Great Barrier Reef

Report Card 2011

Reef Water Quality Protection Plan

Groundcover results

Australian Government

Queensland Government

Great Barrier Reef-wide

91%
Very good

Target: 50 per cent by 2013.
The 2011 mean groundcover across grazing lands was high (91 per cent), well above the Reef Plan target of 50 per cent mostly due to high rainfall over recent years. This was 13 per cent higher than the 24-year mean of 78 per cent.

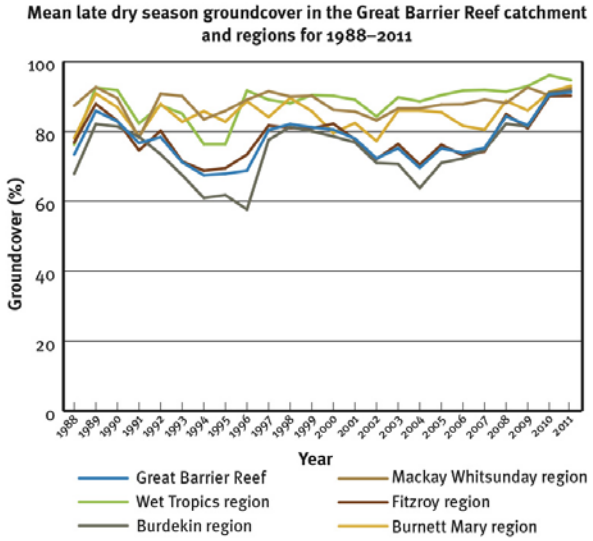
All reporting regions had mean groundcover levels well above the target ranging from 90 per cent (Fitzroy) to 95 per cent (Wet Tropics). The area below the 50 per cent target was less than one per cent in 2011 and 5.2 per cent over the 24-year period.

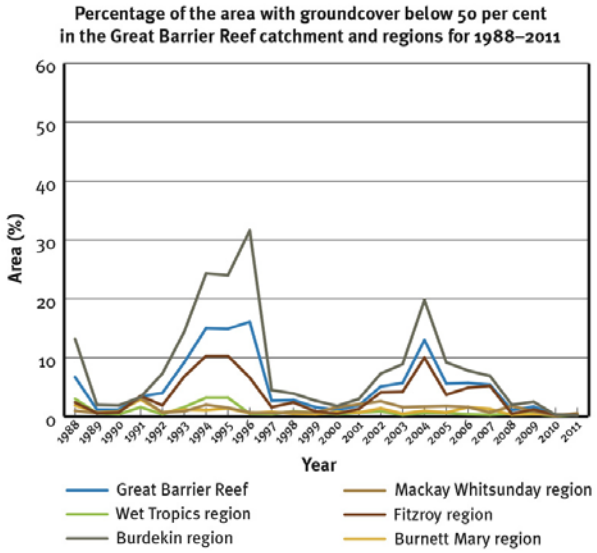
Groundcover results for the Great Barrier Reef catchment and regions

Region	24-year mean groundcover (%)	2011 mean groundcover (%)	Area with less than 50% groundcover averaged over past 24 years (%)	Area with less than 50% groundcover in 2011 (%)
Wet Tropics – Herbert catchment only	88	95	0.9	0.3
Mackay Whitsunday	88	92	1.3	0.6
Burdekin	75	92	8.4	0.2
Fitzroy	78	90	4	0.3
Burnett Mary	85	93	0.9	0.3
Total Great Barrier Reef	78	91	5.2	0.3

Groundcover changes over time

The 2011 mean groundcover across the Great Barrier Reef catchment is the highest of the past 24 years. This has resulted in a very low proportion (0.3 per cent) of the catchment being below 50 per cent groundcover and corresponds with generally above average annual rainfall in the past five years. The years with the lowest groundcover were 1994 to 1996, and 2004. During these years, mean groundcover for the area was less than 70 per cent and the percentage of area with mean groundcover below 50 per cent was in the range of 13 to 16 per cent. These years had low annual rainfall in preceding years.

