



Prepared for
Great Barrier Reef Marine Park Authority (GBRMPA)

Subject
Assessment of Management Effectiveness for the
Strategic Assessment of the Great Barrier Reef Region

Authors
Professor Marc Hockings
Dr Andrea Leverington
Mr Brian Gilligan

19 March 2013

UniQuest Project No: C00948

UniQuest Pty Limited



UniQuest Pty Limited

Consulting & Research
(A.B.N. 19 010 529 898)

Level 7, GP South Building
Staff House Road
University of Queensland
Queensland 4072

Postal Address:
PO Box 6069
St Lucia
Queensland 4067

Telephone: (61-7) 3365 4037
Facsimile: (61-7) 3365 7115

Title

Assessment of Management Effectiveness for the Strategic Assessment of the Great Barrier Reef Region

Disclaimer

This report and the data on which it is based are prepared solely for the use of the person or corporation to whom it is addressed. It may not be used or relied upon by any other person or entity. No warranty is given to any other person as to the accuracy of any of the information, data or opinions expressed herein. The author expressly disclaims all liability and responsibility whatsoever to the maximum extent possible by law in relation to any unauthorised use of this report.

The work and opinions expressed in this report are those of the Authors.

Executive Summary

As part of the strategic assessment of the Great Barrier Reef World Heritage Area and adjacent coastal zone, the Great Barrier Reef Marine Park Authority (the Authority) is required to assess the effectiveness of its management arrangements to protect the values that underpin matters of national environmental significance within the Great Barrier Reef Region (the Region).

Management effectiveness evaluation is defined as the assessment of how well protected areas are being managed – primarily the extent to which they are protecting values and achieving goals and objectives. The report has used a management effectiveness evaluation framework that has been widely applied around the world. This framework focuses on six management elements (context, planning, inputs, processes, outputs, outcomes) and the links between them, to provide a comprehensive picture of management effectiveness for the Region.

This assessment examined 15 priority management topics (covering drivers, values and activities). The management topics range in scale from localised issues that affect only a small proportion of the total area (e.g. Defence activities) to others which have implications across all or most of the Region (e.g. climate change and extreme weather, recreation, coastal development). No attempt has been made to weight these components, and performance assessments need to be interpreted in the context of these scale differences.

The Authority is striving to manage effectively in all areas, and there have been considerable improvements in a number of areas since the *Outlook Report 2009*. The recent development of the draft Biodiversity Conservation Strategy, the species' vulnerability assessments, the revised Reef Plan, Coastal Ecosystem Assessment Framework, the Climate Change Strategy and Action Plan 2012-2017 and *Informing the Outlook for the Great Barrier Reef Coastal Ecosystems* in addition to the review of the zoning plan through the Representative Areas Program, and the joint Field Management Program are examples of the world class management of the Region by the Authority.

The difficulties in achieving positive outcomes on the ground, given the spatial and temporal scales of the threats facing matters of national environmental significance and the diminishing resource base to implement actions, are recognised. However, greater traction

in threat reduction is needed for an improvement in outcomes. Improved threat reduction is, in turn, dependent on the adoption of significant changes to current policies regarding coastal development, resource use, control of other activities and sufficient resourcing to implement threat reduction programs in the field.

Management effectiveness is strongest on issues limited in scale or intensity and presenting only minor or moderate complexity such as defence and research activities. Tourism operates across much of the region and is moderately complex. It has received significant management attention and is effectively managed.

Management effectiveness challenges are evident for those broad scale issues which are complex socially, biophysically and jurisdictionally. These include ports, shipping, climate change and extreme weather, coastal development, water quality protection, commercial and recreational fishing, and Indigenous heritage.

In general, most indicators were either improving or stable. The exceptions were indicators around financial inputs and cross-jurisdictional cooperation that were regularly scored as declining.

The overall assessment results are summarised in Table 1 with recommendations outlined in Section 6 of the report. Two ratings were provided for Outcomes for each management topic. The overall rating (the first outcome grade) relates to the Authority's effectiveness for all seven outcome criteria (i.e. outcomes relating to social, economic, biodiversity and managerial aspects). The second outcome rating only relates to the effectiveness of achieving biodiversity outcomes separate from the influence of scores for other outcomes.

Table 1. Summary of management effectiveness results for 15 management topics.

