



Burt Plain bioregion

Description

Area: 73 800 km²

The landscape of the Burt Plain bioregion is characterised by plains and low rocky ranges. Vegetation is predominantly mulga and other acacia woodlands with short grasses and forbs, and spinifex grasslands. The predominant land use is cattle grazing, with some Aboriginal land. Communities include Aileron, Barrow Creek, Ti Tree and Yuendumu.

Location

The Burt Plain bioregion is located in the southern Northern Territory (NT; see Figures 1 and 2).

Figure 1 Location of the Burt Plain bioregion

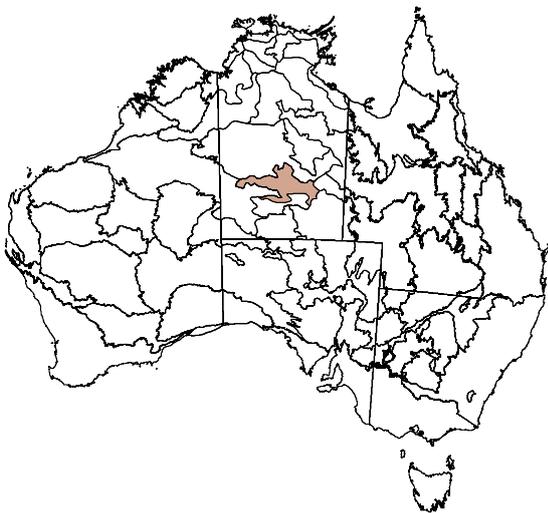
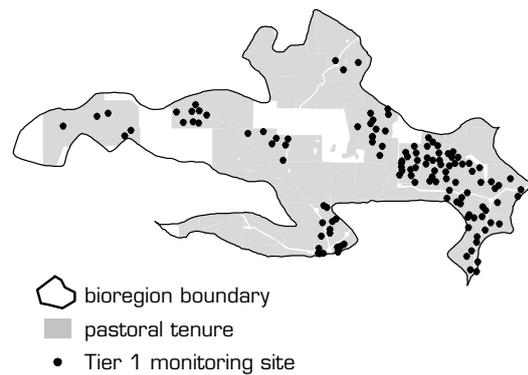


Figure 2 Monitoring sites and pastoral tenure



Data sources available

Data sources include:

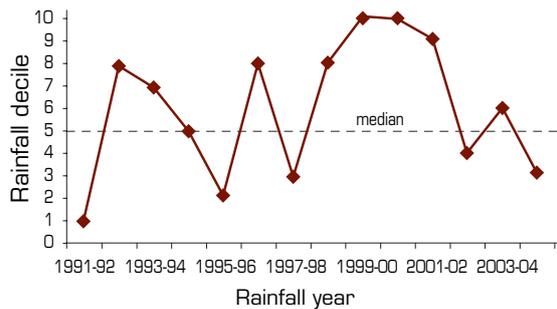
- NTTier I, which provides moderate reliability for reporting change, with a moderate number of sites with a somewhat patchy distribution; site data are estimated (rather than being measured), and there is a focus on perennial herbage species
- domestic stocking density, which provides moderate reliability for reporting change
- fire extent, intensity and frequency, which provides high reliability
- dust
- distance from water
- distribution and relative abundance of invasive animals and weeds
- land use
- land values.



Climate

The climate of the Burt Plain bioregion is arid with predominantly summer rainfall. Spatially averaged median (1890–2005) rainfall is 243 mm (April to March rainfall year; see Figure 3).

Figure 3 Decile rainfall for the period 1991–1992 to 2004–2005



Annual rainfall is for the 12-month period 1 April to 31 March.

Decile rainfall was highly variable throughout the reporting period, with a wetter period between 1999–2000 and 2001–2002, and drier years in the 1990s and 2004–2005.

Note that regional averaging of rainfall conceals spatial variability. Some parts of the Burt Plain bioregion may have experienced better *seasonal quality* and others worse during the 1992–2005 period.

Landscape function

Index based on composition (by biomass) and cover of perennial herbage species

In the Burt Plain bioregion, 6% of sites showed a decline in the index of landscape function when *seasonal quality* was above average and 6% of sites showed an increase when *seasonal quality* was below average.

<i>Seasonal quality</i>	Number of sites	Percentage of reassessed sites showing:		
		Decline: > 3 decrease in index	No change	Increase: > 3 increase in index
Above average	31	6%	74%	19%
Average	67	10%	73%	16%
Below average	32	31%	63%	6%

Sustainable management

Critical stock forage

Approximately 5% of sites showed a decline in composition (by biomass) of **palatable perennial** (2P) herbage species when *seasonal quality* was above average and 21% of sites showed an increase when *seasonal quality* was below average.