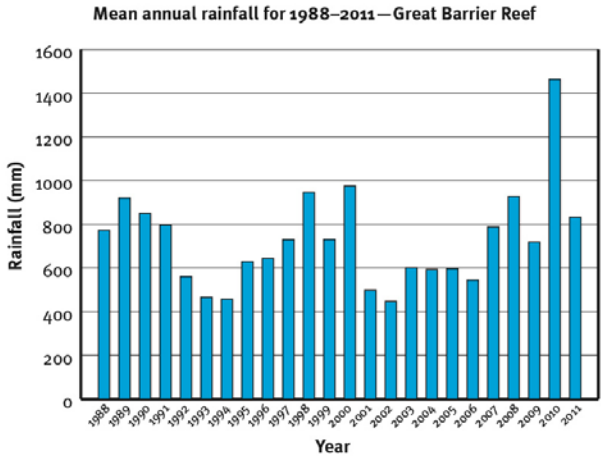




Regions with generally high average annual rainfall have consistently high levels of groundcover. For example, the Mackay Whitsunday, Wet Tropics and Burnett Mary regions had mean groundcover greater than 70 per cent over the 24-year period. In addition, the area with mean groundcover below 50 per cent for these regions has been below five per cent for the entire monitoring period. In comparison, regions with lower, more variable annual rainfall (e.g. Fitzroy and Burdekin) show greater fluctuations in groundcover. In these regions, mean groundcover falls in drier years and the area which is below 50 per cent groundcover increases.

Although groundcover is very high and well above the target, sediment loads are still affected by gully, midslope and streambank erosion.

There is often a time lag between the end of a wet period and a reduction in groundcover. Conversely, there is almost no time lag following rainfall for groundcover to be restored.



Wet Tropics (Herbert catchment)

95%
Very good

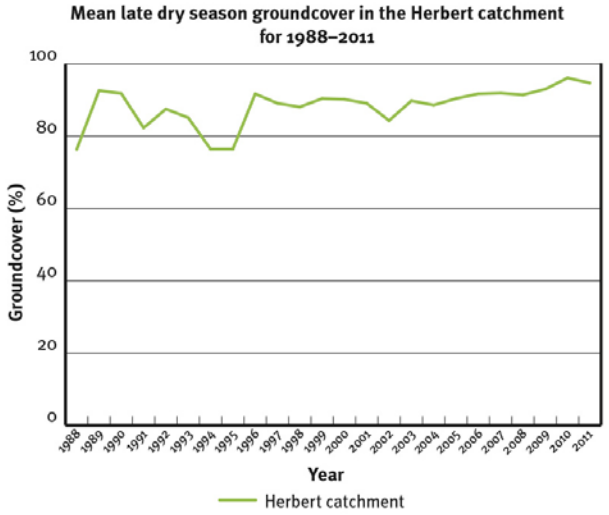
Target: 50 per cent by 2013.
Late dry season groundcover for the grazing lands of the Herbert catchment was high (95 per cent) in 2011. The 24-year mean groundcover was 88 per cent.

Groundcover results for the Herbert catchment (Wet Tropics region)

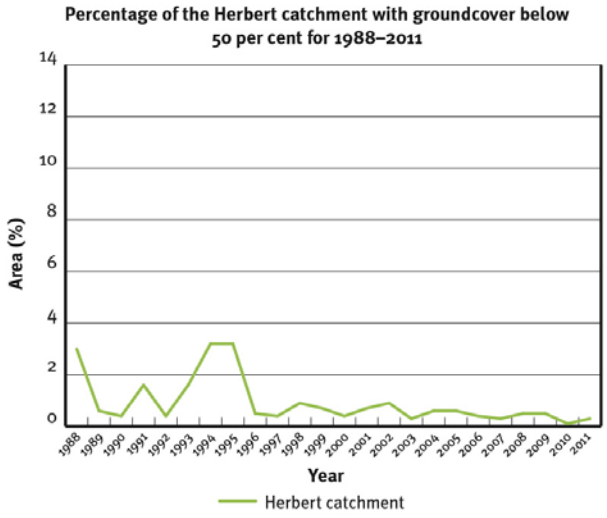
Catchment	24-year mean groundcover (%)	2011 mean ground cover (%)	Area with less than 50% groundcover averaged over past 24 years (%)	Area with less than 50% groundcover in 2011 (%)
Herbert (Wet Tropics region)	88	95	0.9	0.3

