

GREAT BARRIER REEF INTERGOVERNMENTAL AGREEMENT

An agreement between:

- The Commonwealth of Australia; and
- The State of Queensland

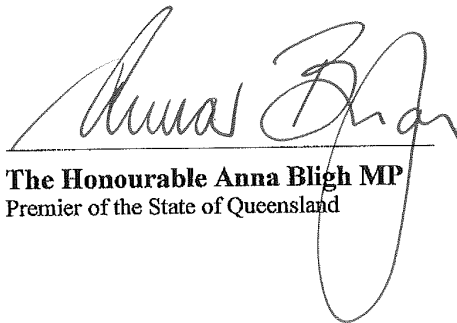
relating to the protection and management of the Great Barrier Reef

*Signed for and on behalf of the
Commonwealth of Australia by*



The Honourable Kevin Rudd MP
Prime Minister of the Commonwealth of Australia

*Signed for and on behalf of the
State of Queensland by*



The Honourable Anna Bligh MP
Premier of the State of Queensland

PREAMBLE

The Commonwealth and Queensland Governments have long demonstrated their commitment to working together collaboratively for the long-term protection and conservation of the Great Barrier Reef ecosystem, to ensure it is preserved as an important feature of the nation's and the world's heritage. The Emerald Agreement formalised this cooperative approach in 1979 and a series of collaborative arrangements has evolved over time. The Commonwealth and Queensland governments have agreed to update these arrangements, recognising the challenges of protecting the Great Barrier Reef into the future arising from pressures from the land and marine environments and the impacts of climate change. This agreement establishes these new arrangements, clearly articulating objectives, respective functions and accountabilities.

The Great Barrier Reef and its World Heritage Values

The Great Barrier Reef is the world's largest coral reef ecosystem and an Australian and international icon. The diverse range of habitat types and extraordinary biodiversity make the Great Barrier Reef one of the richest, most complex natural systems on earth. The area has significant environmental as well as social, economic and cultural values and plays an important role in the local, regional and national economies.

The Great Barrier Reef comprises a complex network of bioregions that interconnect with the adjacent onshore coastal and catchment ecosystems. These transcend jurisdictional boundaries and encompass overlapping areas of responsibility. Moreover, many of the major pressures on the Great Barrier Reef ecosystem are from outside the marine environment and encompass social and economic considerations on the land.

The Great Barrier Reef was internationally recognised in 1981 with inscription on the World Heritage List, under the Convention Concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention), as:

- containing superlative natural phenomena
- an outstanding example representing major stages of the earth's history, including significant landforms and physiographic features
- an outstanding example of significant on-going ecological and biological processes in the evolution of marine and coastal ecosystems
- containing the most important natural habitats for in-situ conservation of biological diversity, including threatened species.

As a party to the World Heritage Convention, Australia has a duty to protect, conserve and transmit the Great Barrier Reef World Heritage Area to future generations and must do all it can to this end, to the utmost of its resources (Article 4).

The Great Barrier Reef World Heritage Area covers an area of 348 000 square kilometres and is also included in the National Heritage List established under the *Environment Protection and Biodiversity Conservation Act 1999*.

Jurisdictional Framework

The Commonwealth is responsible for the management of the Great Barrier Reef Marine Park, established under the *Great Barrier Reef Marine Park Act 1975* within the Great Barrier Reef Region. The Great Barrier Reef Marine Park extends over 2 300 kilometres along the Queensland coastline and covers approximately 344 400 square kilometres. The Great Barrier Reef Marine Park generally extends over Queensland State coastal waters to the low-water mark, and, under the 1979 Offshore Constitutional Settlement, vesting of title and powers over these coastal waters is subject to the operation of the *Great Barrier Reef Marine Park Act 1975*.

Queensland is responsible for the management of the Great Barrier Reef Coast Marine Park, covering approximately 63 000 square kilometres, which is established under the *Marine Parks Act 2004* (Qld). This is contiguous with the Great Barrier Reef Marine Park and covers the area between low and high water marks and many waters within the limits of the State of Queensland.

There are around 900 islands and cays within the boundaries of the Great Barrier Reef Marine Park. The majority of the islands fall within the jurisdiction of Queensland and almost half of these are national parks under the *Nature Conservation Act 1992* (Qld). There are around 70 islands that are owned by the Commonwealth and form part of the Marine Park.

The Queensland Great Barrier Reef Coast Marine Park and the Queensland island national parks form part of the Great Barrier Reef World Heritage Area.

Queensland and the Commonwealth both have responsibilities relating to fisheries in the Great Barrier Reef World Heritage Area under the *Fisheries Management Act 1991* (Cwth) the *Fisheries Act 1994* (Qld) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth).

Development and land use activities in coastal and water catchment areas adjacent to the Great Barrier Reef World Heritage Area are an important influence on the World Heritage values of the Area.

The Queensland Government is responsible for natural resource management and land use planning of the islands, coast and hinterland adjacent to the Great Barrier Reef World Heritage Area including through the *Integrated Planning Act 1997* and the *Coastal Protection and Management Act 1995*. The Commonwealth Government is responsible, under the *Environment Protection and Biodiversity Conservation Act* for regulating activities having or likely to have a significant impact on matters of ‘national environmental significance’ as defined by the Act, and on the environment within Commonwealth land and waters.

The Great Barrier Reef Region, as defined under the *Great Barrier Reef Marine Park Act*, has the same external dimensions as the Great Barrier Reef World Heritage Area, including Queensland State coastal waters up to the low water mark, but excludes islands or parts of islands that form a part of Queensland and waters ‘within the limits’ of Queensland (Schedule A).

OBJECTIVES

The parties agree that the objective of this agreement is to ensure an integrated and collaborative approach by the Commonwealth and Queensland to the management of marine and land environments within and adjacent to the Great Barrier Reef World Heritage Area, so as to:

- provide for the long-term protection and conservation of the environment and biodiversity of the Great Barrier Reef ecosystem, as encompassed by the Great Barrier Reef World Heritage Area, and its transmission in good condition to future generations
- allow ecologically sustainable use of the Great Barrier Reef ecosystem subject to the overarching objective of long-term protection and conservation
- provide for meeting Australia’s international responsibilities for the Great Barrier Reef World Heritage Area under the World Heritage Convention.

In order to achieve these objectives, the Commonwealth and Queensland reaffirm their ongoing commitment to:

- prohibit activities for the exploration and recovery of minerals or petroleum, and any drilling and mining within the Great Barrier Reef World Heritage Area, including for the purposes of depositing materials

- maintain complementarity of relevant Commonwealth and Queensland management arrangements, in particular: marine park legislation and associated regulations; zoning plans and plans of management; planning and development arrangements; environmental assessment and permit requirements; management of fishing activities
- continue a Commonwealth/Queensland Ministerial Forum to facilitate implementation and achievement of the objectives of this agreement
- continue a joint program of field management, with shared funding on a 50:50 basis, for the Great Barrier Reef Marine Park and Queensland marine and national parks within the Great Barrier Reef World Heritage Area
- continue joint action to halt and reverse the decline in quality of water entering the Great Barrier Reef
- continue joint action to maximise the resilience of the Great Barrier Reef to climate change
- address significant threats to the health and biodiversity of the Great Barrier Reef ecosystem, including pollution from the land and sea, the impacts of climate change, ecologically unsustainable fishing activities and other resource extraction activities
- periodically review the condition of the Great Barrier Reef ecosystem and any need for further action
- ensure that Indigenous traditional cultural practices continue to be recognised in the conservation and management of the Great Barrier Reef.

GUIDING PRINCIPLES

The Commonwealth and Queensland recognise the following guiding principles, and agree to apply them in implementing this agreement:

- A collaborative and cooperative approach is fundamental to the effective long-term protection, conservation and management of the Great Barrier Reef as this is beyond the power and remit of either jurisdiction
- The precautionary principle will be applied to protecting the environmental, World Heritage and National Heritage values of the Great Barrier Reef

- The marine and land environments within and adjacent to the Great Barrier Reef World Heritage Area will be managed in an integrated manner consistent with ecosystem-based management and the principles of ecologically sustainable use
- Economic growth and the long-term health of the Great Barrier Reef ecosystem are interconnected, and actions or changes in one can impact on the other and must be taken into account, in particular:
 - population growth and economic development increases the demand for resource and recreational use of the Great Barrier Reef
 - land-use activities in the catchment, and urban development can have adverse impacts on the quality of water entering the Great Barrier Reef
 - regulation of activities that exploit marine resources, measures for protection of marine parks, or initiatives to reduce external pressures on the ecosystem can have regional and local social and economic effects, and improve the long term viability of the region
- Trends in the health, use of and risks to the Great Barrier Reef ecosystem will be regularly monitored and reported to ensure decisions are soundly based
- Co-ordinated long-term monitoring and research and the collection and sharing of marine-based biological, physical, social and economic data is fundamental
- Regular, periodic review of the resources necessary for the long-term management of the marine and national parks within the Great Barrier Reef World Heritage Area will be undertaken
- Initiatives should be delivered through a concerted response across all levels of government with shared funding arrangements for joint Commonwealth-State initiatives agreed on a case-by-case basis.

GREAT BARRIER REEF MINISTERIAL FORUM

The Ministerial Forum will consist of four members:

- The Commonwealth Minister responsible for administering the *Great Barrier Reef Marine Park Act 1975*, who is the Chairperson
- One Commonwealth Minister appointed by the Prime Minister
- Two Queensland Ministers appointed by the Queensland Premier.

Ministers appointed to the Forum must have responsibility for matters relating to the environment and marine parks and may include ministers with responsibility for science, tourism and/or natural resource management.

Ministers responsible for mining may not be members of the Forum.

Role

The role of the Ministerial Forum is a strategic one, to facilitate and oversight the implementation and achievement of the objectives of this agreement. The Forum will:

- provide a forum for joint policy development and coordination in relation to issues affecting the protection, conservation, management and use of the Great Barrier Reef ecosystem as encompassed by the Great Barrier Reef World Heritage Area
- periodically consider the condition of the Great Barrier Reef ecosystem and the long-term trends and risks, and provide advice to governments on required policy responses
 - advise the Prime Minister and the Queensland Premier on the five-yearly Great Barrier Reef Outlook Report prepared under the *Great Barrier Reef Marine Park Act 1975*
- ensure an integrated, ecosystem-based approach to management of land and marine environments with a bearing on the management and protection of the Great Barrier Reef ecosystem, including actions to address:
 - the quality of water entering the Great Barrier Reef from the catchments
 - the impacts of climate change
 - the management and regulation of fishing activities
 - the impacts of changes in land use in the coast and catchment areas
 - the impacts of extractive use of resources
 - the management of use within the Great Barrier Reef World Heritage Area
- further the collaboration and coordination of regulatory and management activities applying to the marine and national parks within the Great Barrier Reef World Heritage Area, in particular fishing and island management
- agree approaches for resource allocation, including:
 - periodic consideration of the resources needed for effective field management of the marine parks and island national parks within the Great Barrier Reef World Heritage Area

- funding arrangements for proposals prior to referral to each government for budgetary consideration
- review periodically the operation of the agreement and the extent to which the objectives have been achieved
- undertake other functions as agreed by governments from time to time with respect to this agreement.

SCHEDULES TO THIS AGREEMENT

Schedules may be appended to this agreement from time to time, recording detailed commitments of governments directed at giving effect to this agreement. Commitments detailed in the schedules must be consistent with this agreement. The Ministerial Forum may add, remove and amend schedules to this agreement, with the exception of Schedule A.

Table of Schedules

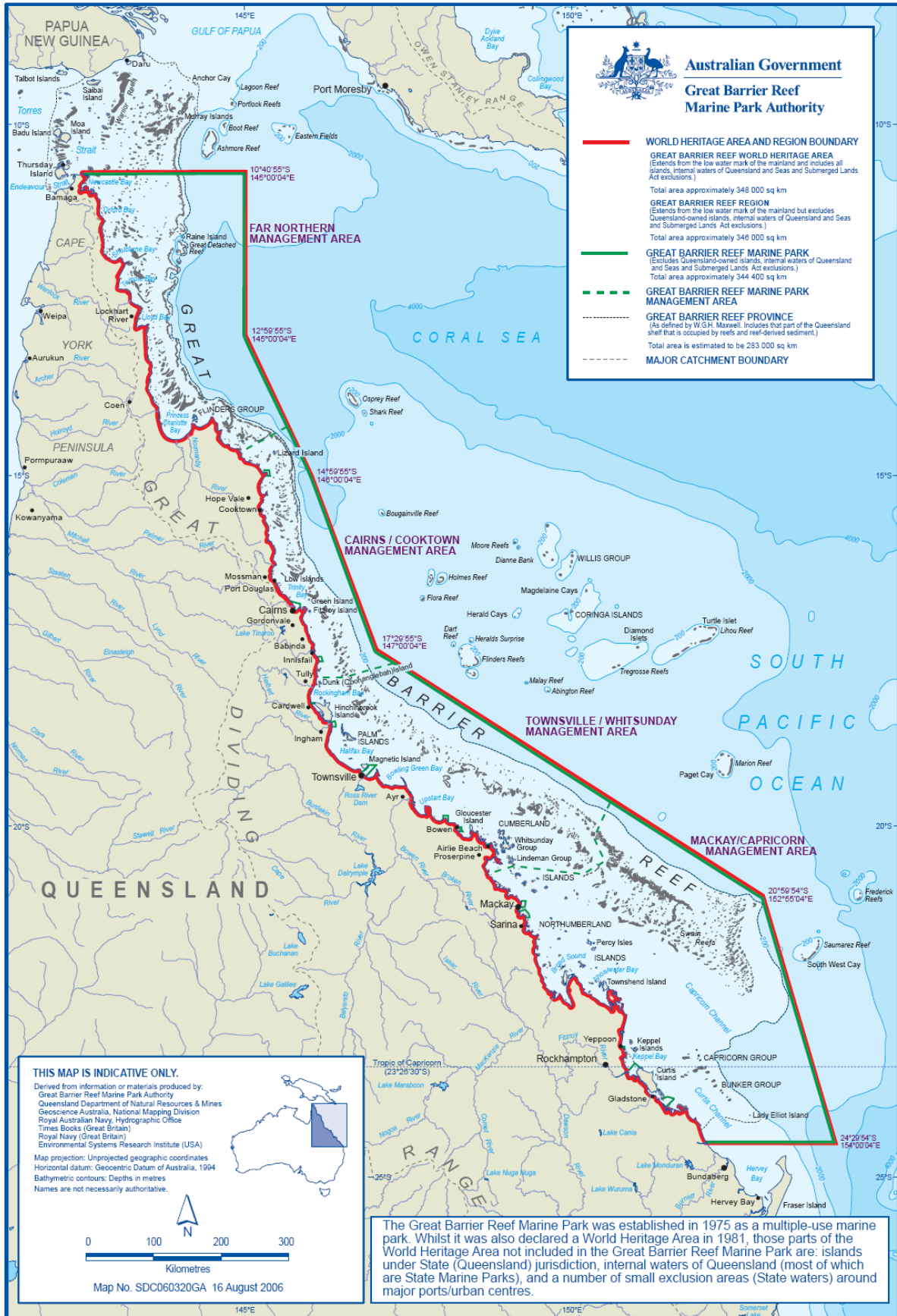
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| A | The Great Barrier Reef Region and World Heritage Area |
| B | Protocols for the Operation of the Great Barrier Reef Ministerial Forum |
| C | Joint Field Management Program for the Great Barrier Reef Marine Park and Queensland national and marine parks within the Great Barrier Reef World Heritage Area |
| D | Climate Change and the Great Barrier Reef |
| E | Fishing and Collection of Fisheries Resources in the Great Barrier Reef World Heritage Area |
| F | Reef Water Quality Protection Plan 2013 |

THE GREAT BARRIER REEF WORLD HERITAGE AREA

As inscribed on the World Heritage List established by the *Convention Concerning the Protection of the World Cultural and Natural Heritage, 1972*

The area the boundary of which:

- (a) commences at the point that, at low water, is the northernmost extremity of Cape York Peninsula Queensland;
- (b) runs thence easterly along the geodesic to the intersection of parallel of Latitude 10° 41' South with meridian of Longitude 145° 00' East;
- (c) runs thence southerly along that meridian to its intersection by the parallel of Latitude 13°00' South;
- (d) runs thence south-easterly along the geodesic to a point of Latitude 15° 00' South Longitude 146° 00' East;
- (e) runs thence south-easterly along the geodesic to a point of Latitude 17° 30' South Longitude 147° 00' East;
- (f) runs thence south-easterly along the geodesic to a point of Latitude 21° 00' South Longitude 152° 55' East;
- (g) runs thence south-easterly along the geodesic to a point of Latitude 24° 30' South Longitude 154° 00' East;
- (h) runs thence westerly along the parallel of Latitude 24° 30' South to its intersection by the coastline of Queensland at low water; and
- (i) runs thence generally northerly along that coastline at low water to the point of commencement.



