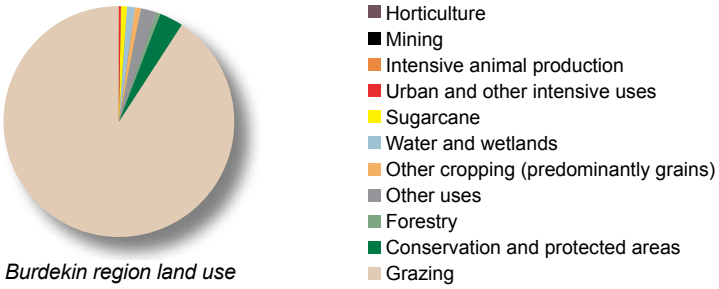
Burdekin region

First Report Card 2009 Baseline

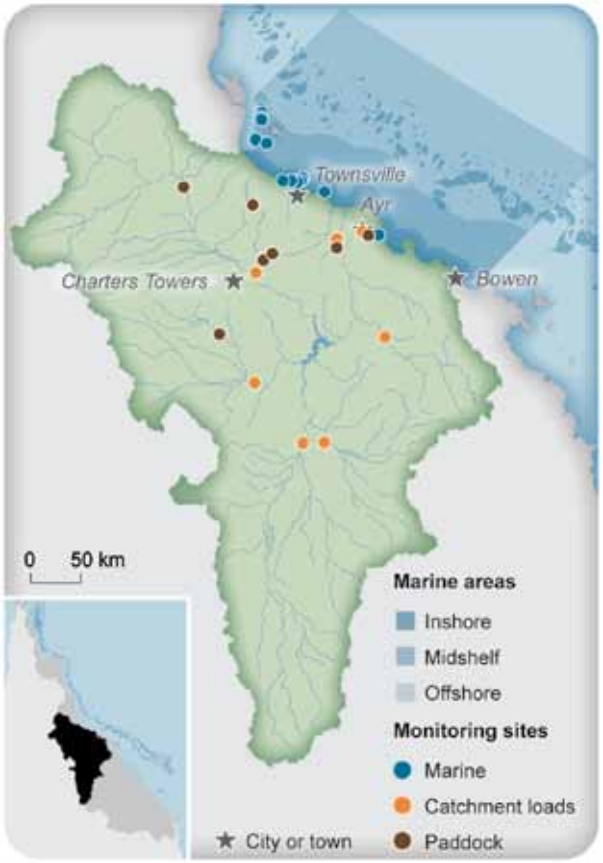
Reef Water Quality Protection Plan

Regional profile

The Burdekin region is approximately 141,000 square kilometres. The landscapes and biodiversity assets of the Burdekin region are equally diverse and of both national and international significance. Regional land use is dominated by grazing. The major threat from this land use is sediment and associated particulate nutrients from soil erosion, while some pesticide residues have also been detected in river runoff. **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.**