Issue	Effectiveness of existing measures to protect and manage						
	Context	Planning	Inputs	Processes	Outputs	Outcomes	
Biodiversity protection	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Overall
						Partially effective	Biodiversity
Indigenous heritage	Partially effective	Mostly effective	Mostly effective	Partially effective	Mostly effective	Mostly effective	Overall
						Mostly effective	Biodiversity
Historic heritage	Partially effective	Partially effective	Partially effective	Mostly effective	Mostly effective	Partially effective	Overall
						Partially effective	Biodiversity
Community benefits	Partially effective	Mostly effective	Partially effective	Partially effective	Mostly effective	Mostly effective	Overall
						Mostly effective	Biodiversity
Water quality protection	Effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Partially effective	Overall
						Partially effective	Biodiversity
Climate change and extreme weather	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Partially effective	Overall
						Ineffective	Biodiversity
Coastal development	Mostly effective	Partially effective	Partially effective	Partially effective	Partially effective	Partially effective	Overall
						Partially effective	Biodiversity
Ports	Mostly effective	Partially effective	Partially effective	Mostly effective	Partially effective	Partially effective	Overall
						Partially effective	Biodiversity
Shipping	Mostly effective	Mostly effective	Partially effective	Mostly effective	Mostly effective	Mostly effective	Overall
						Mostly effective	Biodiversity
Recreation	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Overall
						Mostly effective	Biodiversity
Tourism	Effective	Mostly effective	Mostly effective	Mostly effective	Effective	Effective	Overall
						Mostly effective	Biodiversity
Defence activities	Effective	Effective	Effective	Effective	Effective	Effective	Overall
						Effective	Biodiversity
Research activities	Effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Effective	Overall
						Effective	Biodiversity
Commercial fishing	Mostly effective	Partially effective	Partially effective	Partially effective	Partially effective	Partially effective	Overall
						Partially effective	Biodiversity
Recreational Fishing	Partially effective	Mostly effective	Partially effective	Partially effective	Partially effective	Partially effective	Overall
						Partially effective	Biodiversity

Biodiversity protection is the primary objective for much of the management action taken on the Great Barrier Reef through an array of programs and mechanisms rather a single clearly focused program. Protection of the Region's biodiversity is the primary objective of zoning and most of the other management actions undertaken in the Great Barrier Reef and its catchment. The draft Biodiversity Conservation Strategy provides an overarching framework based on vulnerability assessments for key species and habitats but greater attention to identifying and managing cumulative impacts is needed. In order for protection measures to remain effective, efforts in education, compliance and integrated monitoring to inform adaptive management are essential.

The Traditional Owners of the Great Barrier Reef Region have inherent rights and interests over their sea country, including a lead role in the protection of **Indigenous heritage**. While significant progress has been made effectively engaging with Traditional Owners in the sustainable management of their sea country, further work is needed to maintain these relationships, support co-management and develop a mutually agreed and culturally appropriate process for the integration of Indigenous knowledge into management.

For a number of **historic heritage** matters there is insufficient understanding of their location, condition and trend. Improvements in processes, planning and inputs are needed to revise and implement a comprehensive heritage strategy. A database with spatial capacity will assist proper consideration of the potential impacts from proposed activities on heritage values in the Region.

Community benefits vary according to the understanding and perspective of the beneficiaries. There is likely to be increasing conflict between economic benefits associated with port and coastal development and the aesthetic and recreational benefits. Currently there are no guidelines or benchmarks for assessing or managing community benefits derived from the Region.

While the Authority uses its regulatory powers to manage **water quality** within the Region, it is clear that a whole of government response is needed to address land-based contributions. Reef Plan and water quality guidelines provide specific targets for water quality and are producing positive results. While engagement and partnerships with stakeholders are strong, further efforts are needed to continue the marine monitoring program and strengthen the effectiveness of management actions, including compliance audits at point source discharges.

A systematic approach is in place to plan for and respond to **climate change and extreme weather** impacts on the Great Barrier Reef Region, with an emphasis on adaptation and improving resilience. Risk based approaches are being applied but are not yet integrated into all aspects of management. The long term future for the Region depends on successful global efforts to mitigate climate change; recent information suggests that mitigation efforts so far are not sufficient.

Coastal ecosystems are critical for maintaining health and ecological functions of the Reef. There have been major changes to coastal ecosystems in the catchment and the Authority works with the community to raise awareness. Management of coastal ecosystems is a complex mix of jurisdictions, interest groups and responsibilities with limited coordination and integration. Urgent action and coordination is needed to improve the health of coastal ecosystems to boost the health and resilience of the Great Barrier Reef.