PROTOCOLS FOR THE OPERATION OF THE GREAT BARRIER REEF MINISTERIAL FORUM

The *Great Barrier Reef Intergovernmental Agreement 2009* made between the Commonwealth of Australia and the State of Queensland provides for the ongoing operation of the Great Barrier Reef Ministerial Forum and sets out the purpose, role, functions and membership of the Forum.

These protocols deal with the operation of the Ministerial Forum and reflect the General Principles and Broad Protocols for the operation of Ministerial Councils agreed to by the Council of Australian Governments (COAG) at its meeting of 25 June 2004.

Operation of the Ministerial Forum

The Ministerial Forum must meet annually and may meet more often where there is a clearly demonstrated need. Otherwise, out-of-session arrangements should apply.

Meetings should generally be located in capital cities. However, the Ministerial Forum may choose to hold meetings in or adjacent to the Great Barrier Reef World Heritage Area when field inspection may assist consideration of the matters to be discussed. Meetings may be held by video conference by agreement.

Where Ministers are unable to attend a meeting, they may, with the approval of the Ministerial Forum, nominate a representative to attend on their behalf, including with voting rights. The Ministerial Forum may co-opt other Ministers onto the Forum, with voting rights, in relation to particular issues. Other Ministers may also attend as observers, with the approval of the Ministerial Forum.

Wherever possible, the Chair will give at least six weeks notice of any meeting. The Chair will also invite agenda items at this time.

Final papers will be distributed to Ministers three weeks prior to the scheduled meeting. Additional papers will be considered by agreement.

A quorum for a meeting of the Great Barrier Reef Ministerial Forum shall be one member from each of the Commonwealth and Queensland governments.

Decisions of the Ministerial Forum are made by unanimous agreement.

Reporting

The outcome of each meeting will comprise a Record of Decisions for the information of Ministers and officials. The Ministerial Forum may issue information statements/press releases, from time to time, which are authorised by the Forum and which summarise decisions.

The Ministerial Forum will report annually to the Prime Minister and the Premier of Queensland on the operation of the Ministerial Forum, with a substantive assessment on the implementation of the Great Barrier Reef Intergovernmental Agreement (IGA) every five years.

Documentation / Confidentiality

All documents prepared for the Ministerial Forum, including drafts, Working Group documents, agendas, papers, outcome documents and reports are to be treated as confidential and not made publicly available unless the Ministerial Forum decides otherwise for specific papers or disclosure is required by law.

Standing Committee of Officials

The Ministerial Forum will be supported by a Standing Committee comprising senior officials from the departments of members of the Ministerial Forum, as well as from the Great Barrier Reef Marine Park Authority and Queensland Department of the Premier and Cabinet. The Standing Committee will be chaired by an official from the Department of the chair of Ministerial Forum.

Senior officials of other Commonwealth and Queensland departments and agencies may be co-opted onto the Standing Committee from time to time by agreement of Standing Committee members.

The role of the Standing Committee is to assist and advise the Forum in the performance of its functions and the exercise of its powers, in particular to:

- identify and assess strategic matters requiring joint policy development or coordination, relating to the long-term protection of the Great Barrier Reef ecosystem and the management of the Great Barrier Reef World Heritage Area marine parks and island national parks and provide advice to the Ministerial Forum on any actions required
- provide advice to the Ministerial Forum on the Great Barrier Reef Outlook Report prepared under the *Great Barrier Reef Marine Park Act 1975*
- provide advice to the Ministerial Forum on Joint Field Management Program reports
- be responsible for advice to the Ministerial Forum on the implementation of agreed actions to halt and reverse the decline in quality of water entering the Great Barrier Reef
- implement decisions of the Ministerial Forum as are assigned to it by the Ministerial Forum
- track, and report to the Ministerial Forum on implementation of the Ministerial Forum's decisions
- provide advice every five years to the Ministerial Forum on the implementation of the *Great Barrier Reef Intergovernmental Agreement 2009*.

The Standing Committee will consider and provide direction to the Secretariat on the agenda and papers for the Ministerial Forum meetings. The Standing Committee will convene as required to perform its functions.

The Standing Committee may establish Working Groups as needed for particular tasks. Any Working Group will exist only for the period required to complete and report on clearly articulated matters. Working Groups are to be chaired by a member of the Standing Committee unless otherwise agreed.

Secretariat

The Secretariat for the Ministerial Forum and Standing Committee will be provided by the portfolio department of the Chair of the Ministerial Forum.

The Secretariat is responsible for supporting the Chair, the Ministerial Forum and Standing Committee by:

- arranging all matters relating to the business of the Ministerial Forum meetings, including venue, time, invitations, and associated activities
- coordinating the preparation and circulation of meeting agenda and papers
- maintaining records of decisions made by the Ministerial Forum
- maintaining copies of all agendas, papers, minutes, outcome documents and reports.

The Secretariat will liaise with and provide information to the COAG Secretariat as required on behalf of the Ministerial Forum. This includes provision of a record of decisions and an annual report. All correspondence for the Ministerial Forum and the Standing Committee should be directed to the Secretariat for the Ministerial Forum.

The Secretariat will also support the Standing Committee and any Working Groups that may from time to time be formed.

Secretariat contact details:

Great Barrier Reef Ministerial Forum Secretariat
Department of the Environment, Water, Heritage and the Arts
GPO Box 787 Canberra ACT 2601
GBRMCsecretariat@environment.gov.au

**JOINT FIELD MANAGEMENT PROGRAM FOR
THE GREAT BARRIER REEF MARINE PARK AND
QUEENSLAND NATIONAL AND MARINE PARKS WITHIN
THE GREAT BARRIER REEF WORLD HERITAGE AREA**

An agreement between

The Commonwealth of Australia

and

The State of Queensland

PREAMBLE

The *Great Barrier Reef Intergovernmental Agreement 2009* (the *Intergovernmental Agreement*) records the commitment of the Commonwealth and Queensland governments to the integrated and collaborative management of marine and land environments with the aim of maintaining ecological processes, biodiversity and functioning biological communities of the Great Barrier Reef ecosystem and its transmission in good health to future generations.

As a key means of achieving this objective, the Intergovernmental Agreement provides for the continuance of a joint Commonwealth and Queensland government program of field management, with shared funding on a 50:50 basis, for the Great Barrier Reef Marine Park and Queensland marine and national parks within the Great Barrier Reef World Heritage Area.

This agreement sets out arrangements for the continued development, funding and administration of an ongoing Joint Field Management Program in accordance with the Intergovernmental Agreement and the *Great Barrier Reef Marine Park Act 1975* (Cth), and for the delivery of the program by Queensland agencies, the Great Barrier Reef Marine Park Authority (the Authority) and other Commonwealth agencies.

The Authority is responsible for the administration of the joint funding provided by the parties under this agreement through the Great Barrier Reef Field Management Special Account (Special Account) established by the *Great Barrier Reef Marine Park Act 1975*.

The co-operative approach to day-to-day management by the Commonwealth and Queensland governments has evolved through a series of agreements since 1979. This agreement updates these arrangements and in so doing replaces the:

- Basis of Agreement between the Commonwealth and Queensland Governments for Day-to-Day Management of the Great Barrier Reef Marine Park Capricornia Section, endorsed by the Ministerial Council for the Great Barrier Reef on 1 August 1980.
- The agreement relating to day-to-day management made between the Commonwealth and Queensland governments, with the Great Barrier Reef Marine Park Authority as an additional party, on 10 May 1988 (generally referred to as the Main Agreement).

This agreement is not intended to create legal relations between the parties, with the exception of the Deed of Agreement made between the Commonwealth and Queensland governments and the Authority on 10 May 1988 at Attachment A to this Schedule. The parties agree that this Deed needs to be reviewed and undertake to do so within 12 months of the execution of this agreement.

This agreement will commence progressively over a period of 12 months from the date it is executed by the parties.

1. Joint Field Management Program

The Commonwealth and Queensland governments agree to cooperatively plan, fund and deliver an integrated, strategically planned and co-ordinated program of field management of marine and national parks within the Great Barrier Reef World Heritage Area.

The Joint Field Management Program will relate only to activities and investments within or for the purposes of, the Great Barrier Reef Marine Park (including Commonwealth Islands), and Queensland marine and national parks (or parts thereof) that are within the Great Barrier

Reef World Heritage Area, unless otherwise agreed. This may include where activities overlap both World Heritage Area and adjacent state waters.

The Joint Field Management Program may cover annual operational expenses, salaries, maintenance and replacement of capital equipment, and minor capital investment required to implement the Program, as set out in the Field Management Business Strategy, associated plans and budgets.

The Commonwealth and Queensland governments agree to provide ongoing base funding (recurrent and capital) for this Joint Field Management Program shared on a 50:50 basis. The contributions by both parties under this agreement will be administered by the Authority through the Special Account established under the *Great Barrier Reef Marine Park Act 1975*.

The Joint Field Management Program operational activities will be delivered through the Authority, Queensland government agencies, and other Commonwealth agencies or providers. Joint oversight of the Program will be through the Field Management Strategy Group established for this purpose.

Each agency is responsible, separately to the Joint Field Management Program, for planning, policy development, administration and permit assessment activities related to its own legislation. Notwithstanding this, joint permit and planning activities may be covered by the Joint Field Management Program, as set out in Field Management Business Strategies, associated plans and budgets.

The Joint Field Management Program will be directed at achieving the following outcomes for the Great Barrier Reef Marine Park and Queensland marine and national parks within the Great Barrier Reef World Heritage Area:

- Protection and conservation of the natural and cultural resources.
- Protection of key vulnerable species, their habitats and ecosystems.
- Effective compliance with relevant Commonwealth and Queensland laws related to protection and management of the environmental and cultural values, including through education and understanding.
- Effective permitting systems and associated operational policies under relevant Commonwealth and Queensland laws related to protection and management of the environmental and cultural values.
- Ecologically sustainable public use.
- Understanding and enjoyment of Great Barrier Reef World Heritage Area natural and cultural resources and values by the public.
- Effective engagement of Traditional Owners in management.
- Increasing the effectiveness of the program and the efficient use of resources through the use of technology, analysis of data and the monitoring of trends, including for scientific, biological, recreational and commercial matters.
- Capacity to respond to environmental incidents, including through coordinated clean up and rehabilitation programs.

2. Field Management Strategy Group

The Field Management Strategy Group will be responsible for:

- oversight and implementation of the Joint Field Management Program;
- advising the Authority and the Queensland Department of the Premier and Cabinet on the operation of the Joint Field Management Program; and

- preparation of the five-year Field Management Business Strategy, associated plans and budgets.

The Field Management Strategy Group will be jointly chaired by a Senior Executive from the Authority and the Queensland Department of the Premier and Cabinet.

The Field Management Strategy Group will comprise relevant Senior Executives from the Authority, the Queensland Department of the Premier and Cabinet and the Queensland Department of Environment and Resource Management, and as agreed by the joint Chairs, senior managers with direct responsibility for field management activities of marine and national parks within the Great Barrier Reef World Heritage Area.

The functions of the Field Management Strategy Group will be:

- developing the planning, budget, financial and performance reporting documents for the Joint Field Management Program, including:
 - the five year Field Management Business Strategy;
 - associated plans and budgets; and
 - an Annual Report.
- monitoring and adjusting the delivery of the Joint Field Management Program as required to meet agreed priorities;
- undertaking a comprehensive review of the field management arrangements, delivery and performance of the program every five years;
- periodically prepare a major capital investment plan for consideration by the Great Barrier Reef Ministerial Forum as part of the five-yearly periodic review of the program. The major capital investment plan will include replacement or addition of large vessels and other high cost capital items;
- providing a forum to coordinate resolution of issues of significance to the Joint Field Management Program; and
- establishing working groups as required to support the implementation of this agreement and the administration and delivery of the Joint Field Management Program.

3. Field Management Business Strategy

The Field Management Business Strategy will cover a five-year rolling period and be directed at achieving the outcomes of the Joint Field Management Program specified in this agreement and will comprise the Joint Field Management Program priorities, high level strategies and outcomes for the whole of the five year period, a brief summary of forward budgets figures for the next five years, and performance indicators for monitoring, evaluating and reporting on the Joint Field Management Program over this period.

4. Annual Business Plan

The Annual Business Plan will convey operational strategies, outputs and activities for the forthcoming year, details of the proposed expenditure, information on the agencies and operational units that will be responsible for delivering the Joint Field Management Program and the tasks assigned to each.

5. Approval of the Field Management Business Strategy and associated plans and budgets

The Field Management Business Strategy and Annual Business Plan provides the basis for the allocation and distribution of funds by the Authority and the Queensland Department of the Premier and Cabinet under the Joint Field Management Program.

The Field Management Business Strategy and Annual Business Plans will be approved by the Chairperson¹ of the Authority and the Director-General of the Department of the Premier and Cabinet.

6. Annual Report

An Annual Report on the implementation of the Annual Business Plan will be provided to the Authority and the Queensland Department of the Premier and Cabinet as soon as practicable after the end of the financial year and will include:

- reporting against the performance indicators set out in the Field Management Business Strategy and associated plans;
- a statement of expenditure and operational activities/inputs applied under the Joint Field Management Program for that year, with reference to the Annual Business Plan;
- an identification of capital expenditure and assets held;
- identification of any emerging issues that may require consideration in updating the Business Strategy; and
- any other requirements as set out in guidelines that have been developed for this purpose.

7. Annual Summary Report on the Joint Field Management Program

An Annual Summary Report on the implementation of this agreement will be prepared by the Authority in conjunction with the Queensland Department of Premier and Cabinet and provided to the Great Barrier Reef Ministerial Forum. The report will include operational and capital expenditure and an assessment of performance in the delivery of the outcomes of the Joint Field Management Program.

8. Periodic Review Report

The Intergovernmental Agreement provides that a function of the Great Barrier Reef Ministerial Forum is to periodically consider the resources needed for effective field management of the marine and national parks within the Great Barrier Reef World Heritage Area.