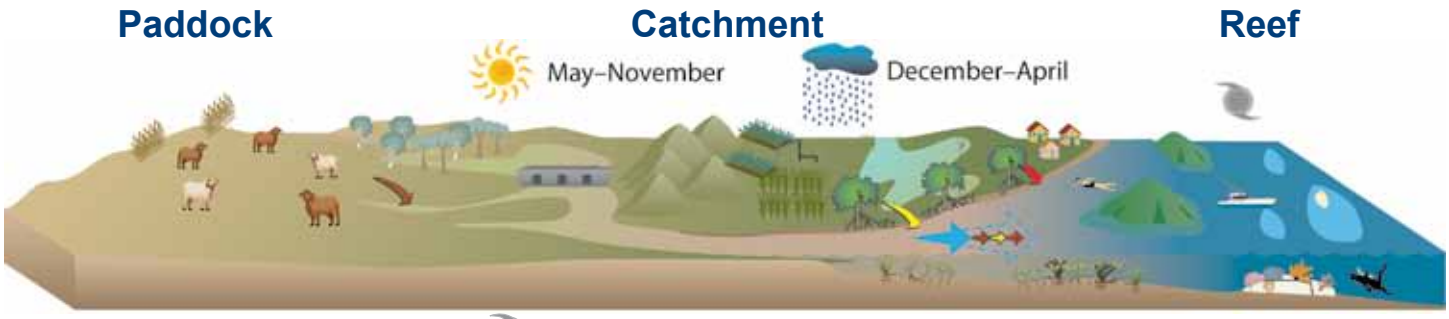
Burdekin region land use



Map of the Burdekin region and Great Barrier Reef Marine Park showing the paddock, catchment and marine monitoring sites.

Key findings

- Thirty-nine per cent of graziers are using practices that are likely to maintain land in good to very good condition, or improve land in lesser condition.
- Cutting-edge or best management practices for herbicides are used by 22 per cent of sugarcane growers.
- Almost one-third of the total suspended solids loads entering the reef waters are from the Burdekin region, making it the largest contributor.
- Inshore reefs have not recovered from the 2002 bleaching event.



The Burdekin region has occasional cyclones and highly variable rainfall predominantly in summer that falls mostly along the coastal areas and delivers sediments, nutrients and pesticides to the inshore and sometimes offshore portions of the reef in pulsed flows, which can be affected by reservoirs and dams. The large region is mostly drained by the Burdekin River. Grazing is the dominant land use and sugarcane, horticulture and other cropping are important irrigated land uses. The Burdekin dam and groundwater are important for irrigation. Urban centres such as Townsville and the smaller towns of Ayr and Bowen are located on the coastal strip. Habitats include fringing and offshore reefs, shallow-water seagrass, mangroves and freshwater swamp wetlands. There are continental islands (such as Magnetic Island) along the coast. Reef-based tourism, as well as commercial and recreational fishing, are an important part of the regional economy.

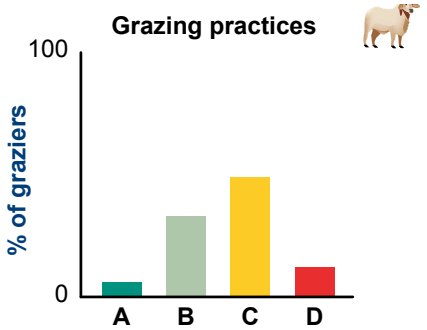
Australian Government

NQ Dry Tropics LAND & WATER SOLUTIONS

Queensland Government

Land practice results

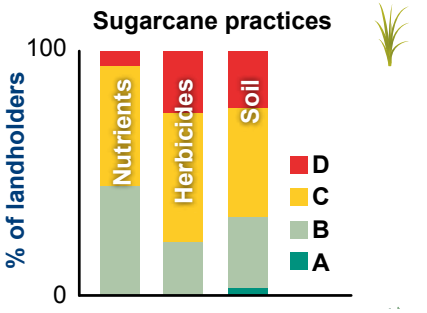
Adoption of improved management practices varies by industry and practice.



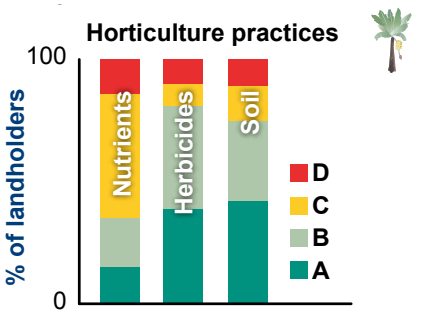
Thirty-nine per cent of graziers are using (A or B) practices that are likely to maintain land in good to very good condition, or improve land in lesser condition.