All major **ports** along the Queensland coast are managed by the Queensland Government and to some extent the Department of Sustainability, Environment, Water, Population and Communities. The Authority has limited responsibilities over key port issues such as location, size and amount of dredging, and location of disposal except where there activities occur within the Great Barrier Reef Marine Park. The increase in the number of new and expanded coal ports has resulted in considerable concern for the Reef's health. The complex jurisdictional environment within which ports operate combined with the lack of Authority jurisdiction and policy documents for ports continues to negatively impact on Authority's capacity to avoid, mitigate, offset and adaptively manage the impacts from ports on the Region's values and processes (e.g. connectivity).

The Authority has a limited regulatory role and a strong partnership role with other agencies such as Australian Maritime Safety Authority and Maritime Safety Queensland to manage **shipping** within the Region. A significant increase in shipping traffic is expected, carrying with it increased risks to the environment, social, cultural and heritage values. While comprehensive management arrangements exist for navigation, further efforts are needed to prevent and mitigate impacts from ship discharges, physical damage from groundings, the introduction of marine invasive species, transiting and anchoring.

Recreation is managed predominately through zoning and in partnership with other agencies. A Recreation Management Strategy identifies the major risks and threats associated with recreation and avenues to reduce those risks, but targets and performance measures are needed. For increasing recreational use to be effectively managed, an

improved understanding of cumulative impacts and investment in site planning, supporting infrastructure, compliance, engagement and policy development is needed.

A comprehensive suite of management tools complemented by strong industry partnerships are in place and contribute to managing **tourism** activities in a sustainable manner. While policy and planning are extensive for tourism, these tools are out-dated and require review and harmonisation under an overarching Tourism Management Strategy. Support for the tourism industry is needed through the delivery of education and training opportunities to facilitate understanding and presentation of the Great Barrier Reef and its values.

Defence movements by Navy, Air Force and Army occur throughout the Great Barrier Reef with a focus on training activities at Shoalwater Bay, Cowley Beach and Halifax Bay. The knowledge base for confident management of defence activities in the Great Barrier Reef, both within the Authority and in the wider community, continues to increase as a result of consultative meetings and reporting. Efforts to minimise environmental impacts are to date resulting in effective outcomes.

The Marine Park is regarded nationally and internationally, as a research hub, with the Authority subsequently benefitting through science underpinning its management. **Research activities** are well managed and through a combination of regulatory tools and co-operative arrangements. Improved understanding of the cumulative impacts of research activities and updates to existing policy and management arrangements are needed to ensure high use research sites retain their ecosystem function.

The Authority has a direct role in ensuring that **commercial fishing** is ecologically sustainable in the Marine Park and has an advisory role to other agencies. There is a reasonable understanding of commercial catch but risks are generally not well known for the level of interactions with species of conservation concern, as highlighted through completion of vulnerability assessments. Illegal fishing is considered to be a continuing risk to the environmental sustainability of commercial fishing. Technology improvements are needed to address this risk.

The Authority has a direct role in ensuring that **recreational fishing** is ecologically sustainable in the Marine Park and has an advisory role to other agencies. Recreational fishing is one of the most significant recreational activities undertaken on the Reef. Compliance of recreational fishing is supported with education and awareness programs.

Ecosystem effects and cumulative impacts of this activity are poorly understood, but are likely to be most concentrated in inshore and reef areas close to major population centres.

Table of Contents

Executive Summary	3
1. Introduction	12
1.1 The strategic assessment	12
1.2 Management effectiveness	12
2. Assessment Methods	17
2.1 Management effectiveness	17
2.2 Management tools — stakeholder assessment.....	27
2.3 Stakeholder input.....	27
3. Summary assessment by topic.....	29
3.1 Biodiversity protection.....	29
3.2 Indigenous heritage	33
3.3 Historic heritage.....	37
3.4 Community benefits	40
3.5 Water Quality Protection	43
3.6 Climate change and extreme weather.....	47
3.7 Coastal development (protection of coastal ecosystems).....	52
3.8 Ports.....	57
3.9 Shipping.....	62
3.10 Recreation.....	66
3.11 Tourism	69
3.12 Defence activities	74
3.13 Research Activities	77
3.14 Commercial Fishing.....	81
3.15 Recreational fishing	85
4. Elements of effectiveness.....	88
4.1 Context	88
4.2 Planning.....	89
4.3 Inputs.....	90
4.4 Process.....	90

