

Key findings

- The results demonstrate the progress that has been made since 2003, when Reef Plan was first established, and highlight the remaining areas of concern where accelerated action is still required.
- The Great Barrier Reef is in moderate condition overall, but regional variability is evident—the Mackay Whitsunday region has poor seagrass results and the Burdekin region has poor coral results.
- High rainfall (particularly in the Burdekin and Fitzroy regions) between 2007 and 2009 has resulted in large flood plumes reaching marine waters.
- High rainfall has led to high catchment groundcover (83 per cent), which is well above the 50 per cent target.
- Nutrient management practices considered unacceptable by industry and community standards (D) are used by 34 per cent of sugarcane growers and 24 per cent of horticulture producers.
- The Fitzroy region has 14 per cent of graziers using (A) practices that are likely to maintain land in very good condition or improve land in lesser condition, compared to six per cent of graziers in the Burdekin.
- Of all wetland types, vegetated freshwater swamps have had the greatest loss since pre-European times (25 per cent). Loss of all types of wetlands between 2001 and 2005 was 883 hectares.
- Total catchment loads are five to nine times the natural loads for total suspended solids, nitrogen and phosphorus. An estimated 28,000 kilograms of pesticides enter the Great Barrier Reef annually.

Taking action

Reef Plan is a joint commitment of the Australian and Queensland Governments to minimise the risk to the reef ecosystem from a decline in the quality of water entering the reef from the adjacent catchments. It has been established to galvanise and target the collective actions of governments and the community for the protection of the Great Barrier Reef. Reef Plan focuses on the threat posed by diffuse source agricultural pollution. Reducing impacts from this threat also builds the resilience of the reef to impacts from other sources.

Purpose of the First Report Card

The First Report Card provides an estimate of the status of the key indicators for the period preceding 2009. This First Report Card is based on historical data and trends and takes into account the influence of a variable climate from year to year. This serves as a baseline that will be used as a point of comparison to measure progress towards Reef Plan goals and targets.

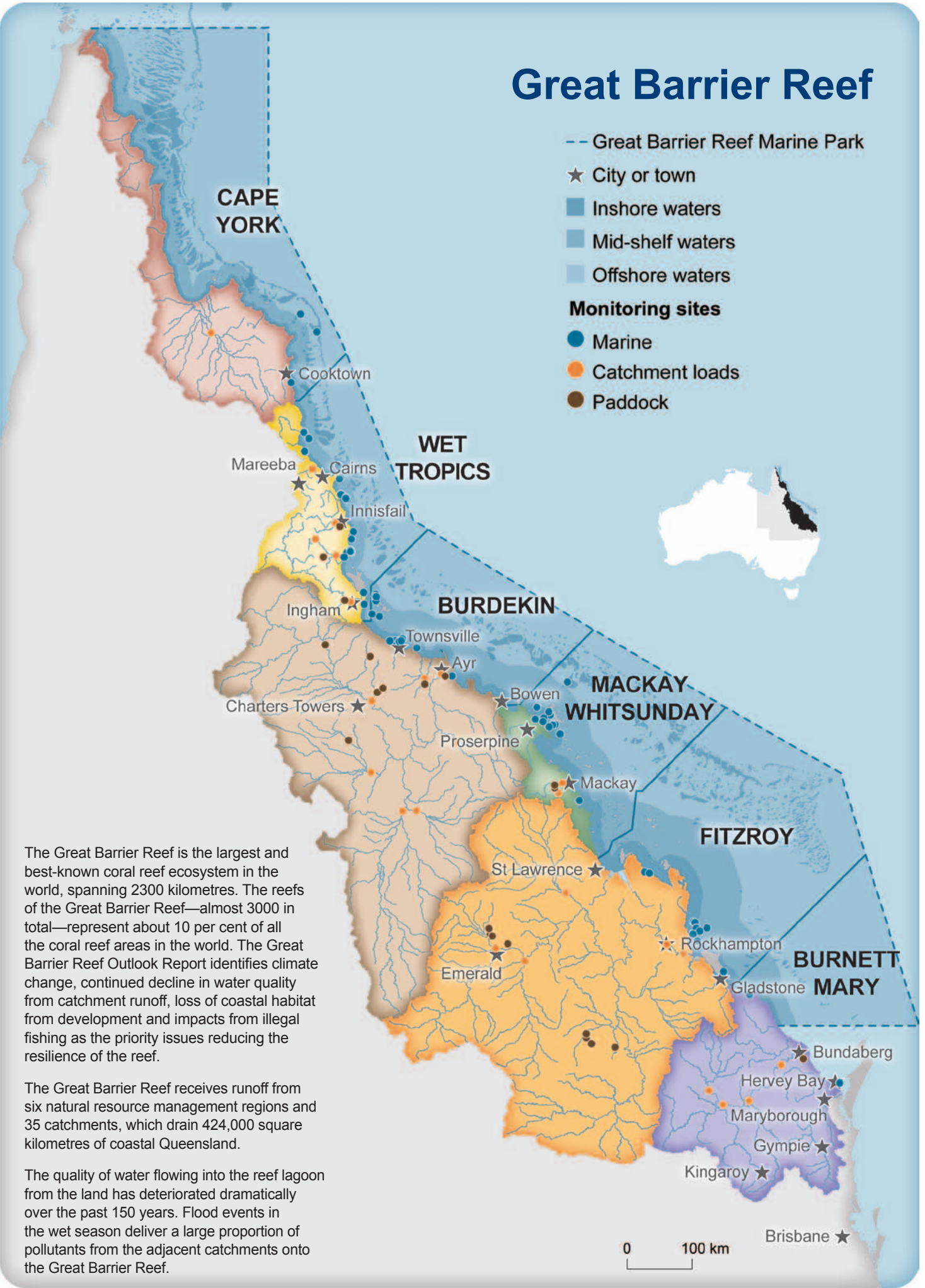
This report card presents results up to 2009 and therefore does not include the effects of Cyclone Yasi and the more recent flood events which will be presented in subsequent reports.