The adoption of improved management practices for sugarcane and horticulture is presented below using the following framework:

A – Cutting-edge practices
B – Best practices
C – Common practices
D – Unacceptable practices



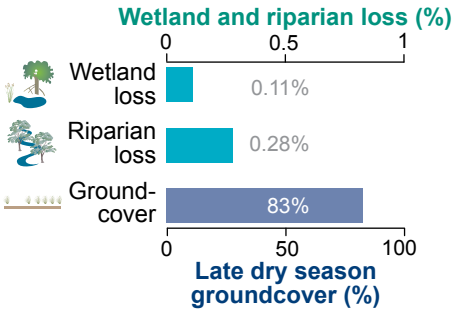
Cutting-edge (A) or best management (B) practices are used by 45 per cent of sugarcane growers for nutrients, 22 per cent for herbicides and 32 per cent for soil.



Cutting-edge (A) or best management (B) practices are used by 35 per cent of horticulture producers for nutrients, 81 per cent for herbicides and 75 per cent for soil.

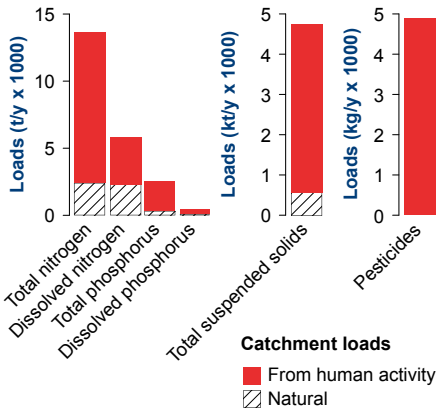
Catchment results

Catchment indicators include wetland and riparian loss, groundcover and catchment loads.



Loss of wetlands between 2001 and 2005 was 144 hectares (0.11 per cent). The loss of riparian vegetation between 2004 and 2008 was 5834 hectares (0.28 per cent). Late dry season groundcover for grazing lands is relatively high (83 per cent).

Catchment loads

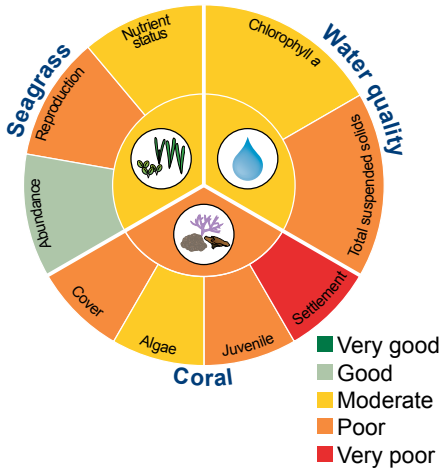


Total suspended solids loads leaving the Burdekin region are 4.7 million tonnes per year, of which 4.1 million tonnes are from human activity. This represents almost 30 per cent of the total suspended solids loads to the Great Barrier Reef and is mainly derived from extensive areas under grazing.

The dissolved nitrogen loads are 5700 tonnes per year, of which 3500 tonnes are from human activity, mostly due to fertiliser loss from sugarcane areas.

Marine results

Marine results are moderate for seagrass and water quality and poor for coral.



Water quality: Water quality is in moderate condition overall with poor results for total suspended solids. Inshore waters have concentrations of chlorophyll *a* and total suspended solids that are above Great Barrier Reef Marine Park Water Quality Guidelines. A range of pesticides are detectable in inshore waters of the region.

Seagrass: Seagrass abundance in the region is good, but has declined at coastal locations and is variable at reef locations. There are low numbers of reproductive structures, indicating reduced resilience to disturbance.

Coral: Inshore reefs are in poor condition and have not recovered following coral bleaching events in 2002. Settlement of coral larvae is very poor and numbers of juvenile corals are poor, which may be due to low coral cover limiting the availability of coral larvae.

What is being done?

NQ Dry Tropics partners with industry groups to deliver training, extension support and financial incentives to landholders to accelerate adoption of best management practices in the region's sugarcane, horticulture and grazing industries. Programs specifically target nutrient, pesticide and sediment reduction from agricultural activities.

This First Report Card presents results up to 2009 and will be used as the point of comparison to measure progress towards Reef Plan goals and targets.

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