



Australian Government

Great Barrier Reef
Marine Park Authority

Summary Report

of the **mid-term review**
of the Great Barrier Reef
Climate Change
Action Plan 2007-2012





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Published by the Great Barrier Reef Marine Park Authority

ISBN 978 1 921682 31 5 (pdf)

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The National Library of Australia Cataloguing-in-Publication entry :

Great Barrier Reef Marine Park Authority.

Summary report of the mid-term review of the Great Barrier Reef climate change plan 2007-2012 [electronic resource] / Great Barrier Reef Marine Park Authority.

ISBN 978 1 921682 31 5 (pdf)

Climatic changes--Queensland--Great Barrier Reef.
Marine parks and reserves--Queensland--Great Barrier Reef
Marine Park--Planning.
Marine parks and reserves--Queensland--Great Barrier Reef
Marine Park--Management.
Great Barrier Reef (Qld.)--Environmental aspects.

333.916409943

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A mid-term review of the GBRMPA Climate Change Action Plan was conducted to review progress towards achieving the objectives of the Action Plan and management of the delivery program and projects.

The review found that **the Action Plan has led to a greater understanding of the urgency and priority of climate change** for the Reef. Delivery of projects has been comprehensive, addressing all four objectives of the Action Plan.

The **Action Plan has served as a framework for adaptive program planning and delivery** – with annual adjustment to the portfolio of projects to respond to emerging knowledge and changing conditions. At each stage there is a changing frame of relevance to the overall Action Plan as the body of knowledge of risk and resilience is developed. Within the broad framework of the Action Plan, there is flexibility to adapt to the changing context to most effectively support the objectives.

The **integration of climate change throughout GBRMPA core business** is occurring generally through building capacity for other groups to understand the implications of climate change. Through the Action Plan, the concepts of risk and resilience have been cemented and have strongly influenced the Corporate Plan. This new focus of the Corporate Plan is expected to drive further integration of climate change throughout the operations of the GBRMPA.

The review was undertaken from April to June 2010 through a combination of interviews with informants within and external to the GBRMPA and review of project documents.

Overview of the Climate Change Action Plan

The Great Barrier Reef Climate Change Action Plan 2007-2012 provides almost \$9 million over five years to focus attention on the risks of climate change to the Great Barrier Reef. Funding was provided as part of the COAG National Climate Change Adaptation Framework.

The Action Plan recognises that the future health of the Reef will depend on both the rate and extent of climate change and the resilience of the system to that change, and that while climate change mitigation needs to be managed globally, resilience can be influenced locally. It outlines management actions to identify and test strategies to maximise the resilience of the Reef and the communities and industries that depend on it.

The Action Plan has four objectives:

- ▶ 1. Targeted Science – provision of the **critical knowledge needs** for improving the resilience of the Great Barrier Reef to climate change and for helping Reef-based industries and regional communities adapt to impacts.
- ▶ 2: A resilient Great Barrier Reef Ecosystem – **reduce stresses** on the ecosystem, **facilitate natural adaptation** and **minimise ecological impacts**, based on the emerging knowledge of resilience and the risks posed by climate change and other stressors.
- ▶ 3: Adaptation of industries and communities – **understand and raise awareness of the vulnerability of communities and industries** to climate change, and **support adaptation** of communities and industry.
- ▶ 4: Reduced climate footprints – **motivate** individuals, communities, organisations and industries to **reduce their greenhouse gas emissions**, and **build support for continuing action** to protect the Great Barrier Reef from climate change.

Summary of findings

The Action Plan has seen good progress on the delivery of activities, both planned and unplanned, and these are contributing to the outcomes sought by the Action Plan.

Implementation of the Action Plan has been coordinated through the Climate Change Group (CCG), with project delivery undertaken by staff from CCG and other sections of GBRMPA, and researchers, consultants and other organisations under contract. A wide range of projects has been delivered, many are underway and future projects are under development.

Management of Action Plan delivery

Program planning, management and delivery processes developed by the CCG have supported the success of Action Plan implementation.

By this mid-point in Action Plan delivery, the CCG has developed reliable and efficient processes for planning and managing projects under the Action Plan and the overall program delivery.

