



# Great Sandy Desert bioregion

## Description

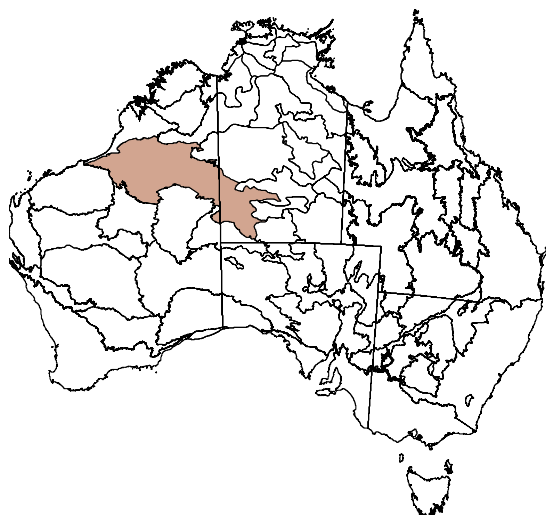
Area: 395 250 km<sup>2</sup>

The Great Sandy Desert bioregion is characterised by red sand plains, dunefields and remnant rocky outcrops. Vegetation is predominantly spinifex grasslands, low woodlands and shrubs. Tenure comprises unallocated crown land, conservation reserves and Aboriginal land, with the main industries being tourism, mining and mineral exploration. Major population centres are Telfer (Western Australia) and Yulara (Northern Territory).

## Location

The Great Sandy Desert bioregion is located in central northern Western Australia (WA; 75% of the bioregion area), stretching into the southern Northern Territory (NT; 25% of the area). Figure 1 shows the location of the bioregion.

**Figure 1 Location of the Great Sandy Desert bioregion**



## Data sources available

Site-based monitoring data are not available.

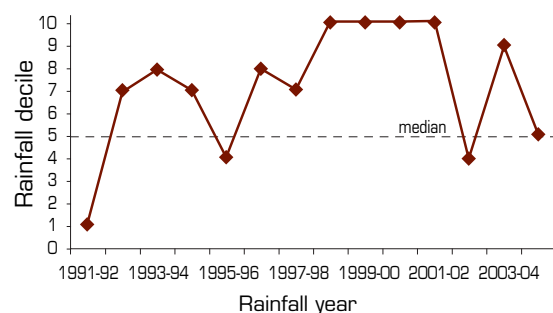
Other data sources include:

- fire extent, intensity and frequency, which provides high reliability for reporting change
- dust
- distribution and relative abundance of invasive animals and weeds
- land use
- conservation estate.

## Climate

The Great Sandy Desert bioregion has an arid, tropical climate in the north, grading to temperate-subtropical in the south. Rainfall is generally variable and unpredictable. Spatially averaged median (1890–2005) rainfall is 223 mm (April to March rainfall year; see Figure 2).

**Figure 2 Decile rainfall for the period 1991–1992 to 2004–2005**



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



**Seasonal quality** based on decile rainfall was generally above average for the 1992–2005 reporting period, after a very dry year in 1991–1992. The years 1995–1996, 2002–2003 and 2004–2005 had rainfalls close to the long-term median. The period included a sequence of four years in a row in the top decile (1998–1999 to 2001–2002).

Note that regional averaging of rainfall almost certainly conceals spatial variability in this large bioregion. Some parts of the Great Sandy Desert bioregion probably experienced slightly better *seasonal quality* and others worse during the 1992–2005 period.

## Landscape function

There are no suitable data for reporting change in landscape function.

## Sustainable management

### Critical stock forage

There are no suitable data for reporting change in critical stock forage.

### Plant species richness

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

### Change in woody cover

There are no suitable ground data for reporting change in woody cover. Based on the Australian Greenhouse Office definition and mapping of forest extent<sup>1</sup> and 2004 Landsat imagery, there is very minimal area of forest in the Great Sandy Desert bioregion (less than 0.25% of bioregion area).

### Distance from stock water

The vast majority of the bioregion is remote from stock watering points (there is minimal commercial grazing in the far western and eastern margins of the Great Sandy Desert bioregion).

## Weeds

Weeds known to occur in the Great Sandy Desert bioregion include:

Common name	Scientific name
Parkinsonia	<i>Parkinsonia aculeata</i>

See [www.anra.gov.au](http://www.anra.gov.au) for distribution maps

## Components of total grazing pressure

### Domestic stocking density

Pastoral leases abut the far western and eastern edges of this bioregion, and 7% of the area is grazed. Given this minimal level of grazing, data lack reliability to report any changes in stocking density.

### Kangaroos

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

### Invasive animals

Invasive animal species known to occur in the Great Sandy Desert bioregion include:

Common name	Scientific name
Feral pig	<i>Sus scrofa</i>
Fox	<i>Vulpes vulpes</i>
Rabbit	<i>Dryctolagus cuniculus</i>
Wild dog	<i>Canis spp.</i>
Feral cat	<i>Felis cattus</i>
Camel	<i>Camelus dromedaries</i>
Donkey	<i>Equus asinus</i>
Horse	<i>Equus caballus</i>

See [www.anra.gov.au](http://www.anra.gov.au) for distribution maps

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

## Products that support reporting of landscape function and sustainable management

### Fire

Fire extent between 1997 and 2005 was variable. Significant areas burnt between 2000 and 2002 during exceptionally wet years.

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
% area burnt	12.7	0.5	14.2	19.2	13.7	15.3	2.2	8.8	1.4

The greatest area burnt for most years was during the cooler months (April to November) when fires were likely to be less intense.

The frequency of fire during the reporting period was moderate compared with all rangeland bioregions, with a mean frequency ( $\log_{10}$  transformed) of 0.14.

### Dust

The mean Dust Storm Index value (1992–2005) was 1.63, which was a relatively low value compared with all rangeland bioregions. There was some spatial variation in Dust Storm Index values across this large bioregion: the western and eastern portions had low levels of dust and the central portion (immediately west of the NT–WA border) had negligible dust.

## Biodiversity

In the Great Sandy Desert bioregion, there are (Biodiversity Working Group indicator: Threatened species; see **Section 7 of Chapter 3** of *Rangelands 2008 — Taking the Pulse*):

- 1 threatened plant species
- 24 threatened mammal species (including 10 extinct species)
- 3 threatened bird species
- 2 threatened reptile species
- 1 threatened invertebrate species.

## Socioeconomic characteristics

### Land use and value

Only a small proportion (7%) of the Great Sandy Desert bioregion is grazed. This area has not changed appreciably over the 1992–2005 reporting period.

## Key management issues and features

Key features and issues of the Great Sandy Desert bioregion include the following:

- Feral camel numbers have increased in recent years.
- Fire management is an issue, particularly following sequences of wetter years that promote fuel accumulation.
- About 2.7% of the bioregion in WA is within the conservation estate.
- There is very little information on change in the rangelands of this bioregion.