Every five years, or a shorter period if agreed, the Authority, in conjunction with the Queensland Department of the Premier and Cabinet, will provide a report and advice to the Great Barrier Reef Ministerial Forum on the outcomes of the Field Management Program encompassing:

- the comprehensive review undertaken by the Field Management Strategy Group;
- an evaluation of performance of the Joint Field Management Program against the specified outcomes; and

¹ The Chairperson for the Authority is also the Chief Executive Officer for the purposes of the *Financial Management and Accountability Act 1997*.

- advice on the resources, investments and arrangements needed for effective and efficient field management of the marine and national parks within the Great Barrier Reef World Heritage Area for the following five years and in the longer term.

9. Delivery of the Joint Field Management Program

Field management operations under the Joint Field Management Program will be assigned to Commonwealth and Queensland agencies and other providers as determined by the Field Management Strategy Group, in accordance with the Field Management Business Strategy and Annual Business Plan.

Operations and investments undertaken pursuant to the Joint Field Management Program will be carried out in accordance with:

- this agreement and the relevant Field Management Business Strategy and its associated policies, intents and priorities;
- the *Great Barrier Reef Marine Park Act 1975 (Cth)*, *Marine Parks Act 2004 (Qld)* and *Nature Conservation Act 1992 (Qld)*, *Financial Management and Accountability Act 1997 (Cth)* and other relevant Commonwealth and State legislation; and
- management guidelines, business rules and other arrangements developed by the Field Management Strategy Group.

10. Base Funding

The parties agree to provide ongoing base funding (recurrent and capital) on a 50:50 basis, with the contribution considered as matching over a five year period.

The parties are separately responsible for appropriation by the Commonwealth and Queensland Parliaments of the base funding for the Joint Field Management Program as agreed under the Field Management Business Strategy, and will take reasonable steps to secure this funding.

The distribution of base funding in any given year is in accordance with the Annual Business Plan.

Base funding will be indexed to the Consumer Price Index (CPI) or other price parameter index agreed by the parties.

A periodic review of base funding will be considered by the Great Barrier Reef Ministerial Forum on a five-yearly basis, or a shorter period if agreed by the Ministerial Forum. The first review is to be completed in 2009. The parties may agree to vary base funding following this review.

Following the periodic review by the Great Barrier Reef Ministerial Forum the base funding may be subject to periodic supplementation, to address changing operational needs and provide for major capital investments such as vessel replacement or upgrade or construction of facilities.

11. Discretionary additional funding contributions

Either party may contribute funds to the Joint Field Management Program for a particular year or years in addition to its share of the agreed base operational and/or capital funding and these

will be expended in accordance with the Field Management Business Strategy. This does not oblige the other party to match the additional funds.

Either party may undertake actions and make capital investments related to field management of marine and national parks within their jurisdiction separate to the Joint Field Management Program. Such additional activities and investments should seek to complement the Joint Field Management Program.

12. In-kind contributions

The Joint Field Management Program in the Great Barrier Reef World Heritage Area will be supported through in-kind contributions from a range of Commonwealth and Queensland government agencies who undertake field management and compliance activities to address their own areas of responsibility. The planning and delivery of the Joint Field Management Program will be coordinated with those agencies to ensure the most cost efficient and effective delivery of services.

13. Revenue derived through the Joint Field Management Program

Revenues collected in accordance with the *Great Barrier Reef Marine Park Act 1975* and Regulations in the course of activities undertaken pursuant to the Joint Field Management Program will be paid to the Authority and do not form a part of Joint Field Management Program funds.

Revenues collected in accordance with the Queensland Marine Parks Act and Nature Conservation Act in the course of activities undertaken pursuant to the Joint Field Management Program will be paid to the Queensland Government and do not form a part of Joint Field Management Program funds.

All other revenue derived from implementation of the Joint Field Management Program and the use or disposal of the assets and fixtures of the Joint Field Management Program will be treated in accordance with the Deed of Agreement between the parties at Attachment A to this schedule. This provides for the sharing of revenue derived from implementation of the Joint Field Management Program and the use or disposal of the assets and fixtures of the Joint Field Management Program.

14. Funds not spent in relevant Financial Year

Funds allocated to the Joint Field Management Program in a particular financial year that are not spent in that year must be made available for reallocation within the Joint Field Management Program and will be carried forward to the following financial year(s).

15. Administration of money and assets

The base funding contributions by both parties for the Joint Field Management Program will be credited to the Special Account established under the *Great Barrier Reef Marine Park Act 1975*. The funds will be expended by the Authority in accordance with the agreed Field Management Business Strategy, which is an agreement made under paragraph 7(1)(cc) of the *Great Barrier Reef Marine Park Act 1975* for the purposes of Part VII, Division 1 of that Act.

These funds will be provided on an as-needs basis and credited to the Special Account as and when those funds are made available to the Authority.

The Joint Field Management Program funds will be deposited in a bank account established and managed by the Authority in accordance with the requirements of the *Financial Management and Accountability Act 1997* (Cth).

Assets and fixtures acquired or otherwise made available under the Joint Field Management Program will be managed in accordance with the Deed of Agreement at Attachment A to this Schedule.

16. Payments from the Special Account

Each agency or other provider receiving funding to perform functions under the Joint Field Management Program will enter into a Memorandum of Understanding, service agreement or contract for the provision of those services and functions specifying:

- the outputs and activities to be delivered;
- the funding to be allocated;
- the resources, agencies and operational units responsible for performing specified activities; and
- the performance indicators for monitoring, evaluating and reporting on the delivery of the outputs and activities identified.

Payments to instrumentalities and other providers performing functions and activities under the Joint Field Management Program will be made by the Authority on receipt of an invoice prepared in accordance with the terms of the service-level agreement, Memorandum of Understanding or contract for that agency or other provider.

All money paid directly or indirectly to an agency or other provider pursuant to this agreement must be expended in accordance with this agreement, the relevant Field Management Business Strategy and the relevant service-level agreement, Memorandum of Understanding or contract for that agency or other provider.

Unless otherwise agreed, any money paid to an agency or other provider pursuant to this agreement but not spent in the financial year for which it is provided must be made available to the Authority for reallocation by the Field Management Strategy Group in the following financial year.

17. Reporting and Audit

Commonwealth and Queensland government instrumentalities receiving payments under the Joint Field Management Program must maintain proper accounts and records of their transactions and affairs.

Expenditure of funds received by the Authority for the Joint Field Management Program will be reported by the Authority in accordance with the requirements of the *Financial Management and Accountability Act 1997* (Cth).

The Queensland Government instrumentalities will prepare financial statements on monies received for submission to the Authority, through the Field Management Strategy Group, as soon as practicable after the end of each financial year.

The financial statements must be in a form approved by the Commonwealth Minister responsible for the *Financial Management and Accountability Act 1997*.

The Queensland Government must submit the financial statements to the Queensland Auditor-General for certification having regard to the Australian Audit Standards and the requirements of this agreement.

18. Dispute resolution

Disputes arising in the implementation of this agreement and the Field Management Business Strategy should, as far as practicable, be determined by the Field Management Strategy Group, with decisions affirmed by the Authority Chairman and the Director-General, Queensland Department of the Premier and Cabinet, or by the Great Barrier Reef Ministerial Forum as appropriate.

19. Review, Amendment and Revocation of this Agreement

This agreement may be amended at any time by resolution of the Great Barrier Reef Ministerial Forum.

Either party may terminate this agreement by notice in writing to the other party. Unless otherwise agreed, termination does not take effect until one year after notification is received.

DEED OF AGREEMENT

between

THE COMMONWEALTH OF AUSTRALIA

and

THE STATE OF QUEENSLAND

and

THE GREAT BARRIER REEF
MARINE PARK AUTHORITY

K. M. O'Shea,
Crown Solicitor,
State Law Building,
George & Ann Streets,
BRISBANE

J014-09K

DEED OF AGREEMENT made

this day of one thousand nine hundred and eighty eight

BETWEEN

THE COMMONWEALTH OF AUSTRALIA ("the Commonwealth") of the first part, THE STATE OF QUEENSLAND ("the State") of the second part AND THE GREAT BARRIER REEF MARINE PARK AUTHORITY ("the Authority") of the third part.

WHEREAS

- A. Section 30 of the *Great Barrier Reef Marine Park Act 1975* ("the Act") provides that there shall be a Marine Park consisting of such areas in the Great Barrier Reef region as are, for the time being, declared under Section 31 of the Act to be parts of that Marine Park,
- B. The Authority was established by the Act with responsibility for management of the Marine Park;
- C. The Government of the Commonwealth of Australia and the Government of the State of Queensland and the Authority have separately to This Deed of Agreement entered into arrangements ("the arrangements") for the day to day management of the Marine Park and related areas and for the use of places outside the Marine Park for a purpose relating to the Marine Park which are set out in a document entitled "Basis of Agreement between the Commonwealth and Queensland Governments for Day-to-Day Management Great Barrier Reef Marine Park Capricornia Section" endorsed by parties on 1 August 1980 and an Agreement between the Commonwealth of Australia, the State of Queensland and the Great Barrier Reef Marine Park Authority relating to the management of the Marine Park and executed on even date.
- D. The parties hereto desire to make provision for the use and disposal of moveable and immovable property acquired or otherwise made available for the purposes of giving effect to the arrangements.

NOW IT IS HEREBY AGREED as follows:

- 1.

SCHEDULE C

- (1) When this Deed of Agreement provides for an instrumentality of the State to do or to refrain from doing any act or thing, the State shall take all measures that are necessary to cause that instrumentality to do or refrain from doing that act or thing.
- (2) For the purposes of this Agreement, a matter or thing shall be taken to have been funded by a party if that party funded the matter or thing directly, or if the matter or thing was funded by an expenditure from the Day to Day Management Account utilising funds provided to that Account by that party specifically for the purpose of funding that matter or thing.
- (3) The value of a fixture shall be determined by subtracting from the market value of the improved land at the relevant time the market value of the land at that time valued as vacant land. In the absence of agreement, market value shall be determined by a valuer nominated by the President of the Queensland Division of the Australian Institute of Valuers, acting as an expert and not as an arbitrator.
- (4) This Agreement shall be governed by and construed in accordance with the law for the time being in force in the State of Queensland.

2.

- (1) Fixtures upon land owned or under the direct control of the State or an instrumentality of the State, the erection or enhancement of which was funded partly or wholly by the Commonwealth or the Authority for the purposes of the arrangements, shall be used and managed for such purposes to the extent provided for in such arrangements. Provided reasonable notice is given to the State, or to the instrumentality having direct control of any such fixture, any officer, employee or contractor of the Commonwealth or of the Authority shall be permitted to inspect any part of any such fixture at all reasonable times.
- (2) The State instrumentality or the State through the State instrumentality shall arrange to routinely maintain such fixtures, subject to the provision of funds from the Day to Day Management Account.
- (3) Should the State or instrumentality dispose of, or cease to make available for the purposes of the arrangements, land on which any such fixture is situated then (subject always to any agreement to the contrary) the State shall deposit in the Day to Day Management Account to be credited against the Commonwealth's liability pursuant to the arrangements to contribute to that Account, that fraction of the value of the fixture as at the date of disposal or cessation as is equal to the fraction which, as at the date of

the completion of the erection or enhancement, the Commonwealth's contribution to the funding thereof constituted of the value of the fixture as enhanced or erected.

3.

- (1) Fixtures upon land owned or under the direct control of the Commonwealth or of the Authority, the erection or enhancement of which was funded partly or wholly by the State for the purposes of the arrangements, shall be used and managed for such purposes to the extent provided for in such arrangements. Providing reasonable notice is given to the Commonwealth or to the Authority as the case may require, any officer, employee or contractor of the State or of an instrumentality of the State shall be permitted to inspect any part of any such fixture at all reasonable times.
- (2) The Commonwealth or the Authority as the case requires shall arrange through the State or State instrumentality to routinely maintain such fixtures subject to the provision of funds from the Day to Day Management Account.
- (3) Should the Commonwealth or the Authority dispose of, or cease to make available for the purposes of the arrangements, land on which any such fixture is situated then (subject always to any agreement to the contrary) the Commonwealth or the Authority as the case requires shall pay directly to the State that fraction of the value of the fixture as at the date of disposal or cessation as is equal to the fraction which, as at the date of the completion of the erection or enhancement, the State's contribution to the funding thereof constituted of the value of the fixture as erected or enhanced.

4. Moveables funded pursuant to the arrangements shall, subject to the provision of funds from the Day to Day Management Account, be used, managed and administered by the State for the purposes of and in accordance with such arrangements, and in accordance with the further requirements of clause 5 hereof. Where any such moveable is disposed of the amount realized on disposal shall be deposited in the Day to Day Management Account, with half of each amount being credited against the Commonwealth's liability pursuant to the arrangements to contribute to that Account, and the other half of such amount being credited against the State's liability pursuant to the arrangements contribute to that Account.

5. Forthwith upon the termination of the arrangements, then in the absence of any agreement between the Commonwealth and the State which provides to the contrary in which case the terms of that agreement shall prevail:

- (a) The provisions of clauses 2(3) and 3(3) hereof shall no longer apply and accordingly fixtures which immediately prior to the termination of the arrangements were available for use for the purposes of the arrangements may subject to the operation of paragraph (b) be utilised exclusively for the purposes of the State (in the case of fixtures referred to in clause 2(1) or exclusively for the purposes of the Commonwealth or the Authority as the case may be (in the case of fixtures referred to in clause 3(1) without any payment or deposit being required to be made by the State to or in respect of the Commonwealth or the Authority, or by the Commonwealth or the Authority to the State;
- (b) If the 20th anniversary of the date of completion of a fixture or of an enhancement to a fixture (provided that enhancement increased the capacity of the fixture by 50% or more) has not been reached at the termination of the arrangements then the State, or the Commonwealth or the Authority as the case may be, shall continue to make the fixture available to the Commonwealth or the Authority as the case may be, or to the State, for the purposes for which and to the extent to which it was being utilised immediately prior to the termination of the arrangements, until the first to occur of:
 - (i) the said 20th anniversary; or
 - (ii) the end of the useful life of the fixture.

Recurrent costs for the operation and essential maintenance of the fixture will be shared in proportion to the number of employees of each of them the State, the Commonwealth and the Authority continuing to utilise the fixture;

- (c) all moveables referred to in Clause 4 shall be disposed of with the State retaining half of the proceeds and paying the other half to the Commonwealth.

6. The following further requirements shall apply in relation to moveables referred to in clause 4 hereof:

- (1) All such moveables shall be administered in accordance with the same standard Queensland Government procedures as are applicable to moveables of the same nature purchased and used purely for State purposes including, but without limiting the generality of the foregoing, procedures with respect to:
 - (i) purchasing and disposal;

- (ii) use of the moveables for other than official purposes;
 - (iii) registration of and third party insurance in respect of vehicles and vessels;
 - (iv) maintenance.
- (2) The State shall annually furnish to the Authority a report listing all such moveables and the respective locations thereof and detailing acquisitions and disposals or losses occurring since the preceding report relating to such moveables.
7. Nothing in this Agreement shall be taken to prevent the parties hereto from time to time agreeing that:
- (a) particular moveables or immoveables, although not funded pursuant to the arrangements, shall to such extent as shall be agreed upon be used for the purposes of the arrangements; or
 - (b) particular moveables or immoveables, although funded pursuant to the arrangements, shall to such extent as shall be agreed upon be used for the particular purposes of either party or an instrumentality thereof.
8. The State shall keep proper accounts and records of the transactions and affairs of the State and prepare financial statements for submission to both the Commonwealth and Queensland Governments, through the appropriate Ministers as soon as practicable after the end of each financial year. The statements shall be in a form approved by the Minister for Finance of the Commonwealth.
9. Before furnishing the financial statements the State shall submit them to the Auditor-General of Queensland for certification that they are in agreement with the accounts and records of the State. Such certificate shall be in a form agreed upon by the Auditor-General of Queensland.

