



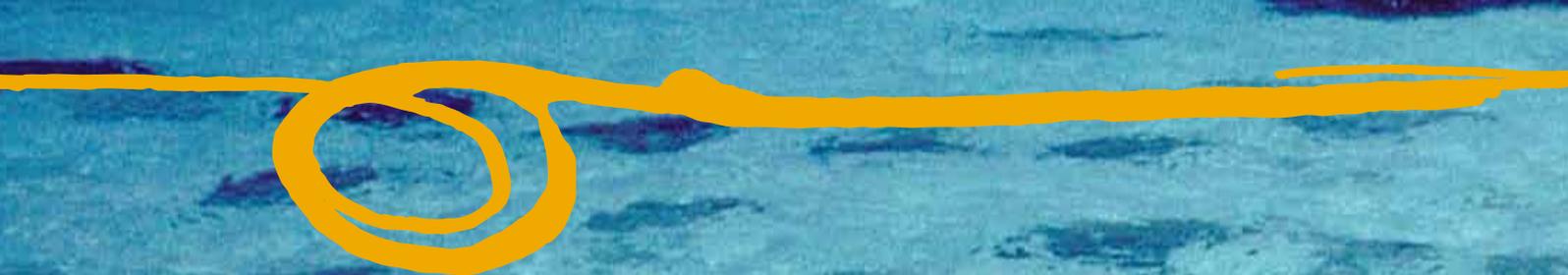
Australian Government

Department of Sustainability, Environment,  
Water, Population and Communities

Great Barrier Reef Marine Park Authority



# MANAGING THE GREAT BARRIER REEF WORLD HERITAGE AREA



## Responding to the World Heritage Committee's decision of June 2011

At its last meeting in June 2011 the World Heritage Committee expressed concerns about the approval of liquefied natural gas facilities on Curtis Island, located immediately adjacent to the busy industrial Port of Gladstone in Queensland.

The Great Barrier Reef World Heritage Area covers a big part of the Queensland coast. The commitment of the Australian and Queensland governments is to provide for sustainable development at the same time as ensuring the ongoing protection of the Reef environment. The role of the two governments is to ensure that use of the Reef is sustainable in the long term.

Long-term sustainability can only be achieved through the often extraordinary work of many people including farmers and graziers participating in the Reef Rescue program to avoid the impacts of run-off, and councils, schools and fishers contributing as part of the Reef Guardians program. Significant advances have also been made through improved regulatory measures, the establishment of marine parks and the Great Barrier Reef Marine Park Authority's ongoing management activities.

The Australian Government takes very seriously the concerns raised by the World Heritage Committee. In response, we have invited a joint monitoring mission from the World Heritage Centre and the International Union for Conservation of Nature to visit the Reef. The mission presents an opportunity to demonstrate the diversity, scale and complexity of sustainability issues in the Great Barrier Reef coastal region and showcase management achievements over recent years and Australia's ongoing commitment to protecting the World Heritage Area.

As requested, the Australian Government provided the World Heritage Committee with a full report that addresses the concerns and outlines the state of conservation of the Great Barrier Reef. The report will be examined by the World Heritage Committee at its 36th session in June 2012. This document provides a snapshot of that report.



# MANAGING THE GREAT BARRIER REEF WORLD HERITAGE AREA

Australia's Great Barrier Reef (the Reef) is the largest coral reef ecosystem on the planet and one of its richest and most complex natural ecosystems. The area is of enormous scientific and environmental importance.

No other World Heritage Area contains such biodiversity. Its vast array of biological diversity includes six of the world's seven species of marine turtle. More than 1500 species of fish swim among more than 350 species of hard coral. It is also home to one of the world's most important dugong populations, with about 14 000 dugong in the region.

Today, the Reef is one of the world's best known natural wonders. It attracts more than 1.6 million tourists each year and millions more recreational visitors, contributes more than \$5 billion to the Australian economy and has generated 63 000 jobs. The region is critical to the health of the Queensland economy and to the national economy as a whole.

