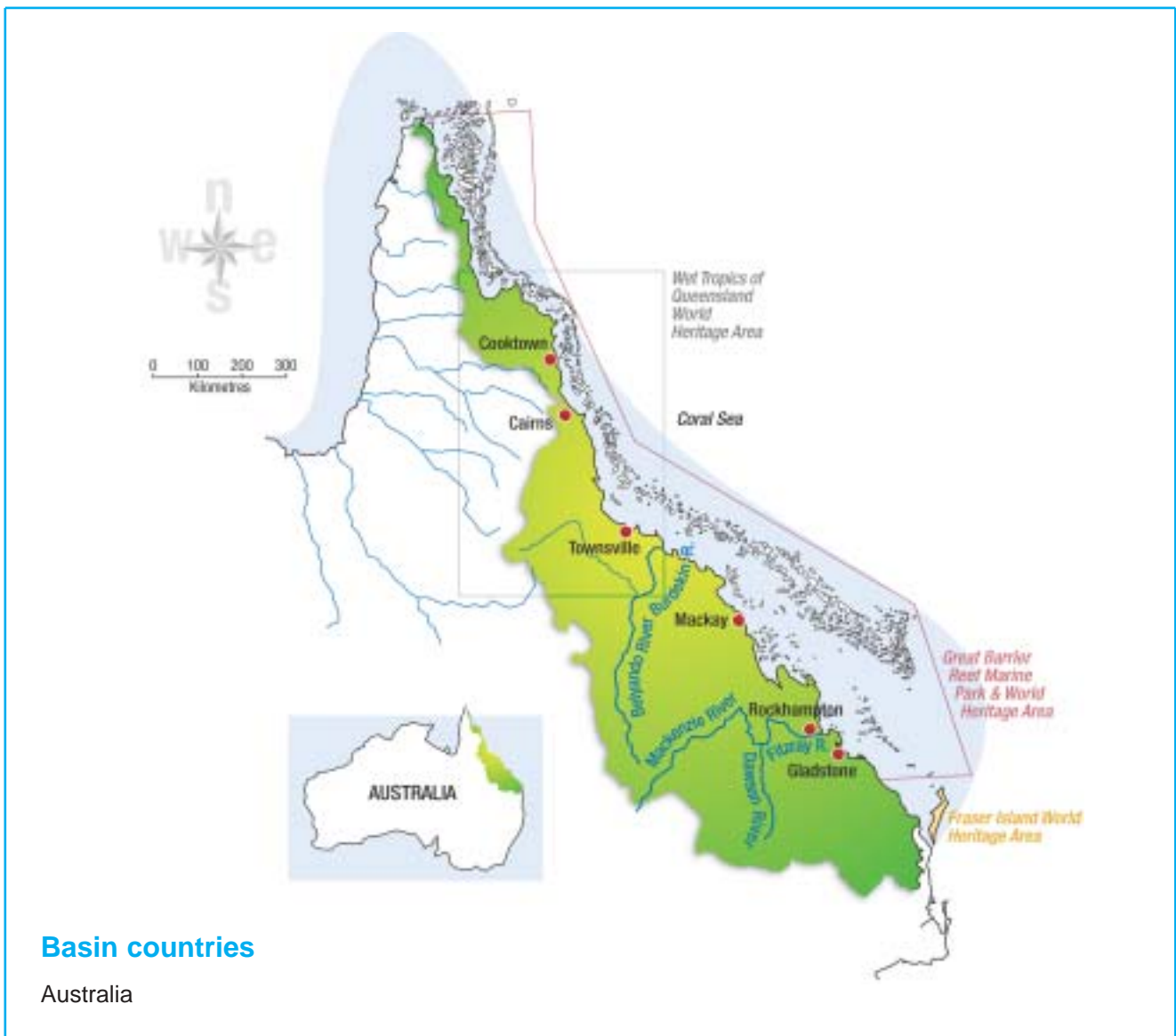


# Great Barrier Reef



## Summary of basin characteristics

**T**hirty-four sub-basins (or catchments) form the 'basin' of the Great Barrier Reef. These cover an area of 370,000km<sup>2</sup> and extend from the tip of Cape York, south to the Mary River near

Hervey Bay. The largest of the developed catchments is the Fitzroy, at just over 150,000km<sup>2</sup>, while the Mossman River is the smallest at just 490km<sup>2</sup>. Eight catchments are in relatively pristine condition, while the Great Barrier Reef Marine Park Authority has set pollutant reduction targets for the remaining 26.