IN WITNESS WHEREOF the parties hereto have executed this Deed of Agreement as at the date first written above.

SIGNED and DELIVERED by GRAHAM
FREDERICK RICHARDSON, The Minister
of State for the Arts, Sport, The
Environment, Tourism and
Territories for and on behalf of
THE COMMONWEALTH OF AUSTRALIA
in the presence of

SIGNED and DELIVERED by GEOFFREY
HUGH MUNTZ, Minister for Environment,
Conservation and Tourism of Queensland
for and on behalf of the Crown in
Right of the State of Queensland
in the presence of

THE COMMON SEAL of THE GREAT
BARRIER REEF MARINE PARK
AUTHORITY was hereunto affixed
by authority of the Authority
in the presence of

CLIMATE CHANGE AND THE GREAT BARRIER REEF

Preamble

The Australian and the Queensland governments have committed, under the *Great Barrier Reef Intergovernmental Agreement 2009*, to work collaboratively to ensure the long-term protection and conservation of the Great Barrier Reef World Heritage Area ecosystem, to ensure it is preserved as an important feature of the nation's and the world's heritage.

The *Great Barrier Reef Outlook Report 2009* has identified climate change as the single largest threat to the Great Barrier Reef Region. There is already evidence of climate associated impacts such as increased coral bleaching from higher water temperatures and lower rates of coral growth from ocean acidification. In addition, the reef faces threats from projected long-term changes in drought, flood, storm and rainfall intensity. These events have a range of implications for reef health, including elevated risks of sedimentation, algal blooms, storm damage and crown-of-thorns starfish outbreaks.

Two major factors will determine the overall extent of the impacts of climate change on the Great Barrier Reef Region – the rate and extent of human-induced climate change, and the resilience of the Great Barrier Reef World Heritage Area ecosystem to climate change. Reducing carbon-emissions is primarily a matter for international and national action and is critical to securing the long term health of the Great Barrier Reef World Heritage Area. Building resilience can be directly influenced by management actions of the two governments. A shared understanding of the roles and responsibilities of the three tiers of government, the private sector and the community will be crucial to the success of these initiatives.

Guiding Principles

1. The Australian and Queensland governments share a commitment to maximising the capacity of the Great Barrier Reef World Heritage Area ecosystem to withstand and adapt to the impacts of climate change, particularly through actions to restore and maintain its resilience.
2. Recognising their interrelated responsibilities, the two governments will adopt a collaborative and cooperative approach to activities directed at building and maintaining the resilience of the Great Barrier Reef World Heritage Area.

3. Collaboration will occur in the context of broader strategies of the two governments, as well as nationally coordinated action to reduce carbon emissions and adapt to climate change.

Operative

In collaboration with local government, the private sector and the community and building on existing initiatives, the two governments will give priority to the following areas:

1. *Research to inform and support management and policy*

The governments will support targeted and coordinated research on the implications of climate change for the Great Barrier Reef World Heritage Area so as to inform the development, implementation and adaptation of policy and management responses.

2. *Maximising the resilience and capacity of the Great Barrier Reef World Heritage Area ecosystem to adapt to the impacts of climate change*

The governments will support efforts to build and maintain the resilience of the Great Barrier Reef World Heritage Area ecosystem and its component species and communities, particularly through effective management of non-climate change related threats and pressures such as water pollution, inappropriate coastal development and over-fishing.

3. *Incorporating climate change considerations in policy, programs and management*

The governments will integrate consideration of climate change impacts into the development and implementation of policies, programs, management and regulation related to the Great Barrier Reef World Heritage Area.

4. *Monitoring climate change impacts and adapting approaches over time*

The governments will incorporate consideration of climate change impacts into monitoring, reporting and evaluation frameworks relevant to the Great Barrier Reef World Heritage Area, and will adapt policy and management approaches over time in response to new information.

5. *Supporting industries and communities in responding to the threat of climate change*

The governments will seek to facilitate effective responses by industries and communities reliant on the Great Barrier Reef World Heritage Area through means such as providing information about impacts and risks, and ensuring policy and regulatory settings support mitigation actions and adaptation by businesses and individuals.

6. *Engaging in and influencing international and regional activities that support and inform local objectives and actions*

The governments, particularly the Australian Government, given its lead responsibility for international engagement, will support and inform local action through engagement in international and regional initiatives that serve to deepen understanding of issues and options for the role of marine and coastal ecosystems in climate change adaptation and mitigation.

Each meeting of the Great Barrier Reef Ministerial Forum will consider a report on the implementation of this agreement.

**FISHING AND COLLECTION OF FISHERIES RESOURCES IN THE GREAT
BARRIER REEF WORLD HERITAGE AREA**

Preamble

The Australian and the Queensland Government have committed, under the *Great Barrier Reef Intergovernmental Agreement 2009* (the Intergovernmental Agreement), to work collaboratively to ensure the long-term protection and conservation of the Great Barrier Reef World Heritage Area to ensure it is preserved as an important feature of the nation's and the world's heritage.

The Australian Government and the Queensland Government recognise that:

- Fishing and the collection of fisheries resources is important socially and economically to Queensland and is a long established and legitimate use of the Great Barrier Reef World Heritage Area.
- Both governments have interrelated policy, management and regulatory roles and responsibilities related to fishing and collection of fisheries resources in the Great Barrier Reef World Heritage Area. The differing roles and responsibilities are underpinned by a shared objective of long term protection and ecologically sustainable use of the biodiversity and natural resources of the Great Barrier Reef World Heritage Area.
- The Great Barrier Reef ecosystem is being impacted by a range of land and marine based activities that, if not appropriately managed, may reduce the resilience of the Reef to the impacts of climate change.

It is in the interests of the Great Barrier Reef World Heritage Area ecosystem and the optimal use of fisheries resources that both governments work collaboratively and encourage best practice (including innovation over time) relating to the management of fishing and the collection of fisheries resources, including aquaculture, in the Great Barrier Reef World Heritage Area. The purpose of this Schedule to the Intergovernmental Agreement is to provide a framework for both governments to:

- provide clarity about each government's objectives, principles and approaches to the management of fisheries resources within the Great Barrier Reef World Heritage Area;
- achieve efficient and effective delivery of shared objectives related to the management of fisheries resources within the Great Barrier Reef World Heritage Area; and
- promote simplicity and streamlining of regulatory and management arrangements, and minimise duplication and inconsistencies.

Recognition

1. This Schedule recognises:

- (a) Australia's international responsibilities for the Great Barrier Reef World Heritage Area under the World Heritage Convention;
- (b) The Offshore Constitutional Settlement arrangements between the Australian Government and the State of Queensland in relation to the fishing and the collection of fisheries resources off the east coast of Queensland, as published in the *Commonwealth of Australia Gazette* number S44 on 8 February 1995 and the *Queensland Government Gazette* number 23 on 10 February 1995;
- (c) The Intergovernmental Agreement, which provides a framework for the Australian and Queensland governments to work together to ensure an integrated and collaborative approach to management of the Great Barrier Reef World Heritage Area;
- (d) The role of the Great Barrier Reef Ministerial Forum in coordinating policies concerning the long term protection and ecologically sustainable use of the Great Barrier Reef World Heritage Area and the role of the Primary Industries Ministerial Standing Council in relation to fisheries and aquaculture in Australia;
- (e) The objects and provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), as administered by the Australian Government Department of Sustainability, Environment, Water, Population and Communities;
- (f) The objects and provisions of the *Great Barrier Reef Marine Park Act 1975* (Cth) as administered by the Great Barrier Reef Marine Park Authority;
- (g) The objectives and provisions of the *Fisheries Management Act 1991* (Cth) relating to Commonwealth fish resources within the Great Barrier Reef World Heritage Area, as administered by the Australian Fisheries Management Authority;
- (h) The objects and provisions of the *Fisheries Act 1994* (Qld) as administered by the Queensland Department of Employment, Economic Development and Innovation;
and
- (i) The objects and provisions of the *Nature Conservation Act 1992* (Qld), *Marine Parks Act 2004* (Qld), *Environmental Protection Act 1994* (Qld) and the *Coastal Protection and Management Act 1995* (Qld) as administered by the Queensland Department of Environment and Resource Management.

Guiding Principles

2. Both governments will apply the guiding principles established in the Intergovernmental Agreement to fishing and collection of fisheries resources in the Great Barrier Reef World Heritage Area.

Operative

3. Both governments acknowledge their different but interrelated roles and responsibilities related to fishing and the collection of fisheries resources in the Great Barrier Reef World Heritage Area:
 - (a) The Australian Government, under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), is responsible for leading and coordinating required actions to meet Australia's responsibilities as a signatory to the World Heritage Convention, including ensuring the World Heritage values of the Great Barrier Reef World Heritage Area are maintained and transmitted to future generations.
 - (b) The Australian Government, under the *Great Barrier Reef Marine Park Act 1975* (Cth) is responsible for the long term protection and conservation of the environment, biodiversity and heritage values of the Great Barrier Reef World Heritage Area Region in accordance with the principles of Ecologically Sustainable Use as defined by that Act, including allowing for and the regulating the use of the Great Barrier Reef Marine Park in ways consistent with ecosystem-based management and the principles of ecologically sustainable use within the Great Barrier Reef Marine Park.
 - (c) The Australian Government, under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), is responsible for regulating impacts on matters of National Environmental Significance and interactions with species listed under the Act. Under the Act, the Australian Government is also responsible for regulating the export of fish and fisheries resources including assessment against the *Guidelines for the Ecologically Sustainable Management of Fisheries Edition 2 (2007)*.
 - (d) The Australian Government, under an Offshore Constitutional Settlement arrangement, and the *Fisheries Management Act 1991* (Cth), is responsible for regulating commercial take of tuna and tuna-like species within the Great Barrier Reef World Heritage Area.
 - (e) The Queensland Government, under an Offshore Constitutional Settlement arrangement and the *Fisheries Act 1994* (Qld) is responsible for the management of

fishing, fisheries habitats and collection of fisheries resources in and adjacent to the Great Barrier Reef World Heritage Area (with the exception of some commercially caught species listed in (d)). The Queensland Government is responsible for ensuring this is done in accordance with the principles of Ecologically Sustainable Development as defined by that Act.

- (f) The Queensland Government, under the *Fisheries Act 1994* (Qld), *Sustainable Planning Act 2009* (Qld), *Environmental Protection Act 1994* (Qld), *Marine Park Act 2004* (Qld) and the *Coastal Protection and Management Act 1995* (Qld) is responsible for management of aquaculture activities. Where aquaculture activities will affect Great Barrier Reef Marine Park, the *Great Barrier Reef Marine Park Act 1975* (Cth) may also apply. Where aquaculture activities are likely to significantly impact upon the values of the World and National Heritage Area, or the environment of the Marine Park, approval is required under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).
 - (g) The Queensland Government, under the *Nature Conservation Act 1992* (Qld) and the *Marine Parks Act 2004* (Qld), is responsible for the protection of the biodiversity values of the Great Barrier Reef Coast Marine Park and islands within Queensland jurisdiction (including island National Parks).
 - (h) All the Queensland and Australian Government agencies listed in this Schedule are responsible for providing appropriate protection to species which are afforded protection under legislation they are responsible for administering, in particular the *Nature Conservation Act 1992* (Qld), *Fisheries Act 1994* (Qld), *Marine Parks Act 2004* (Qld), *Environment Protection and Biodiversity Conservation Act 1999* (Cth) and *Great Barrier Reef Marine Park Act 1975* (Cth).
4. Both governments agree to work together in discharging their respective roles and responsibilities, and will apply the following guidelines in developing and implementing management arrangements relevant to fishing and the collection of fisheries resources, including aquaculture, in the Great Barrier Reef World Heritage Area:
- (a) Duplication of management arrangements and assessment and permitting processes that relate to fishing and the collection of fisheries resources should be avoided through collaboration and where appropriate through the principle of mutual recognition.

SCHEDULE E

- (b) Policy and management proposals formulated by either government that may impact management arrangements already in place should be identified and discussed by relevant agencies at the earliest possible stage, with a view to achieving resolution in bilateral discussion through consultation between all agencies and other relevant stakeholders.
- (c) The interests and impacts of all legitimate uses and user groups should be considered in the management of all activities in the World Heritage Area, including fishing.
- (d) Both governments will work with stakeholders and the community to encourage innovation and develop and implement best practice standards as they evolve for fishing and the collection of fisheries resources.
- (e) Fishing activities should minimise detrimental impacts on the broader ecosystem and the species and ecological communities within it. Risk analysis, appropriate to the scale of the fishing activities and its potential impacts, should be conducted into the susceptibility of relevant ecosystem components, and appropriate management actions established for various components, according to the level of risk.
- (f) Management of fishing activities should be supported by reliable information appropriate to the scale of fishing activities and its potential impacts. Both governments will collaborate and use their best endeavours to acquire and share information relevant to fishing and the collection of fisheries resources in the World Heritage Area.
- (g) Management must be supported by an effective enforcement and education regime.

Coordination

5. Parties subject to this Schedule will meet as necessary and report to the Great Barrier Reef Ministerial Forum on the implementation of the Schedule.



Reef Water Quality Protection Plan 2013

Securing the health and resilience of the
Great Barrier Reef World Heritage Area
and adjacent catchments



Australian Government



Queensland Government



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Foreword

As one of the world's greatest natural attractions, the Great Barrier Reef is precious to all Australians, especially Queenslanders, who are proud to have such an iconic and breathtaking reef on their doorstep. The reef supports a range of industries including tourism, recreation, commercial fishing and scientific research that collectively inject around \$5.7 billion per year into our regional economies.

The quality of water entering the reef has deteriorated over the past 100 years and continues to have a detrimental effect on the marine ecosystem. Recent scientific evidence suggests that declining water quality is linked to outbreaks of crown-of-thorns starfish, which accounted for 42 per cent of the coral cover decline on the Great Barrier Reef over the past 27 years. Sediment, nutrients and pesticides leaving agricultural land and draining into the reef lagoon remain the largest contributors to elevated pollutant levels.

Over the past 10 years, significant efforts have been made to improve the quality of water entering the Great Barrier Reef through the Reef Water Quality Protection Plan (Reef Plan). We acknowledge the hard work of landholders, regional natural resource management organisations, industry, conservation groups and government agencies to identify and implement improved land management practices throughout the reef catchments.

Reef Plan was updated in 2009 and has been commended, including by the World Heritage Committee, for its ambitious targets, clear actions and strong accountability.

Water quality modelling suggests that as a result of the hard work of all partners, the amount of nutrients, sediment and pesticides leaving catchments will be reduced. This is a significant achievement towards halting and reversing the decline in water quality. However, improving water quality is a major task that will take considerable time and effort. It is critical that we continue the momentum to secure the resilience of the Great Barrier Reef and improve its outstanding universal value.

Reef Plan 2013 has a renewed focus on best practice, more coordinated capacity building services and continued collaborative effort by both governments in close partnership with industry and landholders.

We acknowledge that much of the research to understand what level of management change is required to deliver a healthy reef is leading edge and is being conducted for the first time, particularly at this scale. We are committed to refining our approach and targets as new information emerges.

Hand in hand, we will continue to work with industry to improve water quality.