Groundcover changes over time

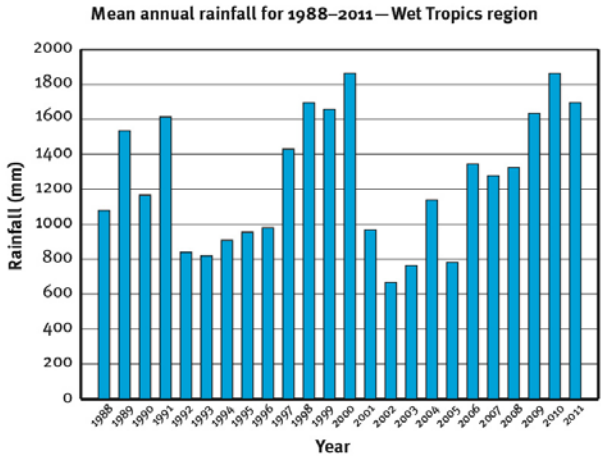
The Herbert catchment had consistently high mean groundcover from 1988 to 2011 with a mean groundcover level of 88 per cent and a consistently low proportion of grazing lands under the Reef Plan target of 50 per cent groundcover. The minimum mean groundcover for the monitoring period was 76 per cent in 1988.



The highest percentage of area with groundcover below 50 per cent was 3.2 per cent in 1994 and 1995.



The Herbert catchment is the second wettest of the areas reported (1250 millimetres mean annual rainfall).



Burdekin

92%
Very good

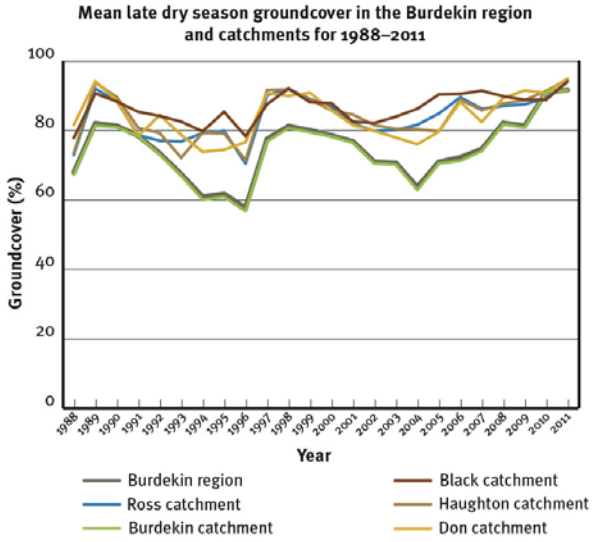
Target: 50 per cent by 2013.
Late dry season groundcover for grazing lands of the Burdekin region was high (92 per cent) in 2011. This is mostly due to high rainfall over recent years.

The 24-year mean groundcover was 75 per cent. Mean groundcover in the Burdekin region is mainly influenced by the Burdekin catchment which constitutes 94 per cent of the reporting area.

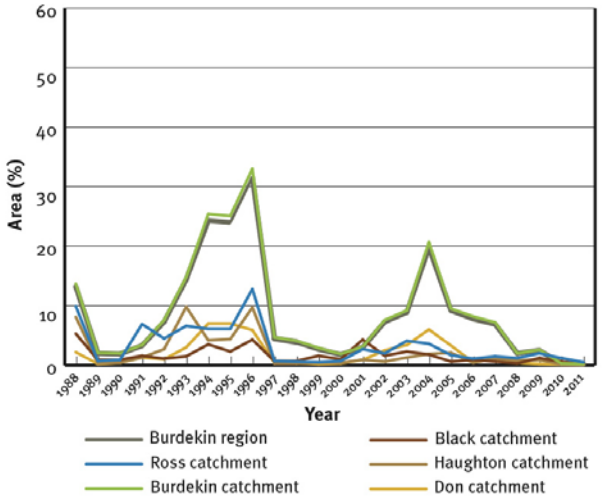
Groundcover results for the Burdekin region and catchments

Catchment/ region	24-year mean groundcover (%)	2011 mean groundcover (%)	Area with less than 50% groundcover averaged over past 24 years (%)	Area with less than 50% groundcover in 2011 (%)
Black	87	94	1.7	0.2
Burdekin	74	92	8.8	0.2
Don	84	95	2.0	0.1
Haughton	84	95	2.2	0.1
Ross	82	96	3.3	0.5
Burdekin region	75	92	8.4	0.2