4.5	Outputs	91
4.6	Outcomes	92
4.7	Summary	93
5.	Survey results: effectiveness of management tools	95
6.	Recommendations	97
6.1	Overview.....	97
6.2	Resourcing	97
6.3	Biodiversity Protection	98
6.4	Indigenous Heritage.....	99
6.5	Historic heritage.....	99
6.6	Community benefits	99
6.7	Water quality protection	99
6.8	Climate change and extreme weather.....	100
6.9	Coastal development	100
6.10	Ports.....	100
6.11	Shipping	101
6.12	Recreation.....	101
6.13	Tourism	101
6.14	Defence activities	101
6.15	Research activities	102
6.16	Commercial fishing.....	102
6.17	Recreational fishing.....	102
6.18	Management tools.....	102
7.	References.....	104
	APPENDIX 1 – Calculation of grades for each topic	106
	APPENDIX 2 – Management Effectiveness Grading Statements.....	110

1. Introduction

1.1 The strategic assessment

The Australian and Queensland governments are working to undertake a comprehensive strategic assessment of the Great Barrier Reef World Heritage Area and adjacent coastal zone. The strategic assessment will help identify, plan for, and manage existing and emerging risks so the values of the Great Barrier Reef are protected and appropriately managed. The Great Barrier Reef Marine Park Authority (the Authority) is leading the marine component of the strategic assessment, while the Queensland Government is leading the coastal component.

The requirements for a strategic assessment are set out in the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and are focused on ensuring that matters of national environmental significance are given proper consideration in statutory land use planning and natural resource management decisions across the relevant jurisdictions.

As part of the strategic assessment, the Authority is required to assess the effectiveness of its management arrangements to protect the values that underpin the values of the Great Barrier Reef Region (the Region).

1.2 Management effectiveness

Management effectiveness evaluation is defined as the assessment of how well a protected area is being managed — primarily the extent to which it is protecting values and achieving goals and objectives. The International Union for Conservation of Nature (IUCN) World Commission on Protected Areas has developed a framework for assessing management effectiveness¹ which has been widely applied around the world to develop specific assessment systems designed to meet the need to evaluate management effectiveness in different circumstances.

Good management needs to be founded on a thorough understanding of the individual conditions related to protected areas, be carefully planned and implemented, and include regular monitoring, leading to changes in management as required. The management cycle (Figure 1) identifies six important elements in this process that should, ideally, all be assessed if effectiveness of management is to be fully understood.

Effective management:

- begins with understanding the **context** of the protected area, including its values, the threats it faces and opportunities available, its stakeholders, and the management and political environment
- progresses through **planning**: establishing vision, goals, objectives and strategies to conserve values and reduce threats
- allocates **inputs** (resources) of staff, money and equipment to work towards the objectives
- implements management actions according to accepted **processes**
- eventually produces **outputs** (goods and services, which should usually be outlined in management plans and work plans)
- results in impacts or **outcomes**, hopefully achieving defined goals and objectives.

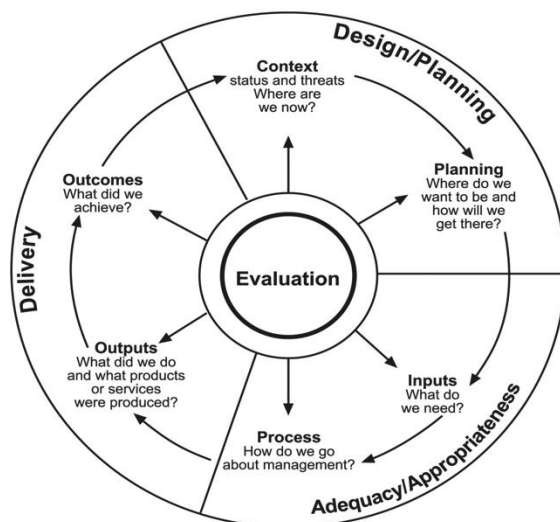


Figure 1: The framework for assessing management effectiveness of protected areas¹

The criteria used to assess each element of the framework are outlined in Table 2.