Hon Campbell Newman MP
Premier of Queensland

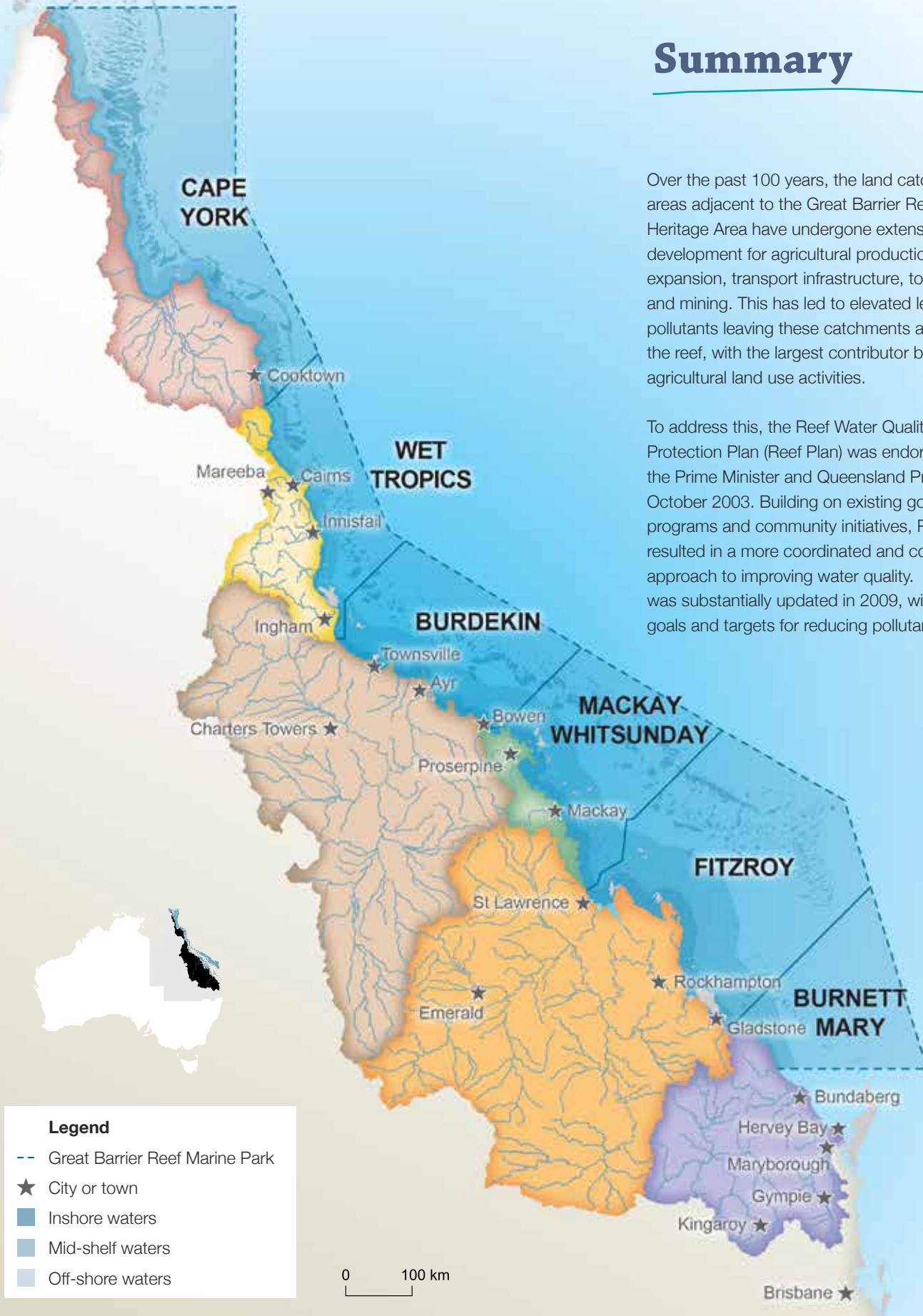
Hon Mark Butler MP
Minister for the Environment,
Heritage and Water

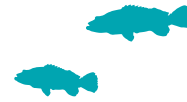


Summary

Over the past 100 years, the land catchment areas adjacent to the Great Barrier Reef World Heritage Area have undergone extensive development for agricultural production, urban expansion, transport infrastructure, tourism and mining. This has led to elevated levels of pollutants leaving these catchments and entering the reef, with the largest contributor being agricultural land use activities.

To address this, the Reef Water Quality Protection Plan (Reef Plan) was endorsed by the Prime Minister and Queensland Premier in October 2003. Building on existing government programs and community initiatives, Reef Plan resulted in a more coordinated and cooperative approach to improving water quality. Reef Plan was substantially updated in 2009, with clear goals and targets for reducing pollutant levels.





The Queensland and Australian Governments collectively invested \$375 million over five years to deliver Reef Plan 2009. This included the Australian Government's Reef Rescue program and the Queensland Government's water quality program. The success of Reef Plan 2009 and its supporting programs have been widely recognised, both nationally and internationally.

There is scientific evidence that poor water quality continues to have a detrimental impact on reef health. Long term monitoring of reefs by the Australian Institute of Marine Science shows the Great Barrier Reef has lost half its coral cover in the past 27 years. The loss was due to storm damage (48 per cent), crown-of-thorns starfish (42 per cent), and bleaching (10 per cent)¹. Current scientific evidence indicates that elevated nutrient levels are linked to outbreaks of crown-of-thorns starfish. Improving water quality will potentially reduce the frequency of future outbreaks and allow coral cover to recover. Improving water quality will also build resilience in inshore coastal and seagrass areas which support significant biodiversity such as turtles and dugongs, and drive fisheries productivity.

The positive commitment by the agricultural industry and other partners to improved land management practices over the past five years cannot be understated. In the first two years of Reef Plan 2009 delivery, 34 per cent of sugarcane farmers, 25 per cent of horticulture farmers and 17 per cent of graziers adopted improved practices. Modelling is indicating that these changes will translate into between a six and 15 per cent reduction in key pollutants. It is critical that the momentum built since 2003 is maintained to secure long term improvements to reef health.

Based on the latest information drawn from new catchment modelling, the Reef Plan 2013 goals and targets have been refined. Reef Plan targets

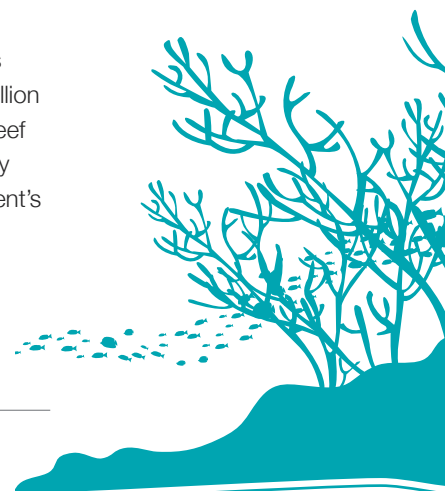
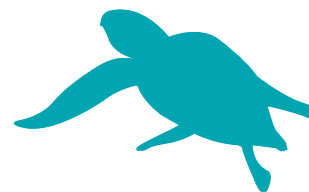
are now linked to the load reductions expected using best practice land management. The exception is the nutrient target (remaining at 50 per cent) which will be difficult to meet even using best practice. It will require new thinking and approaches to deliver substantial nutrient reduction in the Wet Tropics and Burdekin regions.

New actions have been identified for the next five years, with a focus on working more closely with industry through extension, incentives and best management practice programs to accelerate the uptake of improved practices. This approach will include a much more coordinated and integrated effort at the regional level.

Priorities have also been reviewed and refined for the next five years, one of the most critical of which is reducing nutrient runoff in the Wet Tropics and Burdekin catchments. While the greatest focus will be placed on these regions, the importance of continuing the improvements in other areas is also recognised, particularly to help improve seagrass condition and protect inshore reefs.


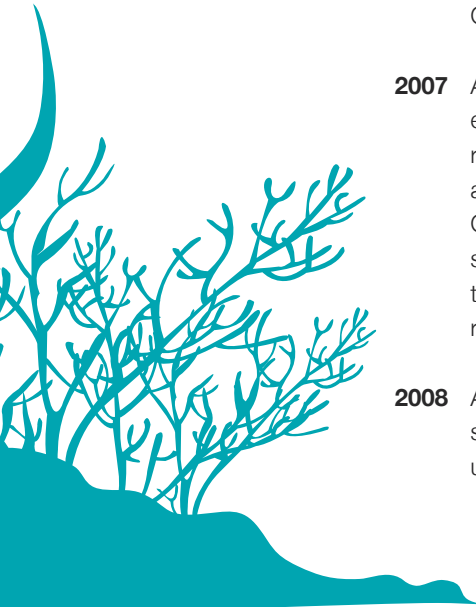
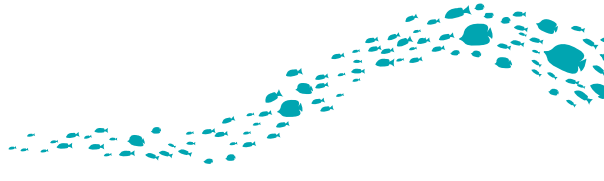
The Paddock to Reef Integrated Modelling, Monitoring and Reporting Program (Paddock to Reef program) will continue to be a critical component of Reef Plan 2013 to ensure the water quality benefits of innovative new practices can be evaluated and progress against targets reported.

The Australian and Queensland Governments have collectively committed a further \$375 million over the next five years to help achieve the Reef Plan 2013 goals and targets. This will primarily be delivered through the Australian Government's Reef Rescue program and the Queensland Government's roll out of best management practice programs.



¹ De'ath, G. Fabricius, K. Sweatman, H. and Puotinen, M. 2012. The 27-year decline of coral cover on the Great Barrier Reef and its causes. Proceedings of National Academy of Sciences.

Reef Plan history

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- 2001** The Great Barrier Reef Ministerial Council accepted a report by the Great Barrier Reef Management Authority on the decline in water quality in the Great Barrier Reef and the importance and urgency in addressing the issue.
- 2002** An independent panel of experts prepared A Report on the Study of Land Sourced Pollutants and their impacts on Water Quality in and adjacent to the Great Barrier Reef.
- 2002** The Productivity Commission examined and evaluated a number of policy options to address declining water quality entering the reef.
- 2003** The Reef Water Quality Protection Plan was released for public consultation. Following this consultation, the plan was revised and endorsed by the Great Barrier Reef Ministerial Council.
- 2005** An audit of Reef Plan was conducted by Howard Partners Pty Ltd and the report formed the basis of the Report to the Prime Minister and the Premier of Queensland—Progress to Date, Challenges and Future Directions.
- 2007** A Reef Water Quality Partnership was established between regional natural resource management organisations and the Australian and Queensland Governments to enable coordinated, scientifically robust and collaborative target setting, monitoring and reporting arrangements.
- 2008** A task force of scientists advised what scientific advances had been made in understanding reef water quality issues in the Scientific Consensus Statement on Water Quality in the Great Barrier Reef and said that current management interventions were not effectively solving the problem.
- 2008** A Reefocus Summit was held to seek stakeholder views on an updated Reef Plan.
- 2009** The Reef Water Quality Protection Plan 2009 was endorsed by the Australian and Queensland Governments.
- 2010** An audit of Reef Plan was conducted by Lloyd Consulting which showed that progress on actions was positive.
- 2011** The First Report Card was released, setting the 2009 baseline against which progress would be measured.
- 2013** The 2010 Report Card was released, showing good progress towards targets.
- 2013** The Scientific Consensus Statement was updated by leading scientists with the latest information to inform future management.
- 2013** Release of the 2011 Report Card, showing continued positive progress towards targets.
- 2013** The Reef Water Quality Protection Plan 2013 was endorsed by the Australian and Queensland Governments.

Introduction

The Great Barrier Reef is a World Heritage Area, internationally recognised for its outstanding universal value. The long term conservation of the reef for future generations requires collective action by community organisations, regional natural resource management organisations, landholders, conservation groups and all levels of government.

In considering the state of conservation of the Great Barrier Reef World Heritage Area in 2012, the World Heritage Committee “welcomed the initial positive results of Reef Plan and associated measures to address major long term impacts on the property from poor water quality, and requested the State Party, in collaboration with its partners, to maintain, and increase where necessary financial investment and sustain the positive trend beyond 2013”.

There is ongoing support from both the Australian and Queensland Governments to ensure the quality of water entering the reef from adjacent catchments has no detrimental impact on the health and resilience of the Great Barrier Reef. Reef Plan 2013 is a major part of the two governments’ response to the World Heritage Committee.

Sustainable and profitable farming activities and a healthy and resilient reef can coexist. Both contribute significantly to Queensland and Australia’s social and economic profile. The reef contributes around \$5.7 billion² to the Australian economy through tourism, recreation, commercial fishing and scientific research, supporting significant regional employment. The beef, sugarcane and horticulture industries in reef catchments contribute approximately \$3.7 billion a year in gross value of production³ and also support significant regional employment.

² Deloitte Access Economics 2013. Economic contribution of the Great Barrier Reef. Prepared for the Great Barrier Reef Marine Park Authority.

³ Australian Bureau of Statistics. Value of Agricultural Commodities Produced, Australia (cat. no. 7503.0).



What is Reef Plan?

Reef Plan is a joint commitment of the Australian and Queensland Governments. The plan is a collaborative program of coordinated projects and partnerships designed to improve the quality of water in the Great Barrier Reef. It identifies actions that will help minimise the risk to the reef from a decline in the quality of water entering the reef from adjacent catchments, including improving land management in reef catchments to reduce non-point source pollution.

Reef Plan sets ambitious but achievable targets for improved water quality and land management practices, and identifies actions to improve the quality of water entering the reef (Figure 1). The plan is a significant part of the overall strategy of both governments to protect and preserve the reef. It incorporates and supports the actions of industry, community groups and government that impact on reef health and links with a number of other legislative and planning initiatives.

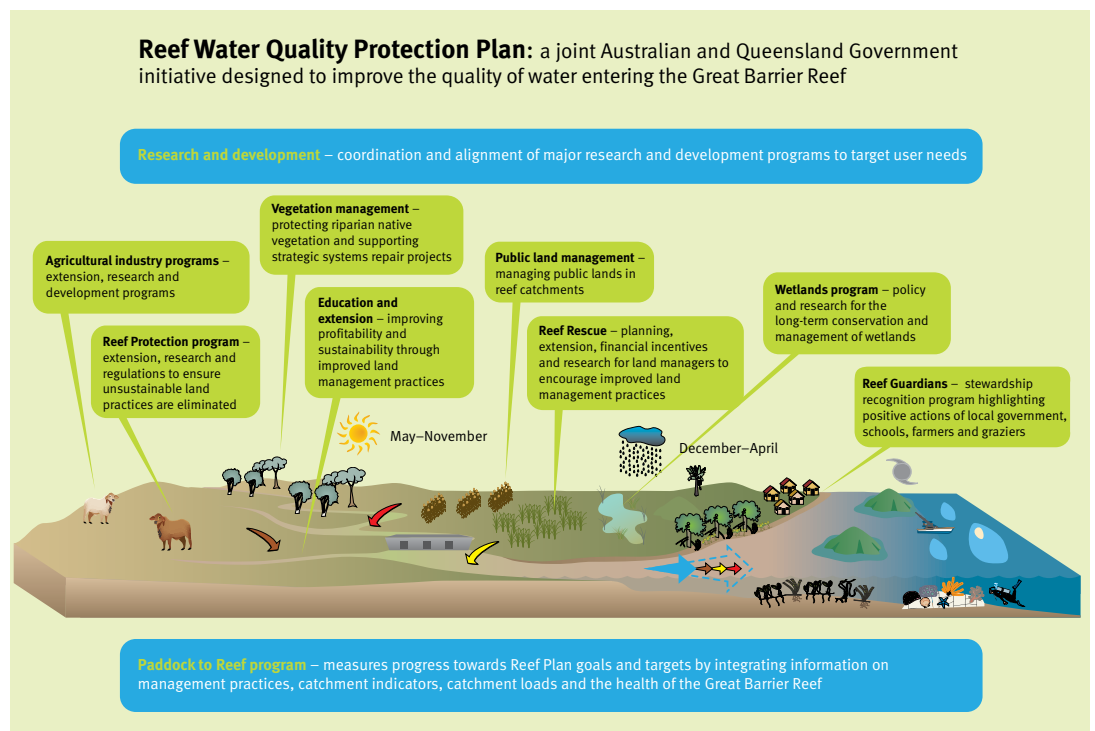


Figure 1: Key components of the Reef Water Quality Protection Plan 2013

Farmer Profile



Robin's pesticide application has been reduced by two-thirds since working with consultants on the Fitzroy Basin Association's Grains Best Management Practice program.