<i>Seasonal quality</i>	Number of sites	Percentage of reassessed sites showing:		
		Decline: > 20% decrease in 2P grasses	No change	Increase: > 20% increase in 2P grasses
Above average	108	5%	79%	17%
Average	98	4%	79%	17%
Below average	29	3%	76%	21%

Plant species richness

There are no suitable pastoral monitoring data for reporting change in plant species richness.

Change in woody cover

Based on the Australian Greenhouse Office definition and mapping¹, there is very little forest in the Burt Plain bioregion, and there was no real change in forest extent between 1991 and 2004 (1991, 1.40%; 2004, 1.56%). There is good coverage of Landsat imagery for reporting this result.

¹ See <http://www.greenhouse.gov.au/ncas/reports/tech09.html>

Distance from stock water

Based on the locations of stock waterpoints sourced from NT Government mapping of lease infrastructure, the percentage area of pastoral lease country within three kilometres of permanent and semipermanent sources of stock water for each sub-**Interim Biogeographic Regionalisation for Australia (IBRA)** is:

Burt Plain P1 (BRT1)	45.7% (49.9% of sub-IBRA analysed)
Burt Plain P2 (BRT2)	55.4% (81.4% of sub-IBRA analysed)
Burt Plain P3 (BRT3)	90.7% (73.8% of sub-IBRA analysed)
Burt Plain P4 (BRT4)	48.0% (70.4% of sub-IBRA analysed)

BRT = Burt Plain; IBRA = Interim Biogeographic Regionalisation for Australia

Note that this analysis does not include the locations of natural waters. These can provide significant additional sources of water for stock, particularly after substantial rainfall. It is not possible to report change in watered area for the 1992–2005 period.

Weeds

Weeds known to occur in the Burt Plain bioregion include:

Common name	Scientific name
Athel pine	<i>Tamarix aphylla</i>
Bathurst burr	<i>Xanthium spinosum</i>
Hyptis	<i>Hyptis suaveolens</i>
Mesquite	<i>Prosopis</i> spp.
Parkinsonia	<i>Parkinsonia aculeata</i>

See www.anra.gov.au for distribution maps

Components of total grazing pressure

Domestic stocking density

Most (90%) of the Burt Plain bioregion is pastoral tenure. Based on data sourced from the Australian Bureau of Statistics, domestic stocking density declined between 1992 and 1995 (from 8% above to 4% below

the 1983–1991 average), increased to 1996 (to equal the 1992 density), then remained fairly stable until 2000 and increased to 2002 (to be 20% above the 1983–1991 base). Near the end of the reporting period (2004), stocking density was 13% above the 1983–1991 average. These changes were broadly related to *seasonal quality* as indicated by decile rainfall (see Figure 3, above). Stocking density declined until 1995 with drier years and increased between the years 2000–2002 in a wetter period. Note that spatial averaging conceals likely variation in stocking density trends across the bioregion.

Kangaroos

There are no suitable data for reporting change in kangaroo populations.

Invasive animals

Invasive animal species known to occur in the Burt Plain bioregion include:

Common name	Scientific name
Feral pig	<i>Sus scrofa</i>
Fox	<i>Vulpes vulpes</i>
Wild dog	<i>Canis</i> spp.
Feral cat	<i>Felis catus</i>
Camel	<i>Camelus dromedaries</i>
Horse	<i>Equus caballus</i>

See www.anra.gov.au for distribution maps

Products that support reporting of landscape function and sustainable management

Fire

Much of the Burt Plain bioregion burnt in 2001, with fire less extensive in 2002. This wildfire period followed the very wet years in 2000 and 2001. Fire was insignificant at other times in the 1997–2005 period. Major fires (in terms of area burnt) occurred between April and November of each year and were likely less intense than summer fires.

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
% area burnt	0.1	0.0	0.3	2.4	25.0	8.9	0.2	1.8	0.2

The frequency of fire between 1997 and 2005 was low, with a mean frequency (\log_{10} transformed) of 0.03.

Dust

The mean Dust Storm Index value (1992–2005) was 1.86 — a low to moderate value compared with all rangeland bioregions. Mapped dust levels were fairly evenly distributed across the bioregion.

Biodiversity

For the Biodiversity Working Group indicator, Threatened species, there are:

- 3 threatened plant species
- 18 threatened mammal species, including 8 extinct species

- 5 threatened bird species
- 1 threatened reptile species.

A systematic regional biodiversity survey is currently under way in this bioregion.

Socioeconomic characteristics

Land use and value

Most (90%) of the Burt Plain bioregion is pastorally occupied. This area has not changed appreciably over the 1992–2005 reporting period.

The unimproved land value of pastoral leases increased by approximately 15% between 1991 and 2003 (in 2005 dollars).

Key management issues and features

There are no known regional issues of concern.