Conserving the Reef's biodiversity is not just desirable – it is essential. Maintaining a healthy and diverse Great Barrier Reef ecosystem is important so it is better able to withstand, recover and adapt to impacts and stress (such as climate change).



Red footed booby on Raine Island

## How we manage an international icon

Managing the Reef is a complex task because of its sheer size and diversity, its economic importance and jurisdictional complexities including local, state, national and international interests and responsibilities, such as world heritage.

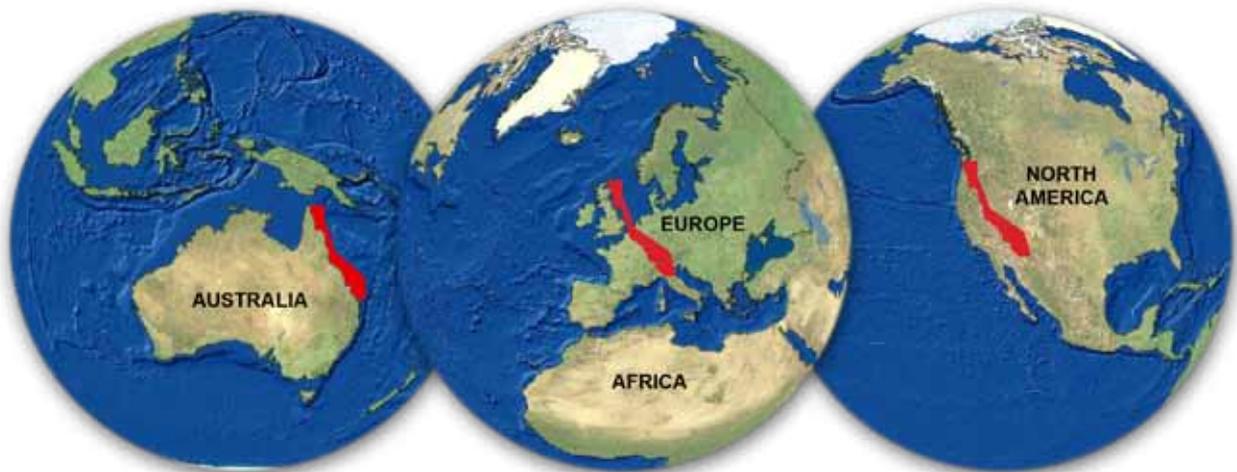


Figure 1: Size of the Great Barrier Reef World Heritage Area relative to other parts of the world

These challenges are compounded by pressures on the Reef's health from climate change, declining water quality and coastal development. Emerging issues include port expansions, dredging and increased shipping.

The Reef is protected by two complementary pieces of federal legislation: the *Great Barrier Reef Marine Park Act*, which oversees activities in the marine park and Australia's key national environment legislation, the *Environment Protection and Biodiversity Conservation Act*, which protects nationally significant matters including world and national heritage and migratory and threatened species.

Australia is proud of its management of the Reef including its comprehensive, multiple-use Zoning Plan for the marine park. The zoning arrangements provide very high levels of protection including 'no-take' and 'no-go' zones in one third (115 550 square kilometres) of the marine park while allowing for a wide range of commercial and recreational activities in suitable areas.

The Reef is managed jointly by the Great Barrier Reef Marine Park Authority, the Australian Government Department of Sustainability, Environment, Water, Population and Communities, and a number of Queensland government agencies, with the support of Reef communities, industries, research institutions and a range of other stakeholders.