"I realised I'd been using the incorrect nozzles and applying much more pesticide than I needed. (The new practices) improved my pesticide application so that it was being applied directly to my crop and not drifting into sensitive areas like waterways."

Robin Murphy, grains farmer, Fitzroy region.

Image courtesy of Fitzroy Basin Association.

Scope



Reef Plan's primary focus is to continue addressing diffuse source pollution from broadscale land use.

The latest modelling and monitoring supports previous research which indicates that the vast majority of loads of sediment, nutrients and herbicides are derived from diffuse agricultural sources (Figure 2), in particular dryland grazing and sugarcane⁴. Therefore, Reef Plan 2013 remains predominantly focused on working with landholders to address diffuse sources of pollution from broadscale land use.

Other sources of pollution also need to be managed such as urban stormwater runoff, sewage, industrial pollution and water releases from mines. For point sources of pollution, regulatory and other requirements are already in place to manage discharge and runoff through legislation, policies and conditions on environmental approvals. Major improvements have also been made to minimise water quality impacts from urban areas, for example through major investments to upgrade sewage treatment plants, which now contribute less than four per cent of the total nutrients to the reef.

Diffuse source pollution is pollution that comes from a wide range of different sources and cannot be directly attributed to one point of dispersal, such as a pipe or waste outlet.

Broadscale land use includes agriculture, such as grazing, cropping, horticulture and forestry, and other ownership of public land (e.g. national parks and reserves).

Urban environments include areas in and around cities and high growth population centres within the Great Barrier Reef catchment.

The primary focus of this plan on diffuse source pollution from broadscale land use will be complemented by some foundational work over the next five years to further reduce diffuse source pollution from urban environments. Incorporated into this plan are a number of actions that integrate with other water quality issues such as urban runoff and coastal and riverine ecosystem health.



Figure 2: Sources of pollution

⁴ See 2013 Scientific Consensus Statement for more detailed information on particular pollutants and regions.

Reviewing Reef Plan



Ten years of Reef Plan

In 2013, Reef Plan reached its tenth anniversary. The original Reef Plan, established in 2003, laid the groundwork for improving water quality by setting out a clear objective to halt and reverse the decline in the quality of water entering the reef by 2013. It outlined a comprehensive suite of actions to be delivered through government policies and industry and community initiatives.

An independent audit in 2005 highlighted that while progress was being made, two of the challenges were improving the speed of uptake of best management practice and measuring uptake. The 2008 Scientific Consensus Statement reaffirmed this conclusion and stated that current management actions were not effectively solving the problem. To address this, an updated Reef Plan was established in 2009, which included 11 key actions designed to accelerate the uptake of best management practice through a combination of incentives, extension services and a regulatory safety net. It included ambitious targets, clear accountability for delivery of actions and a strong monitoring program to evaluate progress.

An independent audit of Reef Plan 2009 was undertaken in late 2010 and early 2011 to assess progress in implementing actions. The audit found that progress towards the desired outcomes was positive overall and the partners involved in the program felt positive, engaged and committed. The audit found there had been good progress in implementing the 11 actions; however, it also highlighted some areas for improvement, including a higher level of resourcing and greater attention to and collaborative effort around extension initiatives.

Extension seeks to turn education into action. This involves a range of processes that enable change through facilitating the desired set of social, cultural and technical conditions, which build the capacity and resilience of individuals, businesses and learning networks. Extension officers aim to assist producers evaluate, trial, adopt, integrate, review and innovate to enhance enterprises.

With Reef Plan's 10-year anniversary in 2013, it was timely to look back, consider the lessons learned and build on the successes. The review focused on what is required to achieve Reef Plan's long term goal of ensuring that by 2020 the quality of water entering the reef from broadscale land use has no detrimental effect on the health and resilience of the Great Barrier Reef.

Reef Plan 2013 commits to working to deliver this long term goal by 2020. This, again, is an ambitious goal but is underpinned by considerable momentum developed over the past 10 years and improved science and knowledge which will support the collective efforts of partners to improve the resilience of the reef over the next five years.



Achievements to date

Key achievements of Reef Plan 2009

Investment

The Australian and Queensland Governments invested more than **\$375 million over five years** for Reef Plan activities



\$200 million by the Australian Government for the Reef Rescue program



Reef Rescue has leveraged significant co-investment, with land managers contributing on average

\$1.80 in-kind labour for each \$1

provided through Reef Rescue



\$175 million by the Queensland Government for a range of programs including regulations, extension and research

Actions

Since the release of Reef Plan 2009, significant progress has been made across several areas including...

implementation of the Reef Rescue program which has, after four and a half years, helped more than...

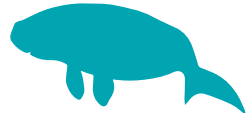


2300 farmers improve land management practices across more than **1,000,000 hectares**

1100 graziers

improve groundcover management through water quality grants, extension and training

engagement with



40 Traditional Owner groups

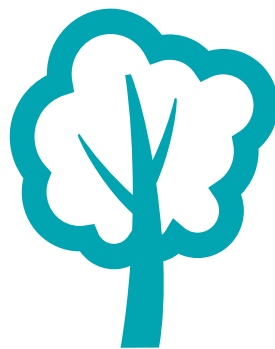
through sea country management activities, such as Traditional Use of Marine Resource Agreements

new

agreements and Queensland Government funding of

\$8.6 million

to establish **Best Management Practice Programs** in partnership with industry, signalling a transition to co-management



there are now **230 Nature Refuges** within the reef catchments, totalling **1,009,372 hectares**



protection of wetlands

of high ecological significance from high impact earthworks



implementation of the

Queensland Government Reef Water Quality program which included a suite of actions including regulation, extension and



32 new research projects

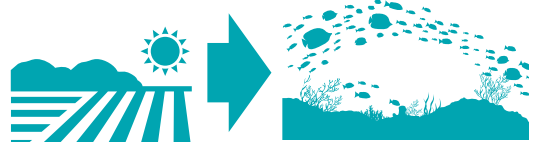


16 new research projects

through the Australian Government **National Environmental Research Program**

18 new research projects

through Australian Government **Reef Rescue research and development program**



implementation of the **\$9 million** a year **Paddock to Reef program**

which is a highly innovative approach to integrating monitoring and modelling at paddock, catchment and marine scales



200 individual producers

were engaged in more than **430 extension and coordination activities** as part of a pilot program to enhance extension

Delivering Reef Plan 2009

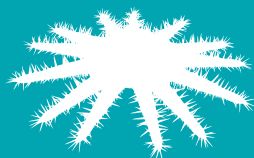
Goals and targets

Progress towards Reef Plan goals and targets is measured through the Reef Plan report cards. Annual report cards have confirmed the positive trends seen in management practice change and showed that estimated average annual pollutant loads reduced in the first two years (2009-2011) – nitrogen by seven per cent, sediment by six per cent and pesticides by 15 per cent. These results showed for the first time a reduction in pollutant loads – a significant achievement following a long history of declining water quality. The reductions in pollutant loads were driven by the significant uptake of improved practices by landholders. Between 2009 and 2011, 34 per cent of sugarcane growers, 17 per cent of graziers and 25 per cent of horticulture producers adopted an improved practice.

While progress in the adoption of improved practices on the ground has been encouraging, it will take time for these achievements to translate into improved conditions in the marine environment. In fact, the marine condition has declined in recent years because of the impact of larger and more frequent floods and episodic events in adjacent catchments. The flood events are thought to have triggered another crown-of-thorns starfish outbreak.

Crown-of-thorns starfish outbreaks

Current scientific evidence indicates that elevated nutrient levels are linked to outbreaks of crown-of-thorns starfish. When a dramatic increase in nutrient levels in the water coincides with these animals' spawning season (November to January), the larval crown-of-thorns starfish are able to develop, grow and survive at much higher than normal rates, due to an increase in phytoplankton, which is the main food source for crown-of-thorns starfish larvae. Higher survival means higher numbers of starfish developing into juveniles, at which stage they start feeding on coral.



Modelling potential future improvements

Cutting edge catchment modelling, used to estimate pollutant load reductions for report cards, was used in early 2013 to test whether the load reduction targets would be achieved under a range of different management practice adoption scenarios. The results indicated that the sediment and pesticide targets of Reef Plan 2009 are achievable if there is widespread adoption of best practice in cane and grazing, but delivering a major reduction in nitrogen would be challenging on a reef-wide scale.

The results of the modelling scenarios demonstrate how much more advanced the knowledge around water quality is compared to five years earlier, and, combined with the recent relative risk assessment⁵ help indicate where efforts should be focussed to maximise the return on investment.

Scientific Consensus Statement 2013

The establishment of Reef Plan in 2003 and the update in 2009 was supported by a body of scientific evidence showing a decline in reef water quality. As a result of major investments in research and development through the National Environmental Research Program, Reef Rescue, Queensland Government and other programs, there continue to be significant advances in scientific understanding of the problem and solutions.

To ensure that new knowledge was integrated into the implementation of management actions, an updated Scientific Consensus Statement was prepared to inform Reef Plan 2013. A taskforce of key scientists contributed to the statement and it was reviewed by the Reef Plan Independent Science Panel.

⁵ Brodie, J. et al. 2013 (in review). Assessment of the risk of pollutants to ecosystems of the GBR including differential risk between sediments, nutrients and pesticides and between land uses, industries and catchments. Project funded by Queensland Government Department of Environment and Heritage Protection as part of the Reef Plan Scientific Consensus Statement 2013.



Key conclusions from the Scientific Consensus Statement

The overarching consensus is that **key Great Barrier Reef ecosystems are showing declining trends in condition due to continuing poor water quality, cumulative impacts of climate change and increasing frequency and intensity of extreme events.**

The evidence base is synthesised in a series of five supporting chapters and the following conclusions are based on those detailed reviews:

1. The decline of marine water quality associated with terrestrial runoff from the adjacent catchment is a major cause of the current poor state of many of the key marine ecosystems of the Great Barrier Reef.
2. The greatest water quality risks to the Great Barrier Reef are from nitrogen discharge, associated with crown-of-thorns starfish outbreaks and their destructive effects on coral reefs, and fine sediment discharge which reduces the light available to seagrass ecosystems and inshore coral reefs. Pesticides pose a risk to freshwater and some inshore and coastal habitats.
3. Recent extreme weather— heavy rainfall, floods and tropical cyclones – have severely impacted marine water quality and Great Barrier Reef ecosystems. Climate change is predicted to increase the intensity of extreme weather events.
4. The main source of excess nutrients, fine sediments and pesticides from Great Barrier Reef catchments is diffuse source pollution from agriculture.
5. Improved land and agricultural management practices are proven to reduce the runoff of suspended sediment, nutrients and pesticides at the paddock scale.

Independent Science Panel remarks

The Independent Science Panel (the panel) was established in 2009 to provide multidisciplinary scientific advice to the Australian and Queensland Governments on implementing Reef Plan. The panel also oversaw and reviewed the 2013 Scientific Consensus Statement.

In reviewing the evidence and conclusions of the Consensus Statement, the panel noted that:

1. There has been excellent progress over the past four years with greater scientific understanding and measurement of ‘catchment to reef’ processes and progress by the farming community towards land management practices that reduce pollutant loads to the Great Barrier Reef.
2. Water quality modelling, supported by appropriate validation, indicates that early adopters of best practice land management have reduced total pollutant loads - a significant step towards the goal of halting and reversing the decline in water quality to the reef.
3. The recent relative risk assessment is a major achievement allowing the development of cost-effective, regionally-specific management actions to improve water quality. The leading example is the recommendation to reduce nitrogen loads from northern rivers. This will reduce the frequency and severity of primary outbreaks of crown-of-thorns starfish arising from floods in this area, which propagate to many other reefs in the central Great Barrier Reef over 15-year cycles.
4. While current management interventions are starting to address water quality in the Great Barrier Reef, sustained and greater effort will be needed to achieve the ultimate goal of no detrimental impact on the health and resilience of the reef. In addition to continuous improvement, transformational changes in some farming technologies may be necessary to reach some targets.
5. Conditions in terrestrial catchments are most strongly connected with marine receiving waters during floods but the extreme rainfall causing major floods is often episodic and may be separated by decadal droughts. Consequently, there are inherent and complex lags in this system which must be recognised in performance evaluations of Reef Plan. This challenge is best met by investing in continued development of coupled catchment-reef models and the essential collection of adequate data to calibrate and validate the models.
6. The Consensus Statement has identified new knowledge needed to help achieve the ultimate goal of Reef Plan. These are outlined in the supporting chapters of the Consensus Statement and will assist with identifying future research priorities. Future efforts should focus on synthesising the knowledge gained and communicating the results to landholders and decision makers. The Consensus Statement provides an excellent platform for this work.

Delivering Reef Plan 2009

Paddock to Reef program review

A coordinated and comprehensive monitoring and reporting program is essential to evaluate the performance of Reef Plan. The Paddock to Reef program, funded jointly by the Australian and Queensland Governments, is a collaboration involving industry, regional natural resource management organisations, research organisations and government. The Paddock to Reef program integrates information on management practices, catchment indicators, catchment water quality and the ecological health of the Great Barrier Reef.

A review of the Paddock to Reef program was undertaken in 2012 to evaluate the strengths and weaknesses of the program and ensure it continues to effectively measure the progress of Reef Plan. The key strengths of the program are its collaborative nature, comprehensiveness and ability to integrate a range of monitoring and modelling information on management practices, catchment indicators, catchment loads and the health of the reef. The management practice adoption component was considered a major weakness of the program due to the lack of clear processes and quality controls. However, respondents indicated that ultimately this dataset may prove the most powerful in terms of informing management. The importance of finer scale data at the sub-catchment scale is also recognised and would assist in better informing regional

management priorities. The review, workshops and subsequent working groups will inform an improved Paddock to Reef program design and proposed implementation beyond 2013.

Stakeholder involvement in updating Reef Plan

Reef Plan 2013 was developed in close consultation with stakeholders. The Partnership Committee, which includes representatives from industry, conservation groups, natural resource management bodies and government, was instrumental in its development. The Independent Science Panel provided ongoing scientific support and advice. This consultative approach will continue during the implementation of Reef Plan 2013.

Farmer Profile



Aaron has used new technology to combine both economic viability and environmental sustainability.

“With the use of my computer or smart-phone I can log onto my farm computer, check the probes, stop/start irrigations, and also decide whether to fertilise or not - all done remotely. This technology allows me to farm in a smarter way and produces less runoff.”

Aaron Linton, cane farmer, Burdekin region.
Image courtesy of NQ Dry Tropics.