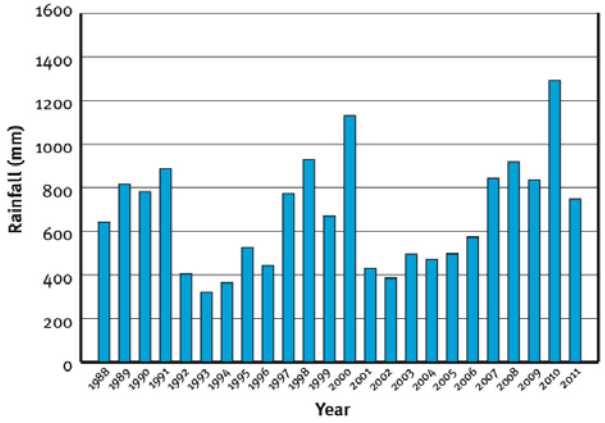
Groundcover changes over time
Groundcover in the Burdekin region fluctuates significantly over time. For example, in 1996 the mean late dry season groundcover was 58 per cent while the following year it was 78 per cent. The area with groundcover less than 50 per cent also varies greatly. Increases in the area with less than 50 per cent groundcover correspond to low mean late dry season groundcover and below average annual rainfall. For example, in 1996, 31.6 per cent of the reporting area had groundcover less than 50 per cent.



Percentage of the area with groundcover below 50 per cent in the Burdekin region and catchments for 1988–2011



Mean annual rainfall for 1988–2011— Burdekin region



Mackay Whitsunday

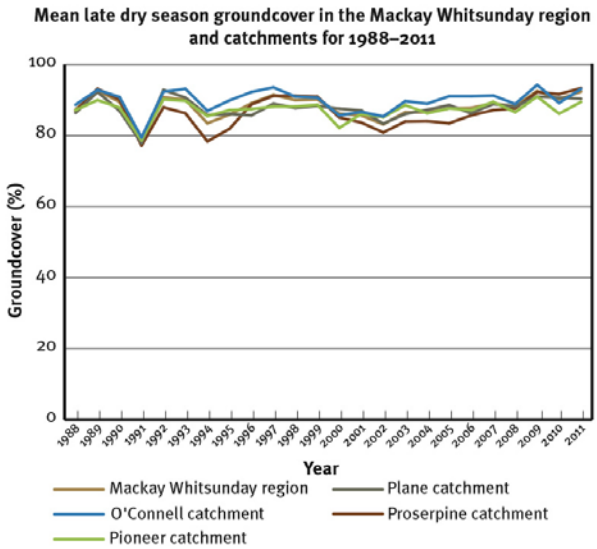
92%
Very good

Target: 50 per cent by 2013.
Late dry season groundcover for the grazing lands of the Mackay Whitsunday region was high (92 per cent) in 2011. The 24-year mean groundcover was 88 per cent.

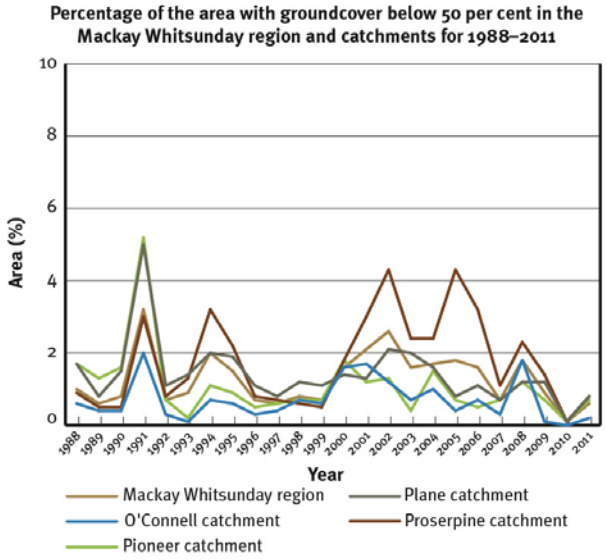
Groundcover results for the Mackay Whitsunday region and catchments

Catchment/ region	24-year mean groundcover (%)	2011 mean groundcover (%)	Area with less than 50% groundcover averaged over past 24 years (%)	Area with less than 50% groundcover in 2011 (%)
O'Connell	90	93	0.7	0.2
Pioneer	87	90	1.1	0.7
Plane Creek	88	90	1.4	0.8
Proserpine	87	93	1.8	0.8
Mackay Whitsunday region	88	92	1.3	0.6

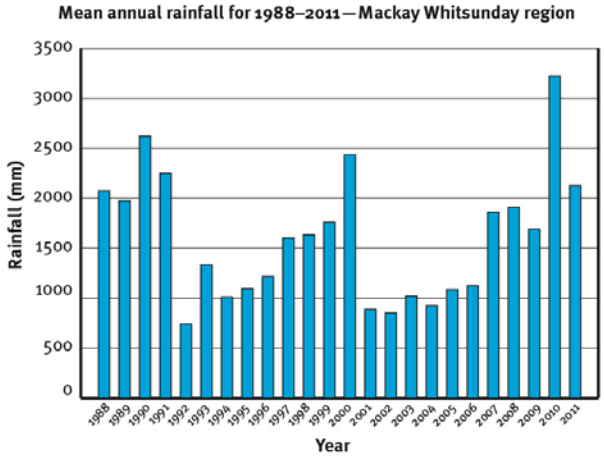
Groundcover changes over time
During the past 24 years, the Mackay Whitsunday region has had consistently high mean annual groundcover levels ranging from 79 per cent to 93 per cent.



