



# Gulf Coastal bioregion

## Description

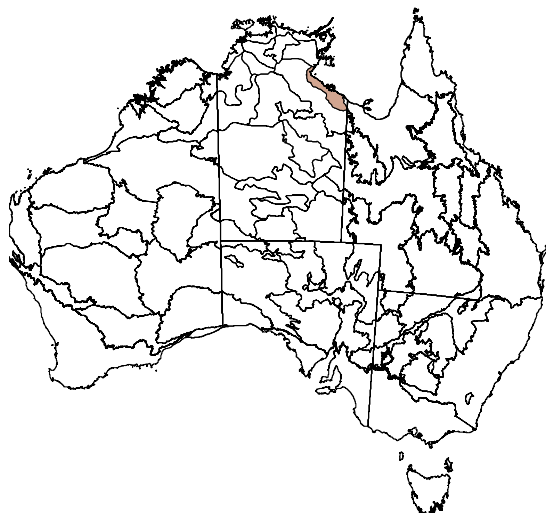
Area: 26 150 km<sup>2</sup>

The Gulf Coastal bioregion is characterised by gently undulating plains with meandering rivers and coastal swamps. Stringybark woodland, samphire shrublands and mangrove forests constitute the dominant vegetation types. Occupation is pastoral leasehold and Aboriginal land. The main industries are cattle grazing, mining, fishing and tourism. There are a number of smaller Aboriginal communities but no major population centres.

## Location

The Gulf Coastal bioregion is located in the Gulf of Carpentaria, on the coast of the Northern Territory (NT; see Figure 1).

**Figure 1 Location of the Gulf Coastal bioregion**



## Data sources available

Site-based monitoring data are not available.

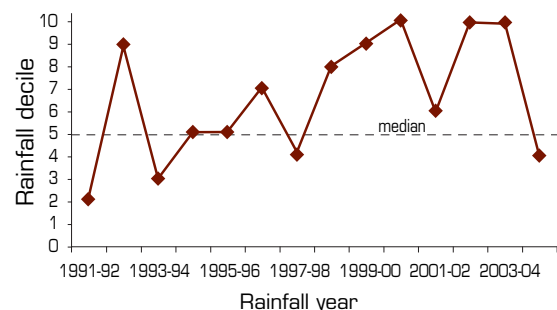
Other datasets include:

- 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.

## Climate

The Gulf Coastal bioregion has a tropical monsoonal climate. Most (90%) rainfall occurs in the November to March wet season. Spatially averaged median (1890–2005) rainfall is 768 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 variable throughout the reporting period, but generally improved from 1993–1994 to 2000–2001. The years 2002–2003 and 2003–2004 were exceptionally wet.

The intense nature of monsoonal rainfall probably means that the spatially averaged rainfall reported here conceals local variability across the Gulf Coastal bioregion.

## 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 is minimal forest extent based on the Australian Greenhouse Office definition and mapping.<sup>1</sup> Forest cover increased from 1.39% of the bioregion in 1991 to 1.88% in 2004 (an increase of 0.49%). There was complete coverage of Landsat imagery for reporting this result.

### Distance from stock water

Based on the locations of stock waterpoints sourced from Geoscience Australia's GEODATA TOPO 250K vector product (Series 3, June 2006), 2.3% of the Gulf Coastal bioregion (and Gulf Coastal PI sub-**Interim Biogeographic Regionalisation for Australia — IBRA**) is within three kilometres of permanent and semipermanent sources of stock water.

This analysis does not include the locations of natural waters, which in this bioregion provide many sources of water for stock, particularly in the early dry season. It is not possible to report change in watered area for the 1992–2005 period.

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

## Weeds

Weeds known to occur in the Gulf Coastal bioregion include:

Common name	Scientific name
<i>Hyptis</i>	<i>Hyptis suaveolens</i>
Mexican poppy	<i>Argemone ochroleuca</i>
Noogoora burr	<i>Xanthium occidentale</i>
Parkinsonia	<i>Parkinsonia aculeata</i>
<i>Sida</i> spp.	<i>Sida</i> spp.