Paddock to Reef program

The Paddock to Reef program, funded jointly by the Australian and Queensland Governments, is a collaboration involving governments, industry, regional natural resource management bodies and research organisations. The Paddock to Reef program is a world-leading approach to integrate information on management practices, catchment indicators, catchment loads and the health of the Great Barrier Reef.

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Great Barrier Reef



Great Barrier Reef

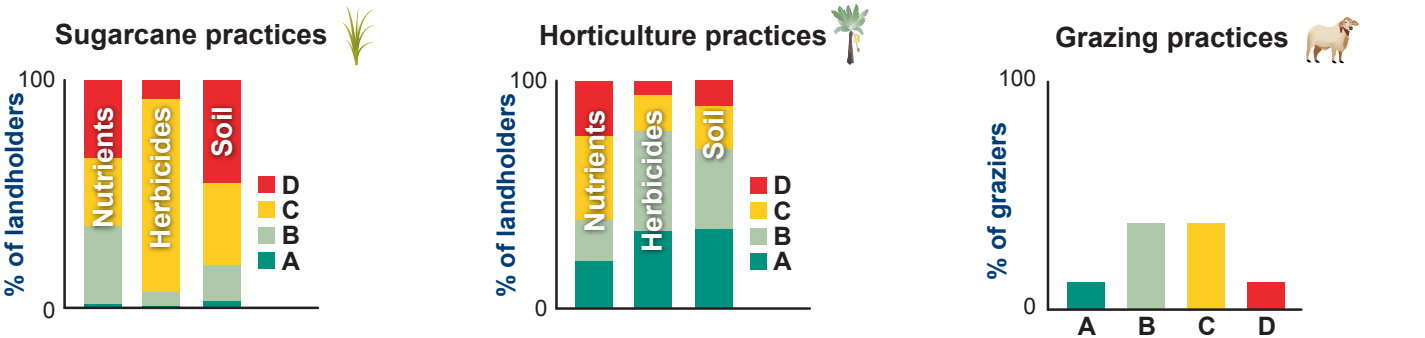
First Report Card 2009 Baseline
Reef Water Quality Protection Plan