The greatest area with groundcover less than 50 per cent was 3.2 per cent in 1991.



The Mackay Whitsunday region is the wettest of the regions reported (1602 millimetres mean annual rainfall).



Fitzroy

90%
Very good

Target: 50 per cent by 2013.
Late dry season groundcover for the grazing lands of the Fitzroy region was high (90 per cent) in 2011.

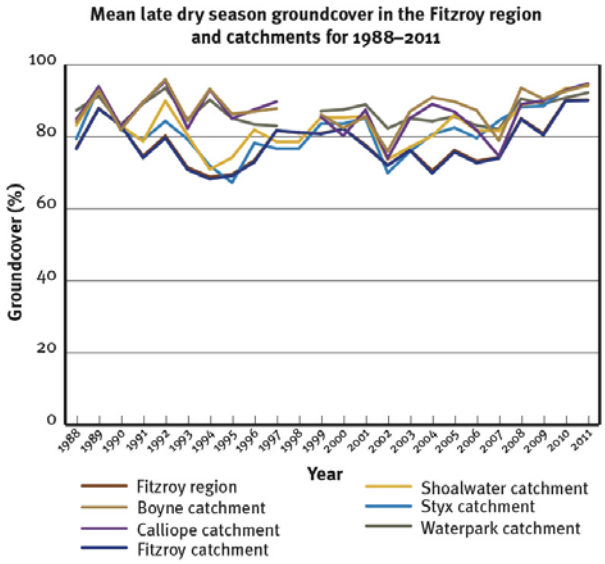
Groundcover results for Fitzroy region and catchments

The 24-year mean groundcover was 78 per cent. The Fitzroy catchment constitutes 95 per cent of the reporting area for the region.

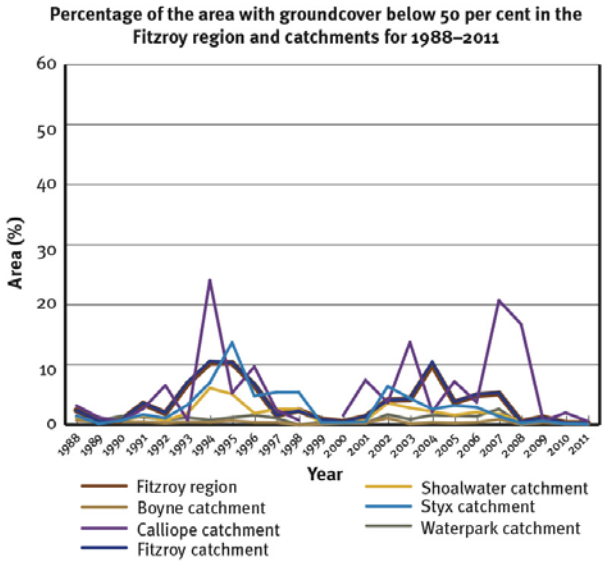
Catchment/ region	24-year mean groundcover (%)	2011 mean groundcover (%)	Area with less than 50% groundcover averaged over past 24 years (%)	Area with less than 50% groundcover in 2011 (%)
Boyne	84	94	0.4	0.2
Calliope	83	95	0.6	0.3
Fitzroy	78	90	3.6	0.3
Shoalwater	83	94	1.7	0.2
Styx	82	95	2.8	0.1
Water Park Creek	83	92	1.0	0.4
Fitzroy region	78	90	3.5	0.3