# GREAT BARRIER REEF General Reference Map

Australian Government  
Great Barrier Reef  
Marine Park Authority

- **WORLD HERITAGE AREA AND REGION BOUNDARY**
- GREAT BARRIER REEF WORLD HERITAGE AREA**  
(Extends from the low water mark of the mainland and includes all islands, internal waters of Queensland and Seas and Submerged Lands Act exclaves.)  
Total area approximately 348 000 sq km
- GREAT BARRIER REEF REGION**  
(Extends from the low water mark of the mainland but excludes Queensland-owned islands, internal waters of Queensland and Seas and Submerged Lands Act exclaves.)  
Total area approximately 346 000 sq km
- **GREAT BARRIER REEF MARINE PARK**  
(Excludes Queensland-owned islands, internal waters of Queensland and Seas and Submerged Lands Act exclaves.)  
Total area approximately 344 400 sq km
- - - **GREAT BARRIER REEF MARINE PARK MANAGEMENT AREA**
- - - - - **GREAT BARRIER REEF PROVINCE**  
(As defined by W.G.H. Maxwell. Includes that part of the Queensland shelf that is occupied by reefs and reef-derived sediment.)  
Total area is estimated to be 277 200 sq km
- - - - - **MAJOR CATCHMENT BOUNDARY**

**THIS MAP IS INDICATIVE ONLY.**

Derived from information or materials produced by:  
Great Barrier Reef Marine Park Authority  
Queensland Department of Environment and  
Resource Management  
Geoscience Australia, National Mapping Division  
Royal Australian Navy, Hydrographic Office  
Times Books (Great Britain)  
Royal Navy (Great Britain)  
Environmental Systems Research Institute (USA)

Map projection: Unprojected geographic coordinates  
Horizontal datum: Geocentric Datum of Australia, 1994  
Bathymetric contours: Depths in metres  
Names are not necessarily authoritative.



Map No. SDC 041206A4 Aug 2009



Brown booby on Raine Island

## THE FACTS

### The Great Barrier Reef World Heritage Area:

- Covers an area of 348 000 square kilometres – bigger than Victoria and Tasmania combined or the equivalent area of Italy or Japan
- Is more than 2300 kilometres long – equal in length to the entire west coast of the USA from the Canadian to the Mexican borders
- Extends between 70 and 250 kilometres offshore from the low water mark on the mainland coast along north-eastern Australia
- Includes more than 3000 separate coral reefs, some 900 islands and all waters within the outer boundaries of the marine park.
- Is about seven per cent comprised of coral reefs
- Includes extensive aquatic biodiversity, from coastal estuarine systems, shallow inshore fringing reefs and 43 000 square kilometres of seagrass meadows (including 23 per cent of the known global species diversity) to deep oceanic waters more than 2000 metres deep
- Includes more than 2000 square kilometres of mangroves, with species representing 54 per cent of the world's mangrove diversity

Australia's integrated governance and management model for the Reef has been widely regarded as 'best practice' by marine and coastal managers around the world.

## Our philosophy of adaptive management

The Australian and Queensland governments have rigorous development assessment processes that take into account the world heritage values. The Australian and Queensland governments have committed to a comprehensive strategic assessment to ensure planning systems take into account the cumulative impacts of development on the World Heritage Area, and are based on the best available science.

The strategic assessment will be by far the largest and most comprehensive assessment undertaken in Australia. The assessment will be done in two parts and will assess a number of different land uses and the strong connection between the terrestrial and marine systems. It will take in the Great Barrier Reef Marine Park and the adjacent coastal zone under the jurisdiction of the Queensland Government.

The assessment will consider:

- Where planned and potential future development may occur in and adjacent to the Great Barrier Reef World Heritage Area.
- How policies, plans and management measures will protect the outstanding universal value of the Great Barrier Reef World Heritage Area and improve its resilience in the face of climate change and an expanding economy.



GBRMPA staff and Water police retrieve a ghost net in waters offshore from Cape York

The comprehensive strategic assessment will involve a range of different agencies across different jurisdictions, with overall coordination by the Australian Government. It is anticipated that the comprehensive strategic assessment will take 18 months to two years to complete, with outcomes to be implemented on an ongoing basis. This will include a number of opportunities for public comment.