Many projects are delivered by researchers and consultants under contract, which required further development of capabilities within GBRMPA to develop and manage contracts. The procedures and documentation developed by the CCG for Action Plan implementation have now been circulated across GBRMPA and are used to assist in management of all contracted activity.

The focus of the CCG on documenting procedures and communicating these requirements to all staff involved in Action Plan projects has provided additional benefits to GBRMPA and minimised the risks that may arise when undertaking a new program area through contracted project delivery.

The integration of climate change throughout GBRMPA core business is occurring generally through building capacity for other groups to understand the implications for climate change for the work their group is responsible for. While this is considered by internal informants to have been done moderately well at best, it has been facilitated through:

- Knowledge transfer of key climate change concepts and literature through project bulletins, presentations to conferences, email notifications and newsletters agency-wide.
- CCG coordination of cross-agency climate change projects and contracts – but the responsibility for management of Action Plan-funded projects is starting to be shifted to the relevant groups.

Objective 1 – targeted science

Significant progress has been made in addressing critical knowledge needs. Implementation of Objective 1 is currently undergoing a maturation to better meet emerging needs, including the need to integrate existing information into knowledge useful for informing management decisions. While the foundation for this has been laid, its ongoing effectiveness may depend on the formalisation of a 'knowledge integrating' function to drive the different approach required with researchers.

Projects focusing on targeted science require significant engagement with researchers and specialist consultants; therefore this has formed the main area of funding allocation for the first two years. Information gained from these earlier projects, as well as internally implemented projects, in the earlier years, has enabled the CCG to transition the focus of implementation from Objective 1 to Objectives 2 and 3, based on the scientific evidence derived.

Objective 2 – a resilient Great Barrier Reef ecosystem

While less progress has been made in Objective 2 overall, significant progress has been made in embedding the understanding that adaptive management actions need to be based on vulnerability assessment and then an understanding of resilience. While there has been some progress with identifying adaptive management actions, conventionally, management of marine ecosystems has not involved intervention thus there remain barriers in terms of the policy environment and institutional culture around this, and intervention

risk management. It is worth noting that while this objective is considered to be the least progressed under the Action Plan, it is progressed through the GBRMPA more broadly as it is part of core business. External informants commended the GBRMPA for the focus on resilience of the Reef ecosystem, noting that the GBRMPA is a world leader in applying 'resilience thinking' and communicating this approach.

Additionally, the CCG has furthered the agency's knowledge and capacity in responding to climate-related events on the Great Barrier Reef. The Coral Bleaching Response Plan is recognised globally as the leading approach to coral bleaching events, and is the basis for coral bleaching response programs in many other reef regions around the world. The development of a coral disease response plan is expected to replicate this contribution.

Objective 3 – adaptation of industries and communities

Significant progress has also been made in supporting industry and community adaptation, particularly industry adaptation. The Action Plan has worked well with assisting the tourism industry position itself for climate change adaptation and lessons learnt from that have been leveraged to enable the Action Plan to work particularly well with the fishing industry to do the same. Effective industry engagement is probably the highlight of Action Plan outcomes to date. Community adaptation has also progressed, particularly through the Reef Guardian program (councils and schools) and through the effective use of Local Marine Advisory Committees and Reef Advisory Committees.

Projects promoting resilience planning and adaptation have been developed over time to gradually build, and then respond to, interest in industry, community and other stakeholders about the impacts of climate change. Through this time the CCG has worked to generate both the agenda for a climate change response, and the information and capabilities required to develop responses to climate change.

Objective 4 –reduced climate footprints

The objective of reducing climate footprints relates to changes that are outside the control of GBRMPA – changes at the individual, national and international levels. However, the GBRMPA has played a strong role in raising awareness and contributing to the motivation to reduce emissions due to the risk of damage to the Reef. Targeted projects for emissions reduction in the tourism and fishing industries have provided emissions calculators and advice on emissions reduction. Messages about the relationship between continued high greenhouse gas emissions and damage to the Reef have been heard locally, nationally and internationally. While these messages have not stimulated the level of change necessary to protect the Reef, the GBRMPA is well placed to reframe communications on climate change risk and emissions reduction and to provide more targeted messages to stakeholders, policy-makers and the wider community.