Our desired future



The **Great Barrier Reef** will be **healthy** and **resilient** and **support world class tourism** and other **industries reliant** on the reef.

Reef Plan's **world leading approach** to **reducing catchment runoff** will be an example to which **other countries can aspire**.



The program will **be adaptive** and **continually improving** as science **advances**.



Cutting edge research, development and **innovation** will drive some of the most **sustainable farming in Australia**.



Queensland will be known for its **profitable and sustainable farming enterprises** run by **farmers and graziers** who are acknowledged as **good stewards of the land**.

Governments, industry, conservation groups and local communities will be working **hand in hand** to **improve** water quality.



Goals and targets

Reef Plan's long term goal is to **ensure that by 2020 the quality of water entering the reef from broadscale land use has no detrimental impact on the health and resilience of the Great Barrier Reef.**

Targets for land management and water quality improvement have been set to help identify a pathway towards that goal.

Both the goal and targets are considered ambitious and give all partners something to which to aspire. Some will be more challenging to meet than others, but overall, they seek to move land management to best practice in as wide an area as possible which will have positive water quality benefits for the reef.

The actions outlined in Reef Plan 2013 are designed to achieve progress towards the targets and ultimately the long term goal. Guiding principles help focus management actions and signal that priorities have been reviewed and refined with regard to water quality improvement, with a focus on highest risk pollutants and areas. The guiding principles also recognise that achieving best practice on its own may not be enough to achieve the long term goal and that more innovation will be needed, particularly for nutrient management.

Water quality targets

When targets were originally set in 2009, they were based on the best available evidence at the time, including regional Water Quality Improvement Plans, and were designed to be ambitious. Since then, scientific knowledge and monitoring and modelling information has advanced significantly. As a result, the targets have been refined based on this improved information. There is still, however, a gap in

knowledge about what load reductions in which pollutants will be required to maintain reef health and achieve the Great Barrier Reef Marine Park Authority marine water quality guidelines at a reef-wide scale. It is expected that this information will be available within the life of Reef Plan 2013 and will help to further refine Reef Plan targets over time.

In the meantime, refined targets have been set for the next five years, generally based on the estimated load reductions that can be achieved through delivery of best management practice systems. The exception is the nitrogen target, which remains ambitious and may not be achievable using current best practice alone and may require new thinking and approaches in the Wet Tropics and Burdekin regions. The 'priority areas' referred to in the targets are defined for the purposes of reporting in Appendix 1. Progress will be reported for all regions where relevant, with increased focus on the priority areas.

Land management and catchment targets

The land management target relates to the implementation of best management practice systems across each of the industries. The focus is on management 'systems', rather than individual practices, which on their own may not lead to a complete system change. The target is also based on area of land rather than on the number of farmers in recognition that the water quality benefit will be maximised when a larger area of land is under improved management.

The groundcover target has been refined based on a range of independent studies which indicate that a cover level of 70 per cent is required to minimise erosion by water⁶. It is recognised that cover may vary spatially and temporally and the

⁶ Lang, RD (1979). The effect of ground cover on surface runoff from experimental plots. *Journal of the Soil Conservation Service of NSW* 35 (2), 108-114. McIvor, JG, Williams, J and Gardener, CJ (1995). Pasture management influences runoff and soil movement in the semi-arid tropics. *Australian Journal of Experimental Agriculture*, 35 (1), 55-65. Bartley, R, Corfield, JP, Abbott, BN, Hawdon, AA, Wilkinson, SN, and Nelson, B (2010a). Impacts of improved grazing land management on sediment yields. Part I: hillslope processes. *Journal of Hydrology* 389 (3-4), 237-248. Silburn DM, Carroll C, Ciesiolka, CAA, deVoil, RC and Burger, P (2011). Hillslope runoff and erosion on duplex soils in grazing lands in semi-arid central Queensland. I. Influences of cover, slope, and soil. *Soil Research* 49, 105-117.



target may be ambitious in drought conditions. Future monitoring will look to report the 'patchiness' of cover to provide this contextual information. Work is underway to better define regional targets and communicate information on cover to land managers. As monitoring and information on land management indicators improve, the target will be refined as needed.

The wetlands target has also been revised to allow for the values and ecological processes of wetlands to be monitored, rather than just extent. At this point, it is not possible to assess the condition of riparian areas, so the target remains based on extent.

Line of sight to regional targets

Reef-wide targets are important to monitor the progress of Reef Plan broadly. However, each region is different in terms of land use, current management practices and other physical attributes like soil type, terrain and climate. Each region, therefore, contributes differently to the overall targets. A number of regions have previously established regionally specific water quality and groundcover targets through Water Quality Improvement Plans. To ensure consistency with the broader Reef Plan targets, water quality improvement planning processes should consider Reef Plan's long term goal and use consistent modelling and monitoring information to set regional targets that align with Reef Plan.

Continuous improvements in targets



Water quality science is continually improving and as new information comes to hand targets will need to be refined to take this into account. The intent is to ensure longer term that water quality targets are ecologically based and linked to water quality guidelines and reef health. Through the eReefs project, a receiving waters model will be developed to help provide the missing link between existing catchment models and marine water quality guidelines. The model is expected to be completed in 2015. Targets will be reviewed once this information is available.

Farmer Profile



Rod has successfully trialed new innovations on his property in order to reduce runoff, adapting 'Weedseeker' technology commonly used in cropping to his cane farm, resulting in reductions of up to 27 per cent in herbicide application and saving him roughly \$10 to \$12 per hectare on the cost of herbicide.

He is actively involved in the Paddock to Reef program and has a monitoring site on his property.

Rod Lamb, cane farmer,
Mackay Whitsunday region.

Goals and targets

Long Term Goal

To ensure that **by 2020 the quality of water** entering the reef from broadscale land use **has no detrimental impact** on the **health and resilience** of the **Great Barrier Reef**.

Water quality targets* (2018)

At least a **50 per cent reduction** in anthropogenic end-of-catchment **dissolved inorganic nitrogen** loads in priority areas.

At least a **20 per cent reduction** in anthropogenic end-of-catchment loads of **sediment and particulate nutrients** in priority areas.

At least a **60 per cent reduction** in end-of-catchment **pesticide loads** in priority areas.

Land and catchment management targets* (2018)

90 per cent of sugarcane, horticulture, cropping and grazing lands are managed using best management practice systems (soil, nutrient and pesticides) in priority areas.

Minimum **70 per cent late dry season groundcover** on grazing lands.

The extent of **riparian vegetation is increased**.

There is **no net loss** of the extent, and an improvement in the ecological processes and environmental values, of **natural wetlands**.

Guiding principles

Innovative approach Identify, integrate with best management practices and implement innovative practices that will deliver substantial change in anthropogenic nutrient, sediment and pesticide runoff.

Targeted approach Continue to reduce pollutant loads, particularly by targeting water quality improvement to the highest risk pollutants in the highest risk regions.

Whole-of-catchment Protect and enhance key areas of the region, including wetlands and riparian areas, which have a water quality protection function and an intrinsic value in their own right.

* Please note targets are based on comparisons with the 2009 baseline.

Actions

Three priority work areas have been established to improve water quality outcomes:

1. **Prioritising investment and knowledge**—Prioritise, coordinate and integrate programs to maximise reef water outcomes.
2. **Responding to the challenge**—Landholders adopt management systems that maximise reef water quality improvements while maintaining and enhancing resilience, business performance and environmental outcomes. Government policies and programs that support Reef Plan goals and targets are maintained.
3. **Evaluating performance**—The efficiency and effectiveness of Reef Plan is measured through monitoring, evaluation and reporting.

There are nine key actions grouped by priority work areas. The actions are relatively broad and encompass a number of deliverables. This provides flexibility and adaptability to ensure other activities can be undertaken that contribute to achieving the targets. The lead organisation is responsible for coordinating implementation and reporting progress to ensure actions are completed and milestones met. Many of the actions and deliverables will require a partnership approach.

The actions in Reef Plan 2013 build upon activities that have occurred over the past 10 years of Reef Plan.

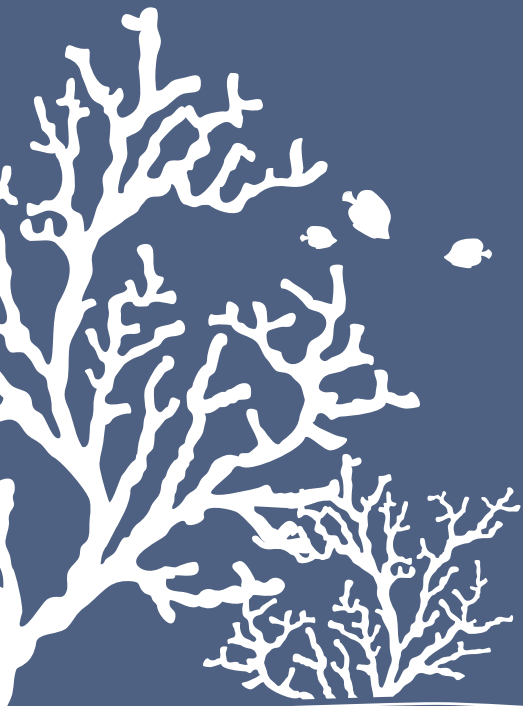


Prioritising investment and knowledge

Desired outcome

Prioritise, coordinate and integrate programs to maximise reef water quality outcomes.

To achieve this outcome, issues and risks need to be clearly assessed and defined at the appropriate scales, and actions prioritised using best available information. The priorities for research, development and innovation need to be determined over the short and long term.



Prioritising investment and knowledge

Action	Deliverables	Timeframe	Lead organisation/s ⁷	Contributors ⁸
1. Develop, implement and maintain a Research, Development and Innovation Strategy to identify research and development priorities and encourage identification of innovative ways of reducing nutrient, pesticide and sediment runoff.	Develop a five-year Research, Development and Innovation strategy on the most cost effective and critical research and development priorities and update as required.	December 2013	DPC	DSEWPaC, DAFF, GBRMPA, DNRM, DSITIA, DEHP, QDAFF, research organisations, regional NRM organisations, Independent Science Panel.
2. Coordinate and integrate agreed research, development and innovation priorities into research and development programs.	Establish a research, development and innovation coordination group to identify priorities and integrate and communicate programs of work.	July 2013	DPC	DSEWPaC, DEHP, GBRMPA, DAFF, QDAFF, research organisations, industry groups, Independent Science Panel, WWF
	Help determine the pollutant load reductions required to meet marine water quality guidelines, by completing a receiving water model as part of the eReefs project.	June 2015	Great Barrier Reef Foundation	BoM, Queensland Government, DSEWPaC, CSIRO, DPC
	Ensure resources are identified for the synthesis and transfer of knowledge between research and monitoring programs and end users.	December 2013	DPC	DEHP, DSITIA, research organisations, industry groups, DSEWPaC, QDAFF, GBRMPA, DAFF
	Prepare an evaluation report outlining the delivery of Research, Development and Innovation priorities.	Biennially	DPC	DSEWPaC, DAFF, research organisations, Independent Science Panel
3. Prioritise and align investments based on risk assessments of key pollutants, source areas and the risk they pose to Great Barrier Reef ecosystems, as well as information on priority areas for rehabilitation.	Investment through Reef Plan is informed by an investment prioritisation process which identifies priority pollutants, industries and areas.	December 2013	DSEWPaC , DAFF, DPC, DNRM, DEHP	Reef scientists, GBRMPA, DSITIA, QDAFF, industry groups, regional NRM organisations, research organisations, Independent Science Panel, WWF

⁷ The lead organisations are those that have a direct lead role in delivery of the action or deliverable. Where there is shared responsibility, the organisation highlighted in bold is responsible for reporting on delivery.

⁸ Contributors are those organisations or agencies that contribute to delivery of the action or deliverable, or that provide advice to inform implementation.
DPC – Queensland Government Department of the Premier and Cabinet; DSEWPaC – Australian Government Department of Sustainability, Environment, Water, Population and Communities; DAFF – Australian Government Department of Agriculture, Fisheries and Forestry; DNRM – Queensland Government Department of Natural Resources and Mines; DEHP – Queensland Government Department of Environment and Heritage Protection; QDAFF – Queensland Government Department of Agriculture, Fisheries and Forestry; BOM – Bureau of Meteorology; GBRMPA – Great Barrier Reef Marine Park Authority; DSITIA – Queensland Government Department of Science, Information Technology, Innovation and the Arts; DSDIP – Queensland Government Department of State Development, Infrastructure and Planning; LGAQ – Local Government Association of Queensland; NPRSR – Queensland Government Department of National Parks, Recreation, Sport and Racing; NRM – Natural Resource Management.

Prioritising investment and knowledge

Action	Deliverables	Timeframe	Lead organisation/s ⁷	Contributors ⁸
3. Prioritise and align investments based on risk assessments of key pollutants, source areas and the risk they pose to Great Barrier Reef ecosystems, as well as information on priority areas for rehabilitation. (continued.)	Review investment prioritisation and risk assessment process based on new research, monitoring and knowledge.	As required	DSEWPaC , DAFF, DEHP	DEHP, DPC, DAFF, DNRM, GBRMPA, QDAFF, industry groups, regional NRM organisations, research organisations, WWF
	Agree on a coordinated Reef Plan investment strategy for implementing Reef Plan.	December 2013	DPC , DSEWPaC	QDAFF, DEHP, DNRM, DSITIA, DAFF
	Prioritise coastal, urban and wetland rehabilitation activities that improve water quality and Great Barrier Reef health in order to inform state, national and regional programs of work.	June 2014	GBRMPA	DSEWPaC, DEHP, regional NRM organisations, DPC, DNRM, industry groups, research groups, WWF
	Undertake a mid-term review of Reef Plan goal timeframe and targets once a receiving waters model is complete and information is available to consider ecologically based water quality targets. Review other targets in light of new information.	January 2016	DPC , DSEWPaC	DSEWPaC, DEHP, DAFF, GBRMPA, QDAFF, DSITIA, DNRM, industry groups, regional NRM organisations, WWF, Independent Science Panel.

Farmer Profile



David and Adele O'Connor's property has been in their family for over 125 years. They have implemented an intensively managed rotational grazing system, enabling them to monitor the pastures and their cattle on a regular basis and assess how the property is performing within the ecosystem. They have also performed extensive soil tests, invested in new equipment and have fenced according to land type to allow for more efficient grazing and prevent patch grazing in areas preferred by stock.

“The most important thing about these changes to our grazing and cropping systems are the improved long term sustainability and resilience of the property,” said David.

David and Adele O'Connor (pictured with their daughters), graziers and grain farmers, Fitzroy region.
Image courtesy of AgForce.



Responding to the challenge

Desired outcome

Landholders adopt management systems that maximise reef water quality improvements while maintaining and enhancing resilience, business performance and environmental outcomes.

Government policies and programs that support Reef Plan goals and targets are maintained.

Within the overall management system, Reef Plan focuses on the suite of complementary practices that need to be implemented in a systematic way to achieve cost effective pollutant reductions.

Programs that proactively engage landholders to engender change need to be developed, implemented and continuously improved. The focus is on voluntary adoption programs, such as extension, training, planning, incentives and Best Management Practice programs, to stimulate a permanent move towards practices and systems that achieve cost effective reductions in pollutant loss. A key to achieving this is through targeted and coordinated delivery across the range of programs at a Great Barrier Reef-wide, regional or catchment scale, responding to regional priorities.