## Long-term outlook

In 2009, a stock-take was carried out of the Reef, its management and its future, called the Great Barrier Reef Outlook Report 2009. The report highlighted that the Reef is one of the most diverse ecosystems in the world and remains one of the healthiest coral reef ecosystems.

However, there are issues affecting the health of the Reef – climate change, continued declining water quality from catchment run-off, loss of coastal habitats from coastal development and some impacts from fishing.

Major advances have occurred since 2009. For example, through the Reef Water Quality Protection Plan, the Australian and Queensland governments are taking significant steps and contributing substantial investment to improve water quality flowing from agricultural lands into the Reef.



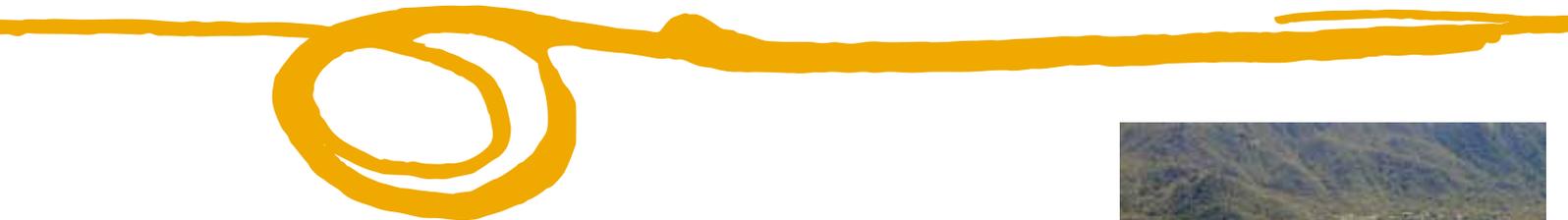
Farmland on the Great Barrier Reef Coast

Similarly, there have been significant improvements in fisheries management, including major reductions in the extent of trawling and the numbers of trawlers permitted in the World Heritage Area. Innovations in fishing gear technology have reduced by-catch and impacts on protected species, and there have been advances in the area of coastal development with new policies put in place to protect high-value ecosystems.

The Great Barrier Reef Marine Park Authority is required by law to produce an outlook report every five years. The next report is due to the Australian Government Environment Minister by June 2014. The process for developing the 2014 Outlook Report has begun.

## Emerging issues

New challenges that have emerged since the 2009 Outlook Report include increases in shipping activity as a result of port expansions; population growth as a result of expanding urban and industrial activities along the Reef coast; coastal development and intensification and changes in land use within the Reef catchment; the impacts from marine debris; illegal activities; and extreme weather events including floods and cyclones.



Nelly Bay harbour



Guthalungra Good Fortune Bay Fisheries barramundi farm

There are currently four major trading ports and eight other trading ports along the coast adjoining the Reef. In the 2010-11 financial year there were more than 4100 ship visits at these ports – a figure that has increase in recent years, driven mainly by industrial and mining activity.

In the next five years it is anticipated that there will be a 20 per cent increase in shipping traffic within the marine park, primarily driven by bulk commodity exports, focused around existing and future expansions in the Queensland mineral resources sector.

A robust coastal management framework is in place to protect high value coastal ecosystems and there are new shipping rules to minimise the risk of shipping incidents in the World Heritage Area.

With increasing population growth and an expanding mining industry in Queensland, it is anticipated that coastal development will remain a priority management issue that requires greater focus in coming years. Management will continue to adapt and respond to these emerging issues.