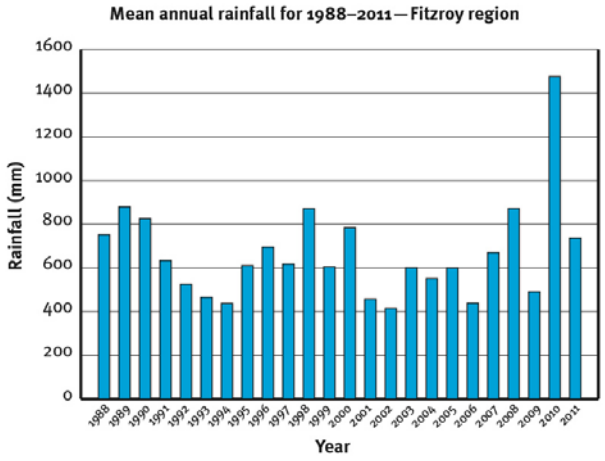
Groundcover changes over time

Mean annual late dry season groundcover in the Fitzroy region fluctuates considerably over time. For example, groundcover was as low as 69 per cent in 1994 compared to the highest groundcover level of 90 per cent in 2011.



Declines in the mean groundcover correspond with increases in the area with cover under 50 per cent. These declines also correspond to below average rainfall in preceding years. For example, in both 1994 and 1995, the area with groundcover below 50 per cent was 10.3 per cent and the mean annual rainfall had been declining since 1989. The annual rainfall was 437 millimetres in 1994, more than 200 millimetres lower than the region's mean annual rainfall for 1988 to 2011.





Burnett Mary

93%
Very good

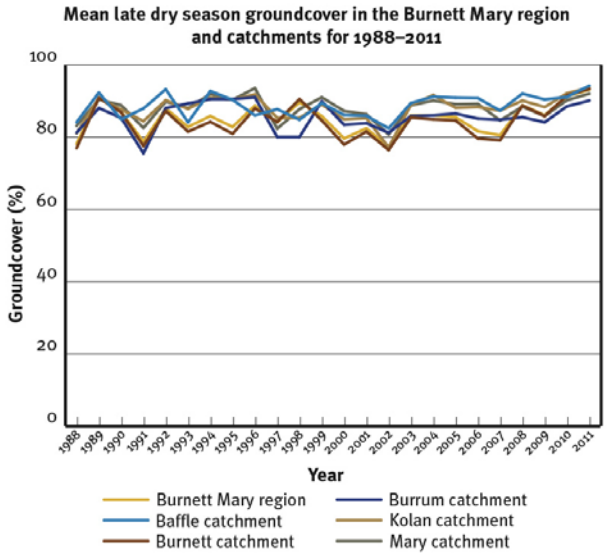
Target: 50 per cent by 2013.
Late dry season groundcover for grazing lands of the Burnett Mary region was high (93 per cent) in 2011. The 24-year mean groundcover was 85 per cent.

Groundcover results for the Burnett Mary region and catchments

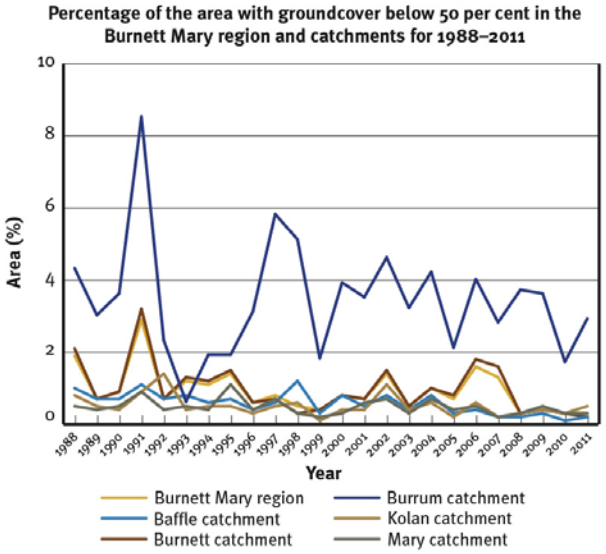
Catchment/ region	24-year mean groundcover (%)	2011 mean groundcover (%)	Area with less than 50% groundcover averaged over past 24 years (%)	Area with less than 50% groundcover in 2011 (%)
Baffle	89	94	0.6	0.2
Burnett	84	93	1.0	0.2
Burrum	86	90	3.4	2.9
Kolan	88	94	0.5	0.5
Mary	88	92	0.5	0.3
Burnett Mary	85	93	0.9	0.3

Groundcover changes over time

Over the past 24 years, the Burnett Mary region has had a consistently high mean annual groundcover of 85 per cent with a minimum of 77 per cent in 2002. The highest level of groundcover was in 2011 (93 per cent).



The greatest area with groundcover less than 50 per cent was almost three per cent in 1991.



Mean annual rainfall for the Burnett Mary region, over the period 1988 to 2011, is approximately 805 millimetres.