### **Socio-economic importance**

Sugarcane is the major crop grown along the low-lying and ecologically sensitive areas adjacent to the Great Barrier Reef. Grazing land, supporting an estimated 5 million cattle, occupies over 80 per cent of the reef's catchment. Horticulture (the growing of bananas, other tree crops such as mangos, and vegetable crops such as tomatoes) is growing rapidly along the northern coastline, and aquaculture is also a fast-developing industry. There are currently 40 licensed aquaculture operations adjacent to the Great Barrier Reef Marine Park, including 25 marine prawn farms covering around 542ha. The Reef is also a tourism 'hotspot' such that many people living in the coastal towns and cities rely on the Reef for their daily income. However, large-scale tourism also brings with it the impacts of coastal development and associated problems of pollution and sewage disposal.

### **Biodiversity values**

Given the Great Barrier Reef's status as a global icon of the natural world, its biodiversity values need little explanation. These have resulted in World Heritage Convention listing (yet curiously not listing under the Ramsar Convention as a Wetland of International Importance). The region embraces a huge range of different habitats, from coral to mangroves, saltmarsh communities to sea grass meadows and lagoons. The latter are important habitats for marine turtles and dugong *Dugong dugon*.

### **Priority issues for river basin management**

Sediment, nutrient and pesticide runoff from agricultural activities threatens over 200 inshore reefs. WWF's Great Barrier 'Reef Pollution Report Card', released in June 2001, included the following summary of issues and concerns:

- Twenty-eight million tonnes of sediment flow into the Reef on average every year – equivalent to some 9,600 truck-loads of soil per day. (By contrast, it is estimated that the total sediment load from Great Barrier Reef catchments prior to the arrival of Europeans was just 7.4 million tonnes per year.) Land clearing and overgrazing is responsible for the vast majority of this sediment.

- The Fitzroy River dumps more sediment into the Reef than any other river.
- About 60-80 per cent of freshwater coastal wetlands in the Queensland Wet Tropics have now been lost due to sugarcane growing and other coastal development, which has effectively removed the natural filtration mechanism for water flowing to the Reef.
- By 1994, 8,800 tonnes of nitrogen were discharged annually into the sea from Queensland's sugarcane land, most of which lies along the Great Barrier Reef coastline.
- Pesticides from sugarcane – and increasingly from banana and cotton growing – are contaminating inshore sea grass meadows and even the dugong themselves.
- The herbicide diuron has been found at levels high enough to affect marine life.
- Inshore corals are suffering under a load of mud, nutrients and pesticides, with those along the Wet Tropics coastline and in the Whitsunday Islands being the worst affected.

### **Role of WWF and its partners**

WWF's main roles have been to raise awareness of the threat to the inshore reefs and sea grass communities of the Great Barrier Reef from land-based pollution, and to be a catalyst for political action and policy reform. The release of WWF's 'Great Barrier Reef Pollution Report Card' in June 2001 marked the commencement of a campaign to draw attention to the seriousness of the pollution problem, backed by scientifically rigorous information presented in an easy-to-read style.

Through combined information provision, awareness raising and active lobbying, WWF has been successful in gaining substantial commitments from the national and Queensland state governments for the development of a Reef Water Quality Protection Plan. WWF hopes the final plan will include a range of new incentives, reforms to existing regulations and planning mechanisms, and information and education initiatives aimed in particular at forging stronger links between farmers and the scientific community.

Several of WWF's recommendations have been

incorporated into the Sugar Industry Reform Program, the key elements of which are:

- The overarching Sugar Industry Reform Plan: this must now include environmental objectives and priorities – ecological sustainability will be a vital component of the criteria that the government uses to assess the plan.
- Regional Business Plans for each of the key regional sugarcane growing areas: these will now have to demonstrate how a ‘whole of industry’ systems approach will be used to address environmental issues and to deliver improved environmental outcomes, consistent with continual quality improvement of water entering the Great Barrier Reef.
- Reform projects funded under the programme: these will have to achieve substantial reductions in sediment, nutrient and pesticide runoff. Project assessment criteria will give credit for enhanced riparian and wetland protection to improve the health of the Great Barrier Reef.
- Environmental expertise: this is a specific requirement in the committees established to develop the Industry Reform Plan and the Regional Business Plans.