Mangroves

## Building the Reef's resilience to threats

### Climate change

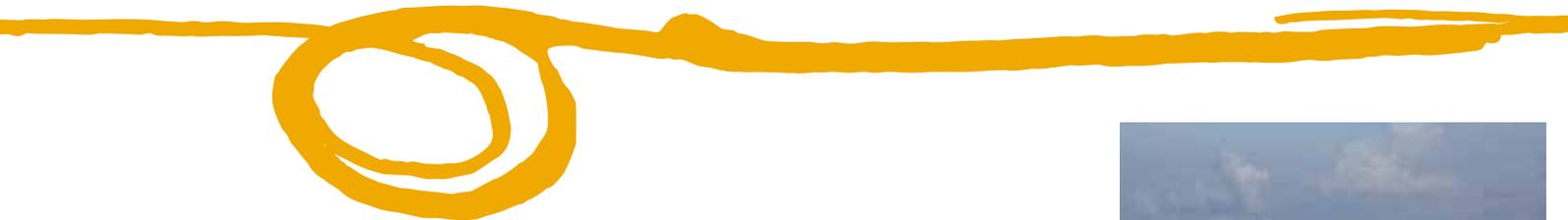
Significant advances have been made in addressing the issue of climate change broadly, through implementation of adaptation strategies for the Reef and policies at both national and state levels to increase the resilience of the Reef to better cope with these pressures.

- *Climate Change and the Great Barrier Reef: A Vulnerability Assessment* was a comprehensive assessment in 2007 of climate change risks for any coral reef ecosystem. It analysed the risks and formed the basis for the \$9 million Great Barrier Reef Climate Change Action Plan. The first of its kind for coral reefs, the Action Plan included strategies for building ecosystem resilience and supporting dependant industries and communities.
- Other resilience-building programs include the Zoning Plan to regulate uses, the Reef Water Quality Protection Plan to improve catchment run-off, and the Reef Guardians Program to promote stewardship across industry and the community.
- The Coral Bleaching Response Plan has been updated annually since 2000, outlining a strategic approach for monitoring bleaching risk.

### Water quality

Substantial resources are being provided to improve the water quality of the Reef. The Australian and Queensland governments have made a commitment through the Reef Water Quality Protection Plan to halt and reverse the decline in water quality entering the Reef by 2013.

- Almost half a billion dollars is to be invested by 2013 to improve water quality, including through tough new regulations that limit the amount of fertilisers and pesticides that can be used in catchments adjacent to the Reef, and incentives for employing best agricultural practices to reduce impacts on water quality. This includes \$200 million that the Australian Government has committed through the Reef Rescue initiative, to improve the quality of water entering the Reef.
- Wetlands, which filter water from the land to the ocean, are now protected and programs aimed at restoring their functions to improve water quality entering the Reef are underway.
- Reef Guardian Councils are participating local councils that aim to improve the health and resilience of the Reef through initiatives including: water management, waste management and land management. Thirteen councils covering 317 271 square kilometres of the Reef catchment with a combined population of more than 890 000 are in the Reef Guardian Council program.



Brown boobies on beach at Raine Island



Recreational boats in the breakwater marina, Townsville

- Land-based aquaculture facilities are managed to minimise water quality impacts on the waterways that flow into the Reef.
- In 2011 a Reef Plan Baseline Report Card provided an estimate of the status of key ecosystem health indicators, management actions and pollutant loads for the period immediately preceding 2009. The Reef is in moderate condition overall.

### Coastal development

While there are tremendous pressures in the coastal zone, Australia is committed to ensuring development only occurs when it is undertaken in a manner that is consistent with protecting the world heritage values of the Reef and other important terrestrial ecosystems.

- Coastal development is regulated by the Queensland Government, which oversees land use planning and assesses environmental impacts of developments. The Great Barrier Reef Marine Park Authority assesses developments that occur within the marine park.
- Any activity likely to have a significant impact on the world heritage values of the Reef, or the environment of the marine park, requires the approval of the Australian Environment Minister, and must be assessed under national environment law.
- The Great Barrier Reef Marine Park Authority assesses the roles and functions that coastal ecosystems play in maintaining a healthy Reef ecosystem, and ensures this information is available to inform development decisions of the relevant agencies in both the Australian and Queensland governments.





Cairns city at the mouth of Trinity Inlet

- There are Water Quality Guidelines for the marine park, which define trigger levels for concentrations of sediments, nutrients, and pesticides that are needed for the protection and maintenance of marine species and the Reef's ecosystem health.

