small positive change (0.1 to 0.25)        | <span style="color: orange;">■</span> small negative change (-0.1 to -0.25)     |
| <span style="color: grey;">■</span> no significant change (0.1 to -0.1)          |   |

Figure 2. Changes in Range Condition Index between survey (1972 to 2007) and inspection (1999 to 2008)