WWF played a key role in securing some US\$10.5 million for the Sugar Industry Reform Program, to be dedicated to wetland conservation and management in the Great Barrier Reef catchments, principally as a pollution management tool. This funding will be integrated into the Reef Water Quality Protection Plan, to be distributed through a range of mechanisms including incentives and stewardship agreements with landholders, collaborative management approaches, and community education and awareness raising. This sum is in addition to existing government plans to invest US\$10 million in wetland conservation in Queensland.

A driving force for mitigation of the threats to the Great Barrier Reef from adjoining river catchments is Australian federal legislation. WWF helped negotiate the Environment Protection & Biodiversity Conservation Act (1999), through which interested citizens and state governments can regulate threats to World Heritage sites, including the

Great Barrier Reef, from new developments originating outside their boundaries. A unique aspect of the proposed Reef Water Quality Protection Plan is that targets for the quality of water required to maintain the Reef’s health will be set for each river system (from headwaters to the river mouth).

### Conservation method demonstrated

This case study demonstrates how a carefully orchestrated campaign can convince decision-makers of the importance of integrated river basin management as a means of reducing land-based marine pollution. In this instance it helped that the environmental asset being impacted was a global icon. However, the environmental conditions built into the Sugar Industry Reform Program are also of great significance, as are the funds acquired to enhance wetland management.

### Resources devoted

Funding for this campaign came from WWF-Netherlands, totalling more than US\$700,000 over three years (2001-2004).

### Chronology

#### 2001

- June: WWF-Australia releases Great Barrier Reef pollution report.
- August: Premier of Queensland establishes Great Barrier Reef Task Force to address pollution issues.
- September: Catchment Water Quality Management Plan released by the Great Barrier Reef Marine Park Management Authority.

#### 2002

- Queensland Reef Science Panel and intergovernmental Reef Water Quality Committee established; federal government inquiry into the sugar industry initiated.
- April: WWF makes submission to the Sugar Industry Inquiry.
- June: report released recommending major structural reforms to the sugar industry. Reef Water Quality inquiry established by the Productivity Commission.
- August: Premier of Queensland and Prime Minister announce a Memorandum of Understanding to protect the Reef from land-based pollution, and their intention to develop a joint Reef Water Quality Protection Plan.

- November: draft report from the Productivity Commission's inquiry released.
- December: Great Barrier Reef Catchment wetlands package approved, plus other environmental reforms for the sugar industry.
- September: final joint Federal-Queensland Government Reef Water Quality Protection Plan (expected to be) finalized.

### 2003

- January: Premier of Queensland releases Reef Science Panel's report and draft Reef Water Quality Protection Plan to limited number of stakeholders.
- February: targeted stakeholder consultation in relation to the plan and release of the Productivity Commission's report on 'Industries, Land Use and Water Quality in the Great Barrier Reef Catchment'; WWF submits comments on the draft Reef Water Quality Protection Plan.
- May: draft plan released to general public for comment.

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## Lessons learnt

### 1. A combination of approaches accelerates the move to integrated river basin management

The awareness-raising campaign could not have delivered this result in isolation. Likewise, lobbying decision-makers and key stakeholders may not have been successful without carefully researched information and irrefutable evidence of impacts being placed in the public domain.

### 2. It is helpful to run a range of initiatives in parallel

By running a number of initiatives at the same time, WWF and its partners were not forced to rely on a single process. For example, along with the development of the Reef Water Quality Protection Plan, there has been a review of the sugar industry leading to a structural reform programme, a review of the science behind conclusions about Great Barrier Reef water quality impacts, and a major national inquiry into economic instruments to address Reef water quality decline.

### 3. Forging strong links with the scientific community is an essential component

The sugarcane industry had previously run a campaign questioning the science underlying claims that sugarcane production was having adverse impacts on the Great Barrier Reef system. Therefore it was crucial that WWF's own campaign developed and maintained good links with the scientific community and always based its communications efforts on the best available science.

### 4. The strategic use of the media and carefully targeted lobbying are important aspects of any campaign

### 5. There can be 'win-win' outcomes when conservation groups form partnerships with industries that are being impacted by land-based pollution

In the case of the Great Barrier Reef, this involved the tourism and commercial and recreational fishing industries. The combination of strong partnerships between industry representatives, scientists and NGOs produced a critical mass and a level of credibility that was resilient to moves to undermine it.