Table 2. IUCN-WCPA Framework for assessing management effectiveness of protected areas and protected area systems (from Hockings *et al.*, 2006)

	Design		Appropriateness/ adequacy		Delivery	
Elements of management cycle	Context	Planning	Inputs	Process	Outputs	Outcomes
Focus of evaluation	Assessment of importance, threats and policy environment	Assessment of protected area design and planning	Assessment of resources needed to carry out management	Assessment of the way in which management is conducted	Assessment of the implementation of management programmes and actions; delivery of products and services	Assessment of the outcomes and the extent to which they achieved objectives
Criteria that are assessed	Significance/ values Threats Vulnerability Stakeholders National context	Protected area legislation and policy Protected area system design Protected area design Management planning	Resources available to the Authority Resources available to the protected area	Suitability of management processes and the extent to which established or accepted processes are being implemented	Results of management actions Services and products	Impacts: effects of management in relation to objectives

Evaluation that assesses each of the elements of Figure 1 (and the links between them) provides a comprehensive picture of management effectiveness. All six elements shown in Figure 1 are important in developing an understanding of how effectively protected areas are being managed. They reflect three large “themes” of management: **design** (context and planning), **appropriateness/adequacy** (inputs and processes) and **delivery** (outputs and outcomes). It is important to assess all six elements in order to fully understand management effectiveness. For example, only assessing outcomes may indicate the objectives have been achieved but leaves it unclear whether it was due to good luck or good management. Conversely, if an outcome is not achieved then unless all six elements are assessed, it is hard to know if it was due to insufficient resources (inputs), poor planning or a problem with the process.

The management effectiveness for the *Great Barrier Reef Outlook Report 2009*² was developed using this framework and assessed all six elements. The *Outlook Report* assessment addressed the overall management of activities and issues that occur within the Great Barrier Reef, rather than assessing each individual Authority’s management of any particular issue or activity.

Unlike the *Outlook Report* that considered management activities across the Australian and Queensland governments, this evaluation focuses on the management activities within the Authority's jurisdiction and any joint management arrangements with the Queensland Government (for example, joint permitting arrangements and the Field Management Program). While based on the *Outlook Report*, this evaluation has been broadened to take more explicit account of matters of national environmental significance, including the outstanding universal value of the Great Barrier Reef World Heritage Area.

As per sections 4 and 8 of the Strategic Assessment terms of reference the direct, indirect, consequential and cumulative impacts, as well as condition and trend of the values underpinning matters of national environmental significance, are considered. In addition, the assessment considered whether the Authority's Program provides certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be unacceptable. The effectiveness of the range of management tools used to manage the values of the Great Barrier Reef are also considered (see Table 3)

Table 3. List of the types of management tools (and their purpose) that were considered as part of this assessment

Management tool	Purpose
Great Barrier Reef Marine Park Act and Regulations	The <i>Great Barrier Reef Marine Park Act 1975</i> and Regulations govern the protection and management of the Great Barrier Reef Marine Park. They provide for the Zoning Plan and plans of management, and govern permitting decisions. They include offence and penalty (e.g. prohibition of mining).
Zoning Plan	Provides spatial control of use (predominantly extractive activities) and, to a lesser extent, access within the Great Barrier Reef Marine Park. Establishes the need for permits for some uses in the Marine Park, such as tourism, infrastructure and research. There are complementary arrangements in adjacent areas under Queensland jurisdiction.
Management plans	Set out specific arrangements for areas, species, ecological communities or activities (e.g. Cairns Area and Whitsundays Plans of Management). They complement zoning and permitting arrangements. Some components are legally binding.
Permits	Facilitate opportunities for commercial use of the Great Barrier Reef. Permits are issued mainly for marine tourism, research, harvest fisheries, dredging and infrastructure (e.g. jetties and marinas) and include detailed environmental impact assessments. Joint Queensland Government–Authority permits are issued for activities which operate across jurisdictions. Fisheries licences are issued by the Queensland Government.
Traditional Owner Agreements	Formal agreements describing how Traditional Owner groups work with Australian and Queensland governments to manage traditional use activities in sea country. Indigenous Land Use Agreements are agreements between one or more native title groups and other people or