Responding to the challenge

Action	Deliverables	Timeframe	Lead organisation/s	Contributors
4. Increase understanding of farm management practices and systems, economics and water quality benefits.	Review existing commodity specific management practices and identify the most critical, cost effective and profitable management practices and systems.	June 2014 and updated biennially thereafter	QDAFF , DEHP	Management Practice Advisory Group, industry groups, regional NRM organisations, DSITIA, CSIRO, private providers, research organisations, DSEWPaC, DAFF
	Use this information to prioritise investment of the most critical, cost effective and profitable practices and systems at a regional/catchment scale.	Ongoing	Regional NRM delivery agents ⁹	DSEWPaC, DAFF, QDAFF, DEHP, DNRM, industry groups
5. Deliver targeted and coordinated extension, best management practice and incentive activities to maximise uptake of management practices and systems.	Update Extension and Education Strategy in light of best available science and new and emerging initiatives.	June 2014	QDAFF	Management Practice Advisory Group, DEHP, regional NRM organisations, industry groups, DSEWPaC, DAFF
	Formalise a ReefNet network of catchment, regional and reef-wide groups to share information and facilitate coordination of activities.	June 2014	QDAFF	Industry groups, DEHP, DSEWPaC, DNRM, regional NRM organisations, private providers
	Work with industry and government to ensure that activities such as extension, incentives and best management practice are targeted and coordinated at the regional level to help accelerate long term management system change.	June 2014 and review annually	Regional NRM delivery agents	Regional NRM organisations, industry groups, QDAFF, DEHP, DNRM, DSEWPaC, DAFF
	Develop and implement best management practice programs for sugarcane and grazing and continue the horticulture, grains and cotton best management practice programs.	June 2014	Industry groups , regional NRM organisations	DEHP, QDAFF
6. Maintain and enhance policies and programs that support Reef Plan goals and targets.	Adaptively manage the delivery of the second phase of Caring for our Country Reef Rescue to support Reef Rescue and Reef Plan goals and targets.	Ongoing	DSEWPaC , DAFF	Regional NRM organisations, industry groups
	Adaptively manage the delivery of the Queensland NRM investment program to support Reef Plan goals and targets.	Ongoing	DNRM	DSEWPaC, DPC, DEHP, DSITIA, QDAFF
	Maintain and report annually on new land management agreements in reef catchments where leases trigger the Queensland's State Rural Leasehold Land Strategy.	Annually	DNRM	QDAFF, DSITIA
	Maintain Queensland reef protection legislation until best management practice programs have effect.	Review June 2014	DEHP	QDAFF, industry groups, DPC

⁹ This could encompass multiple organisations at the regional level.

SCHEDULE F

Responding to the challenge

Action	Deliverables	Timeframe	Lead organisation/s	Contributors
6. Maintain and enhance policies and programs that support Reef Plan goals and targets.	Review Queensland reef protection legislation in line with Australian Pesticide and Veterinary Medicines Authority chemical reviews, and as best management practice programs have effect.	Review June 2014	DEHP, QDAFF	Industry groups, regional NRM organisations, DPC, QDAFF
	Maintain wetlands protection and healthy waterways protection through the single state planning policy.	December 2013	DEHP	DSDIP
	Statutory regional planning process to consider Reef Plan goals and targets.	Ongoing	DSDIP	QDAFF, GBRMPA, DEHP, DPC, DNRM, LGAQ
	Water Quality Improvement Planning process (aligned with Healthy Waters Management Plan guideline under the Environment Protection Policy Water) to consider Reef Plan's long term goal and use consistent modelling information to set regional and subregional water quality and management action targets that align with Reef Plan.	June 2014 and updated as required	Regional NRM delivery agents	DSEWPaC, DPC, DNRM, DEHP, LGAQ
	Foster and recognise stewardship activities within farming, grazing, councils and schools across the Great Barrier Reef catchment that help achieve Reef Plan outcomes.	Ongoing	GBRMPA	DSEWPaC, LGAQ, regional NRM organisations
	Ensure consistency between grazing, cane and other industry best management practices and GBRMPA's Reef Guardian program outcomes.	June 2014	GBRMPA	DEHP, DAFF, DPC, DSEWPaC, regional NRM organisations.
	Integrate and complement Reef Plan with any relevant policies and programs which emerge from the comprehensive strategic assessment of the Great Barrier Reef World Heritage Area and adjacent coastal zone and the associated long term plan for sustainable development.	June 2015	DSEWPaC, DPC	GBRMPA, DSDIP, DPC, DEHP
	Establish an agreed framework for reef water quality offsets that delivers more strategic outcomes, including a net improvement to the outstanding universal value of the Great Barrier Reef World Heritage Area.	June 2014	DEHP	GBRMPA, DSEWPaC, DAFF

Evaluating performance

Desired outcome

The efficiency and effectiveness of Reef Plan is measured through monitoring, evaluation and reporting. The continuation of a coordinated approach through the Paddock to Reef Integrated Monitoring, Modelling and Reporting Program will be critical to delivering this outcome.



SCHEDULE F

Evaluating performance

Action	Deliverables	Timeframe	Lead organisation/s	Contributors
7. Develop and implement an updated Reef Plan Monitoring and Evaluation Strategy to measure the efficiency and effectiveness of Reef Plan.	Update the Reef Plan Monitoring and Evaluation Strategy.	December 2013	DPC	DSEWPaC, DNRM, DEHP, QDAFF, DAFF, GBRMPA, DSITIA, regional NRM organisations, research organisations, industry groups
	Prepare Reef Plan report cards to report on the progress towards Reef Plan goals and targets.	Annually (by September the year after data is collected)	DPC	DNRM, DAFF, DEHP, QDAFF, GBRMPA, DSITIA, DSEWPaC, regional NRM organisations, research organisations, industry groups
	Report on effectiveness of Reef Plan implementation.	Annually by September each year	DPC	IOC
	Undertake independent audit and evaluation of Reef Plan.	June 2016	DPC , DSEWPaC	Partnership Committee
	Report on integration of the Paddock to Reef program with other relevant monitoring and reporting programs in the Great Barrier Reef region as part of an Integrated Monitoring Framework.	Annually	GBRMPA , DPC	DSEWPaC, DNRM, DEHP, DSITIA, regional NRM organisations
8. Implement an updated Paddock to Reef Integrated Monitoring, Modelling and Reporting (Paddock to Reef) Program.	Update the Paddock to Reef program design.	July 2013	IOC	Independent Science Panel, Partnership Committee, Coordination and Advisory Group
	Review Paddock to Reef program design.	Annually	IOC	Independent Science Panel, Coordination and Advisory Group
	Implement the updated Paddock to Reef program including monitoring and annual reporting.	December 2013	DPC	DSEWPaC, DAFF, DNRM, DEHP, QDAFF, GBRMPA, DSITIA, regional NRM organisations, research organisations, industry groups
	Industry uptake of management practices and systems, under an agreed framework, that can input directly into Paddock to Reef modelling and reporting against targets.	December 2013	QDAFF , Industry	DSEWPaC, DAFF, DNRM, regional NRM organisations, industry groups, DEHP
	Annual fertiliser and pesticide use data collection arrangements are agreed.	June 2014	Regional NRM delivery agents	QDAFF, DNRM, Agri-business, product suppliers, Canegrowers, DSEWPaC, DEHP
	Fertiliser and pesticide use data collected and reported.	Annually, from July 2015	Regional NRM delivery agents	QDAFF, DNRM, Agri-business, product suppliers, Canegrowers, DSEWPaC, DEHP

Evaluating performance

Action	Deliverables	Timeframe	Lead organisation/s	Contributors
8. Implement an updated Paddock to Reef Integrated Monitoring, Modelling and Reporting (Paddock to Reef) Program.	Paddock scale water quality monitoring and modelling to measure effectiveness of management practices, including a focus on critical practices that reduce pollutant losses significantly.	Annually	DSEWPaC, DNRM	Regional NRM organisations, DSITIA, research organisations
	Catchment water quality loads monitored.	Annually	DSITIA	DNRM, regional NRM organisations, NPRSR
	Catchment water quality loads modelled.	Annually	DNRM	DSITIA, research organisations
	Groundcover and wetlands and riparian vegetation monitored.	Annually for groundcover, four yearly for riparian and wetlands	DSITIA	DNRM, DEHP
	Marine water quality and ecosystem health monitored.	Annually	GBRMPA	DSEWPaC, AIMS, research organisations, QDAFF, GBR Foundation.
9. Improve data and information management to support Reef Plan data sharing, assessment and reporting.	Test automation of the Reef Plan report card.	June 2014	DPC	GBR Foundation, research organisations, DSEWPaC
	Store and maintain paddock and catchment data within the Spatial and Scientific Information Management for Reef (SSIMR) environment.	June 2014	DNRM	DSITIA, DSEWPaC, DEHP, DAFF, QDAFF, GBRMPA, DPC, regional NRM organisations, research organisations, industry groups.

Farmer Profile



Tony and his brother and sons are second and third generation cane farmers. They adjust the amount of nutrients applied from paddock to paddock based on soil testing rather than just blanket application at a standard rate. They are also actively involved in trialling new and innovative practices.

“My son is keen to stay on the farm and I want to leave it to him in better condition than it was when I took it over from my father. I think my Dad would be proud of what we are doing now.”

Tony Bugeja, cane farmer, Mackay Whitsunday region.
Image courtesy of Reef Catchments.



Implementing Reef Plan

Reducing the impacts of land use on reef water quality is not solely the responsibility of governments. Achieving the goals of Reef Plan will rely on a partnership involving all levels of government, industry, community groups and individual landholders.

The Australian and Queensland Governments will incorporate Reef Plan goals, targets and actions into relevant planning processes (e.g. business and strategic plans) to ensure actions are achieved in appropriate timeframes with maximum efficiency. The lead organisations are responsible for driving implementation of the actions and working with the identified stakeholders to achieve outcomes.

Overseeing implementation

Reef Plan has developed efficient institutional arrangements (Figure 3) that will continue to ensure actions are implemented in a timely way and properly coordinated across agencies and programs.

The key decision-making body for implementing the plan is the **Great Barrier Reef Ministerial Forum** (the forum). The forum is comprised

of two Ministers each from the Australian and Queensland Governments with responsibility for matters relating to the environment and marine parks, science, tourism and/or natural resource management. The forum considers various sources of information related to Reef Plan implementation, including views of stakeholders and scientific and government advice. A number of committees have been established to provide information to the forum. The committees ensure a coordinated and cohesive approach to implementation and appropriate commitment of resources to implement individual actions.

The **Partnership Committee** consists of stakeholders, including industry groups, conservation organisations, regional natural resource management organisations and government officials, with an independent chair. The Partnership Committee ensures a consultative approach to implementing Reef Plan at the operational level. It oversees and drives implementation of Reef Plan by contributing to developing implementation plans and monitoring appropriate progress against actions. The Partnership Committee provides advice to the Intergovernmental Operational Committee on the operational implementation of Reef Plan.

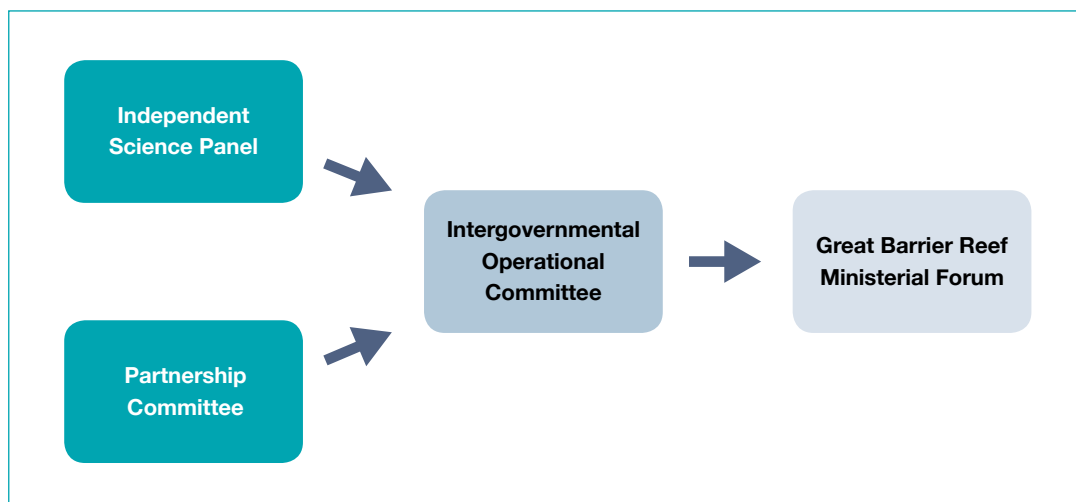


Figure 3: Reef Plan governance



The independent chair also provides an annual report to the Great Barrier Reef Ministerial Forum on the operation of the committee, raising any emerging issues identified by stakeholders. This ensures stakeholder comments are fed through to the Ministerial level in an independent context.

The **Independent Science Panel** provides scientific advice to inform adaptive management decisions. The panel is made up of six members with relevant scientific expertise and has an independent chair with a scientific background. The panel provides an advisory and review role on matters referred to it by the Intergovernmental Operational Committee.

The **Intergovernmental Operational Committee** (IOC) oversees the operational implementation of Reef Plan. Members are nominated senior officers from:

- Australian Government Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC)
- Australian Government Department of Agriculture, Fisheries and Forestry (DAFF)
- Great Barrier Reef Marine Park Authority (GBRMPA)
- Queensland Government Department of the Premier and Cabinet (DPC)
- Queensland Government Department of Environment and Heritage Protection (DEHP)
- Queensland Government Department of Agriculture, Fisheries and Forestry (QDAFF)
- Queensland Government Department of Natural Resources and Mines (DNRM)
- Queensland Government Department of State Development, Infrastructure and Planning (DSDIP).

The IOC may also establish working groups to deal with emerging issues or specific tasks. This will ensure the appropriate agencies and stakeholders are involved in specific aspects of Reef Plan implementation.

These committees will continue to be supported by a secretariat based in DPC that works closely with representatives from DSEWPaC.

A number of smaller advisory groups have also been established to support specific parts of the program, including the Paddock to Reef Coordination and Advisory Group, the Management Practices Advisory Group and the Research and Development Coordination Group.

Appendix



Appendix 1

Identifying priority areas for management

A water quality relative risk assessment¹⁰ was undertaken in 2012 and 2013 to investigate the relative risk of degraded water quality from different pollutants and different regions to coral reefs and seagrasses in the Great Barrier Reef. The table below presents the results of the risk assessment at the regional level. The results of the risk assessment have been used to focus management efforts in Reef Plan 2013 and identify priority areas for monitoring of targets. While the risk assessment focuses on the three priority pollutants, it does not detract from the importance of also addressing the threats posed by other pollutants which enter the Great Barrier Reef. Equally, water quality improvement is critical across all the natural resource management regions, not just the priority ones. While reporting against targets will occur for all of the Great Barrier Reef regions, increased focus will be on the priority areas.

Region	Overall relative risk	Priority pollutants for management		
		Nitrogen	Pesticides	Sediment
Cape York	LOW			
Wet Tropics	VERY HIGH			
Burdekin	HIGH	*		
Mackay Whitsunday	MODERATE			
Fitzroy	HIGH			
Burnett Mary	UNCERTAIN**			

* Lower Burdekin and Houghton focus

** Most reefs and seagrass meadows in this region were not included formally in the analysis and therefore the validity of the result has high uncertainty.

¹⁰ Brodie, J. et al. 2013 (in review). Assessment of the risk of pollutants to ecosystems of the GBR including differential risk between sediments, nutrients and pesticides and between land uses, industries and catchments. Project funded by Queensland Government Department of Environment and Heritage Protection as part of the Reef Plan Scientific Consensus Statement 2013.