Alignment with action on climate change at other levels

Activities under the Action Plan have contributed to actions at the local, regional, national and international levels.

The Action Plan's contribution to international action on climate change has occurred through the use of the Reef as a 'poster child' for climate change risks, research and communication to inform other reef managers, and scientific and interest networks.

Examples of damage and risks to the Reef ecosystems provide a powerful symbol of the risks of climate change for use in communication and education. Risks to the Reef have been included as a motivating factor in many international climate change campaigns, and were also mentioned in the Prime Minister's speech to the Copenhagen COP15 conference.

The Action Plan has also prompted more direct communication, with research papers published internationally and specific information products resulting from projects – such as the *Reef manager's guide to coral bleaching* which was distributed internationally

Learnings from delivering the Action Plan

Delivery of the Action Plan has brought new challenges and opportunities for the GBRMPA, and particularly the CCG. Implementation has evolved since 2007 and much has been learned about the adaptive management of programs and projects in response to climate change.

- ▶ **Flexible program design** forms the basis for responsive management of the Action Plan, responding to changes in Reef conditions and changes in knowledge of risk and resilience.
- ▶ **Access to emerging knowledge** is necessary for informed management actions, and has been supported through Action Plan projects.
- ▶ **GBRMPA and researchers play a critical role to interpret emerging knowledge** and present this in a form that is readily used by Reef managers and others.
- ▶ **Networks and linkages** have been developed and will continue to be important:
 - with researchers to gather emerging knowledge and influence future research
 - with policy makers to inform future policy response
 - with Reef managers and other stakeholders to support informed adaptive management.
- ▶ **Relationships and trust** have been developed with stakeholders and are key to building climate change awareness and action – for both adaptation and mitigation.
- ▶ **Communication through multiple means and messages** has been necessary to explain climate change risk and actions to the range of stakeholders.
- ▶ **Community has limited understanding of the complex issues of climate change** and reef ecology – and perceptions can change unpredictably. As the GBRMPA aims to renew its messages to the community and decision-makers on climate change risks to the Reef, it will be important to develop sensitive and targeted messages to address diverse audience perceptions. Work has been undertaken under the Action Plan to understand community perceptions and this should be used to inform targeting of future communication and development of messages.
- ▶ **Structured procedures and clear documentation** have enhanced the GBRMPA organisational capability to deliver Action Plan projects, supporting adjustment to new areas of work and new ways of working.
- ▶ **Engagement across GBRMPA corporate and operational areas** has provided technical and sectoral knowledge to support project planning and delivery.
- ▶ **To continue to deliver emerging scientific knowledge for adaptive management**, GBRMPA requires people skilled in the interpretation of knowledge for adaptive management, and a supportive research community.

Implications for the future

The emphasis of implementation will continue to change in the later years of Action Plan implementation and it will be important to capture these linkages between projects for greater clarity of understanding of the overall achievements at the end of the Action Plan period. The implementation of a Monitoring, Evaluation, Reporting and Improvement (MERI) Framework will assist in clarifying the expected contribution of projects to Action Plan objectives and will provide a body of evidence to demonstrate achievements of the Action Plan.

GBRMPA must consider the future delivery of climate change adaptation activities beyond the life of the Action Plan – whether this be through a second Action Plan or mainstreaming of the climate change response throughout GBRMPA. Integrating climate change risk and adaptation into the overall delivery of GBRMPA activities would be the most sustainable, but this would still require some level of centralised coordination and responsibility for climate change activities. Currently, the CCG maintains the role of monitoring up-to-date knowledge of adaptation and resilience research, and interpreting and disseminating this emerging knowledge across the GBRMPA and other agencies.

Continued effectiveness in agency response to climate change issues would require maintenance of a body of specialist expertise comparable to that gained through the life of the current Action Plan. Integration through disbanding of the CCG would risk losing the rich body of knowledge and capability of the CCG developed through implementation of the Action Plan. Ongoing management of the growing body of knowledge and experience will be important to assist GBRMPA to integrate this knowledge across its operations.