## Fisheries

Fishing in the marine park is managed to ensure it remains an important pastime and a source of income for both Queensland coastal communities and the Queensland seafood industry.

- A Trawl Management Plan requires mandatory satellite monitoring of all trawlers; a quota system; and restrictions on net size.
- Approval under Wildlife Trade Operation accreditation requires any fishery with an export component to undergo assessment by the federal environment department to ensure the fishery is managed in an ecologically sustainable way.
- By-catch reduction devices and Turtle Excluder Devices are mandatory on all Queensland trawlers. The devices allow for the effective escape of turtles and other large non-target species (including sea sponges, sharks and large rays) that interact with trawl gear.



Trawler fishing offshore from Townsville



Split hull hopper dredge working on the Hay Point expansion project

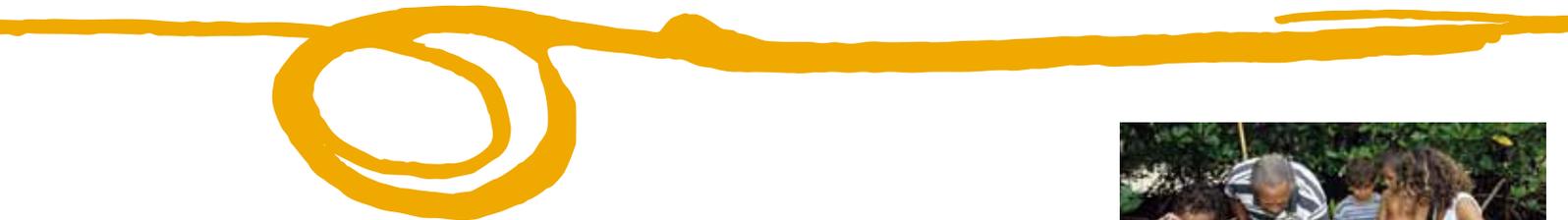
- In 2011, an Ecological Risk Assessment for the East Coast Otter Trawl Fishery was undertaken collaboratively between Great Barrier Reef Marine Park Authority, Queensland Seafood Industry Association and Fisheries Queensland. The final report is still being compiled; however key results indicate the overall environmental footprint of the fishery was lower in 2009 compared to 2005 as a result of a substantial reduction in fishing effort and fewer active boats in response to changed economic circumstances.

## Shipping

Comprehensive management and coordination has minimised shipping incidents. Ports management appears to have protected natural values, but there is a need to improve overall strategic planning.

Shipping in the Reef region is managed by Australian and Queensland government agencies. Shipping rules are uniform nationally and there is high-level coordination of everyday activities and incident response.

The International Maritime Organisation in 1990 designated the Reef as a Particularly Sensitive Sea Area, allowing Australia to implement special protective measures. This includes a ship reporting system, coastal vessel tracking service, compulsory pilotage,



Traditional owners from the Thithar group on Elim Beach

navigational aids, marine pollution response plans and Designated Shipping Areas.

- Subsequent improvements to shipping management include establishing designated shipping areas and defined traffic routes, limiting shipping to specific zones within the Reef as well as extending the compulsory pilotage area to include Torres Strait.

### Defence

- There are six designated defence training areas within or adjacent to the World Heritage Area. Defence has historically contributed to environmental research within the Reef addressing key issues such as the status of dugong in Shoalwater Bay.
- Thorough assessment, coordination and planning means that defence activities are well managed in the World Heritage Area. A risk assessment of defence activities carried out in 2005 indicated the majority of Defence activities had minor or negligible consequences.



Defence Force on military exercise Talisman Sabre at Shoalwater Bay

### Tourism and recreation

Commercial marine tourism extends throughout the Great Barrier Reef but its impacts are concentrated in a few intensively managed areas. Tourism makes a significant contribution to the presentation, management and economic value of the Reef. The impacts of recreation (not including fishing) are mainly localised in inshore areas.