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

## Components of total grazing pressure

### Domestic stocking density

Much of the Gulf Coastal bioregion has minimal pastoral potential, with the exception of properties in the far east of the bioregion. Some of the poorer pastoral areas have high conservation and recreation values. Most (83%) of the Gulf Coastal bioregion was grazed on a commercial basis between 1992 and 1998. This area decreased to 72% of the bioregion in 2000 and 2001. Approximately 10 200 km<sup>2</sup> of the bioregion has been taken out of pastoral use and is now managed by NT Parks and Wildlife.

Based on data from the Australian Bureau of Statistics and taking account of the reduction in grazed area, stocking density at the start of the reporting period (1992) was 67% of the 1983–1991 average. Stocking density further declined over the next four years (51% of base in 1995) before increasing (in a stepped manner) to 98% of the base value in 2002. Stocking density then declined slightly (92% of the 1983–1991 average in 2003 and 2004). The substantially reduced stocking density in the early part of the reporting period was probably a legacy of enforced destocking under the National Brucellosis and Tuberculosis Eradication Campaign and the marginal nature of pastoralism on some leases (with lessees moving away from cattle grazing to tourism based on recreational fishing and other income streams).

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 Gulf Coastal bioregion include:

Common name	Scientific name
Feral pig	<i>Sus scrofa</i>
Feral goat	<i>Capri hircus</i>
Wild dog	<i>Canis</i> spp.
Feral cat	<i>Felis catus</i>
Cane toad	<i>Bufo marinus</i>
Water buffalo	<i>Bubalus bubalis</i>
Donkey	<i>Equus asinus</i>
Horse	<i>Equus caballus</i>

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

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

### Fire

Fire was extensive across the bioregion in all years except 2003 and 2005. The smaller area burnt in 2005 may have resulted from reduced rainfall and extensive fire the previous year. The year 2003 was wet, and reduced fire extent in that year may have resulted from reduced fuel accumulation following relatively large areas being burnt in the 1999–2002 period.

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
% area burnt	23.8	20.6	38.4	22.5	48.3	28.7	7.2	35.0	9.2

Late dry-season (more intense) fires predominated in all years apart from 2002 (when approximately equal areas burnt in the early and late dry seasons).

The frequency of fire during the reporting period was relatively high, with a mean frequency ( $\log_{10}$  transformed) of 0.44.

### Dust

The mean Dust Storm Index value (1992–2005) at 0.51 was among the lowest of all rangeland bioregions. Dust levels were negligible throughout the bioregion.

## Biodiversity

By 2005, there were 260 bird species recorded for the Gulf Coastal bioregion (Biodiversity Working Group indicator: Fauna surveys) and approximately 1200 plant taxa recorded.

In the Gulf Coastal bioregion, there are (Biodiversity Working Group indicator: Threatened species):

- 2 threatened plant species
- 4 threatened mammal species
- 3 threatened bird species
- 6 threatened reptile species
- 1 threatened fish species.

## Socioeconomic characteristics

### Land use and value

Most (83%) of the Gulf Coastal bioregion was grazed on a commercial basis between 1992 and 1998. This area decreased to 72% of the bioregion in 2000 and 2001.

## Key management issues and features

Key features and issues of the Gulf Coastal bioregion include the following:

- Much of the Gulf Coastal bioregion has minimal pastoral potential, with some of the poorer pastoral areas having high conservation or recreation values.
- Much of the income of the bioregion is derived from low-key tourism pursuits as a means to supplementing pastoral income. The bioregion is becoming more popular as a destination for travellers seeking a low-cost fishing wilderness experience.
- Apart from properties in the far east of the bioregion, most properties have minimal infrastructure and pastoral income is mainly through harvesting semicontrolled or feral cattle.
- Regular inspections by NT Government pastoral officers coupled with Tier 1 monitoring data indicate that the Gulf Coastal bioregion remains in a reasonably stable condition with no major or specific land condition issues.
- Some areas that have undertaken infrastructure development have seen improvement in land condition due to changed grazing regimes.