Partners

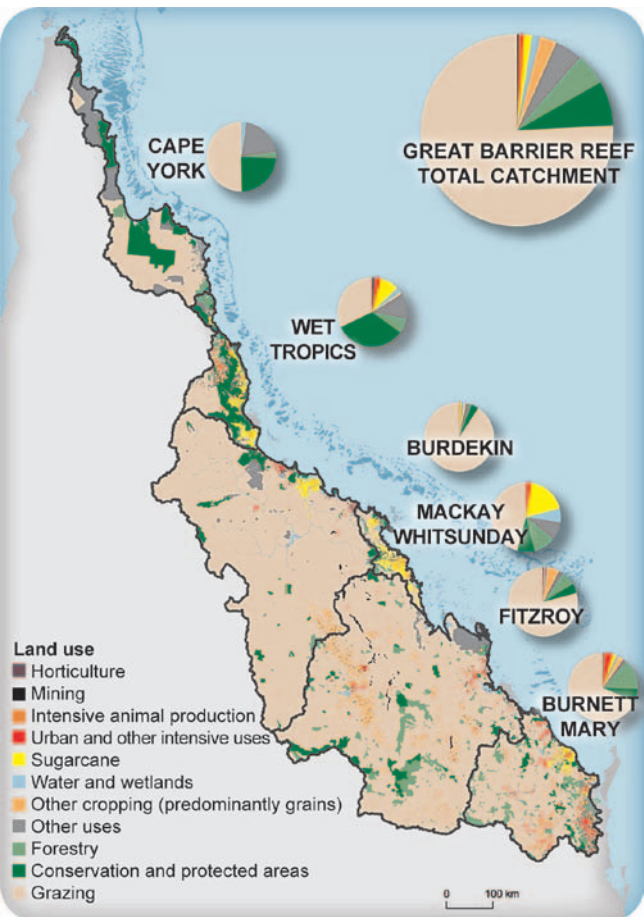


Land practice results

Adoption of improved management practices varies by industry and practice. The adoption of improved management practices for sugarcane and horticulture as at 2008–2009 is presented using the following framework:
A – Cutting-edge practices, B – Best practices, C – Common practices, D – Unacceptable practices.



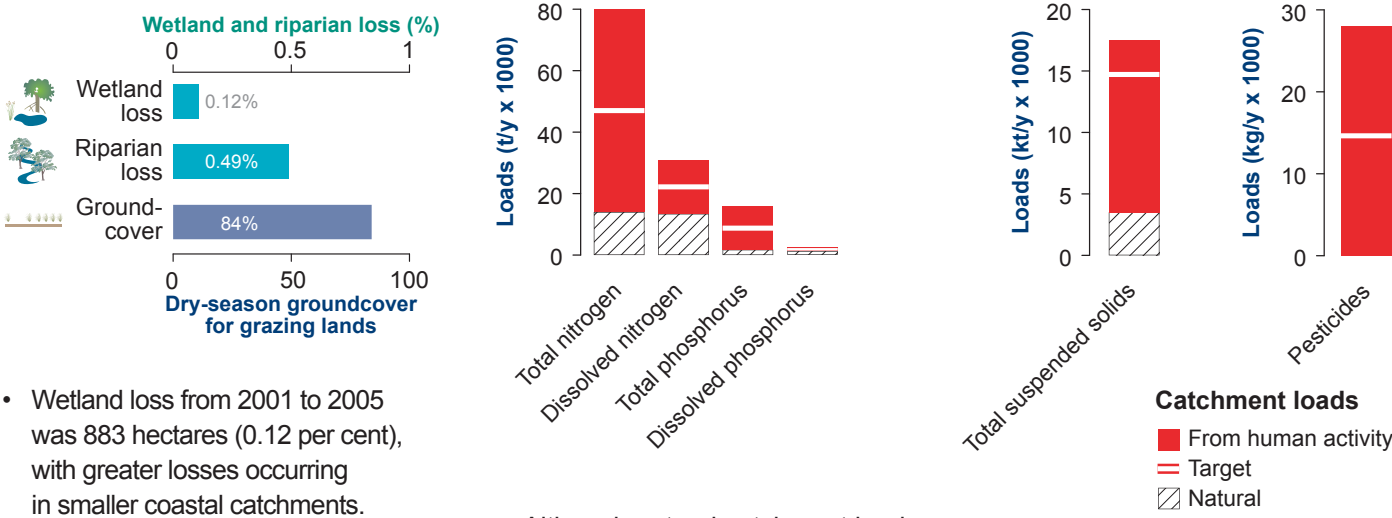
- Cutting-edge (A) or best management (B) practices are used by 36 per cent of sugarcane growers for nutrients, seven per cent for herbicides and 19 per cent for soil.
- Practices considered unacceptable by industry or community standards (D) are used by 34 per cent of sugarcane growers for nutrients, eight per cent for herbicides and 45 per cent for soil.
- Cutting-edge (A) or best management (B) practices are used by 39 per cent of horticulture producers for nutrients, 78 per cent for herbicides and 70 per cent for soil.
- Practices considered unacceptable by industry or community standards (D) are used by 24 per cent of horticulture producers for nutrients, six per cent for herbicides and 11 per cent for soil.
- Fifty per cent of graziers across the Burdekin and Fitzroy regions are using (A or B) management practices that are likely to maintain land in good to very good condition or improve land in lesser condition.
- Twelve per cent of graziers in the Burdekin and Fitzroy regions are using (D) management practices that are likely to degrade land to poor condition.