- A range of joint management arrangements ensure that tourism and recreation use in the World Heritage Area is sustainable. Key components include zoning plans, joint marine parks permits for tourism operations, management plans for high use areas, policies and best practice guidelines.
- Operators who are independently certified to best practice standards are rewarded. As a result, more than 60 per cent of tourists to the Reef are now visiting with a certified high-standard operator.
- Through the mandatory environmental management charge paid by tourists to the marine park, tourism makes a significant contribution to the resources available for management of the World Heritage Area. In 2010-11, payments of the environmental management charge contributed more than \$7 million.

### Stewardship

#### Working with communities

Through the Reef Guardian Councils, Schools, Farmers and Fishers stewardship programs, communities, individuals and businesses are working together to build a healthier and more resilient Reef.





Young traditional owner on beach at Starke River



Traditional owner fishing with castnet

More than 285 schools and over 110 000 students, and every council in the region, are involved in the program and undertake a wide range of initiatives to support a healthy Reef. Farmers, graziers and fishers are also involved in the Reef Guardian Program, which showcases their voluntary environmental practices that go beyond mandatory standards and significantly benefit the Reef.

Community members are also involved in four Reef Advisory Committees and 11 local Marine Advisory Committees to help guide decisions affecting everyday actions that ensure the Reef's long-term health and resilience.

### Traditional Owners

There are approximately 70 Traditional Owner groups whose sea country includes the marine park. Traditional use of marine resources provides environmental, social, economic and cultural benefits to Traditional Owners and their sea country.

Formal agreements with Traditional Owners about their use of resources in the marine parks have been established.

The Australian Government's Reef Rescue Indigenous Land and Sea Country Partnerships Program engages Indigenous communities located along the Reef in the management and sustainability of the Reef's marine resources. It is also helping to develop Traditional Use of Marine Resource Agreements and sea country plans.

The Great Barrier Reef Marine Park Authority fosters Indigenous community engagement through membership on the Authority Board and the Indigenous Reef Advisory Committee, Science and Management Workshops for Traditional Owners, compliance training, monitoring and traditional ecological knowledge projects.



## Research using the best available science

Effective management of the Great Barrier Reef World Heritage Area depends on knowledge gained from research and monitoring, which is largely undertaken by external agencies, consultants and institutions including the Australian Institute of Marine Science, Australian Museum, Commonwealth Scientific and Industrial Research Organisation, James Cook University and the University of Queensland.

A network of six island research stations spread along the Reef is integral to the research activities, with approximately 80 per cent of field research occurring around the stations on Lizard, Heron and Orpheus islands. Close and productive working relations between Great Barrier Reef Marine Park Authority and key research institutions has led to improvements in the management of the World Heritage Area, which in turn have resulted in the region being widely recognised as a global leader in tropical marine ecology research and management.

The Australian Government is investing \$25.8 million over four years through the National Environmental Research Program. This supports environmental, economic and social research to improve our understanding, management and conservation of the Reef, rainforest and Torres Strait.

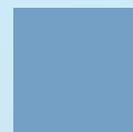
## Ensuring compliance with zoning rules.

The Field Management Program, jointly funded by the Queensland and Australian governments, ensures compliance of the zoning rules. The program undertakes field management operations and routine day-to-day activities through four priority programs:

- Compliance management
- Vulnerable species management and climate change
- Facilities management, natural and cultural resource protection
- Indigenous engagement.

Educational materials are available to encourage compliance and to help people understand the rules.

Intelligence gathering and analysis helps to focus compliance efforts and increases the detection and prosecution of illegal activities.



## For more information:

How the Great Barrier Reef is managed

[www.gbrmpa.gov.au](http://www.gbrmpa.gov.au)

The Great Barrier Reef World Heritage Area

[www.environment.gov.au/heritage/places/world/great-barrier-reef/index.html](http://www.environment.gov.au/heritage/places/world/great-barrier-reef/index.html)

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