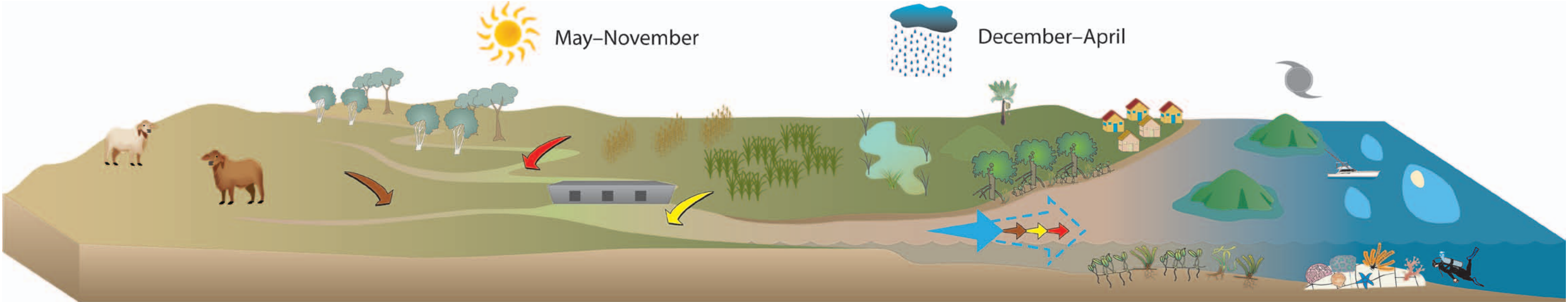
Land use map of the Great Barrier Reef catchment.

Catchment results

Catchment results include wetland and riparian loss, groundcover and catchment loads. Confidence in catchment load estimates differs across regions due to varying levels of data availability.



- Wetland loss from 2001 to 2005 was 883 hectares (0.12 per cent), with greater losses occurring in smaller coastal catchments. Wetland loss since pre-European times is 14 per cent.
- There has been a loss of 30,000 hectares (0.49 per cent) of riparian vegetation between 2004 and 2008.
- Dry season groundcover for grazing lands is high (84 per cent), well above the 50 per cent target and likely due to high rainfall.
- Although natural catchment loads occur, most of the loads to the Great Barrier Reef are from human activities.
- Annual total suspended solid loads are 17 million tonnes, of which 14 million tonnes are from human activity.
- The largest contribution of total suspended sediment load is from the Burdekin and the Fitzroy regions (4.7 and 4.1 million tonnes respectively), mainly derived from grazing lands.
- Agricultural fertiliser use is a key source of dissolved nitrogen and phosphorus runoff; annual loads of dissolved nitrogen are 31,000 tonnes.
- All pesticides are from human activities. The total annual pesticide loads are approximately 28,000 kilograms and the highest loads are from the Mackay Whitsunday and Wet Tropics regions (approximately 10,000 kilograms each per year).



The Great Barrier Reef catchments are largely rural and dominated by summer monsoonal rains and occasional cyclones delivering sediments, nutrients and pesticides to the inshore and sometimes offshore portions of the reef in pulsed flows, which can be affected by water reservoirs and dams. Grazing is the largest single land use, and sugarcane, horticulture and other cropping make up other agricultural land uses. Small urban centres are located on the coastal strip. Habitats include wetlands, reef, seagrass and mangroves, and continental and coral islands are present. Reef-based tourism, as well as commercial and recreational fisheries, are an important part of the regional economy.

Marine results

The effects of river discharge into the Great Barrier Reef are largely concentrated into inshore areas up to 20 kilometres from shore. Higher than average wet season rainfall in the Great Barrier Reef catchment occurred between 2007 and 2009, particularly in the Burdekin River catchment. Marine results for 2008–2009 are presented for seagrass, water quality and coral.

Seagrass: Inshore seagrasses are in moderate condition. Seagrass abundance is moderate and has declined over the past five to 10 years, associated with excess nutrients. The number of reproductive structures is poor or very poor in four of the six regions, indicating limited resilience to disturbance.

Water quality: Inshore water quality is moderate overall. Concentrations of total suspended solids range from poor (Burdekin and Mackay Whitsunday regions) to very good (Burnett Mary region).

Coral: Most inshore reefs are in good or moderate condition, based on coral cover, macroalgal abundance, settlement of larval corals and numbers of juvenile corals. Most inshore reefs have either high or increasing coral cover; however, corals in the Burdekin region are mostly in poor condition.

Pesticides: Pesticides, even at low concentrations, are a significant cause for concern. Of particular concern is the potential for compounding effects that these chemicals have on the health of the inshore reef ecosystem, especially when delivered with other water quality pollutants during flood events.



Average annual rainfall in the Great Barrier Reef catchment (1950–2000).