Management tool	Purpose
	parties about the use and management of land and waters.
Compliance	Activities that encourage adherence with legal requirements, both through education and enforcement. Includes formal (e.g. the Field Management Program jointly undertaken with the Queensland Government) and informal (e.g. the Eyes and Ears Incident Reporting program) activities.
Policy documents	Specific arrangements that guide decision makers and the public. These include: <ul style="list-style-type: none"> • strategies which outline a long-term approach to managing an issue (e.g. <i>Recreation Management Strategy</i>) • policies which provide a statement of principles to guide decision-making (e.g. Environmental Impact Management Policy) • site management arrangements which are localised plans for use of sites with significant values and/or use issues (e.g. Clump Point Site Plan) • position statements which outline the Authority's position on an issue where it has a strong interest but no direct regulatory control (e.g. Position statement on Indigenous participation in tourism) • Guidelines which detail recommended practice in support of a policy or position statement (e.g. guidelines on coral transplantation).
Site infrastructure	On-ground infrastructure installed to better protect the values of individual sites (e.g. reef protection markers, public moorings, signs). Implemented and maintained by the Authority and Queensland Parks and Wildlife Service through the Field Management Program.
Partnerships	Formal arrangements, often executed through a memorandum of understanding or an agreement to enable a partnership approach to management of the Marine Park (e.g. intergovernmental agreement with the Queensland Government, Reef Advisory Committees, Local Marine Advisory Committees, memorandum of understanding with a government authority and partnership with Ecotourism Australia).
Education and community awareness	Programs to inform and motivate members of the community about the Great Barrier Reef and its protection and management, including ways they can contribute (e.g. Reef HQ, the Authority's website, information sheets, zoning maps).
Stewardship and best practice	Voluntary arrangements with stakeholders that provide the opportunity for contributions to protection and management (e.g. Reef Guardian Programs, Pro-vision Reef Stewardship Action Plan, best environmental practices).
Research and monitoring	Undertaken or commissioned by the Authority to better inform decisions on protection and management of the Great Barrier Reef (e.g. Reef Health and Impact Surveys, Eye on the Reef monitoring, climate change research programs).

2. Assessment Methods

2.1 Management effectiveness

The assessment system follows that used in the *Outlook Report* but focuses solely upon the aspects of management undertaken by the Authority as distinct from other agencies. It comprises a qualitative assessment of performance against all six elements of the IUCN Management Effectiveness Framework (context, planning, inputs, processes, outputs and outcomes).

While the majority of thematic areas used in the *Outlook Report* are repeated in this report, additional topics have been included to address the requirements of a strategic assessment under the EPBC Act. In particular, ports and shipping were split into separate topics to reflect the concerns about port development. Indigenous heritage and historic heritage are also considered separately, as are commercial and recreational fishing. The 15 management topics considered are as follows:

Values

- Biodiversity protection
- Indigenous heritage
- Historic heritage
- Community benefits
- Water quality protection

Drivers

- Climate change and extreme weather
- Coastal development (protection of coastal ecosystems)

Activities

- Ports
- Shipping
- Recreation (non-extractive)
- Tourism (marine-based)
- Defence activities
- Research activities
- Commercial fishing
- Recreational fishing

The management topics were not weighted and the performance assessments need to be interpreted in the context of differences in scale and complexity (Table 4). Criteria were

developed under each framework element with a total of 45 indicators across the six elements (Table 5). Information relevant to assessing performance against each of the indicators was assembled by relevant Authority staff and provided to the independent assessors who reviewed this information and also sought additional information from relevant research papers and other source documents, stakeholder workshops and discussions. The independent assessors then rated performance, providing a justification for the rating and a documentation of the main evidence they considered in reaching this judgement. A four point rating scale commonly used in management effectiveness evaluation systems was adopted. The rating scale was 1 = 0-20% of optimal condition, 2 = 21-50% of optimal condition, 3 = 51-80% of optimal condition, 4 = 81-100% of optimal condition. An example of the assessment process for biodiversity protection outcomes is shown at Table 6. The table shows an example of how ratings were assigned for a management topic against each indicator. These individual ratings were added and then scaled to produce an overall rating of effective, mostly effective, partially effective or ineffective (see page 20). Criteria varied slightly from the *Outlook Report*, refined to take account of the assessment experience and lessons from other assessments since then. Additional indicators were incorporated to align with the requirements of the strategic assessment terms of reference. In addition, some criteria were deleted as they were considered no longer relevant to the strategic assessment, or had proved difficult to reliably assess during the *Outlook Report* process in 2009.

Table 4. Scale and complexity of issues addressed in Management Effectiveness assessment.

Issue	Scale	Complexity		
		Social	Bio-physical	Jurisdictional
Biodiversity protection	Region-wide	minor	major	moderate
Indigenous heritage	Region-wide but variable in intensity	major	moderate	moderate
Historic heritage	Region-wide	moderate	minor	moderate
Community benefits	Region-wide	major	moderate	minor
Water quality protection	Great Barrier Reef catchment and mainly inshore waters	major	major	major
Climate change and extreme weather	Region-wide	major	major	major

Coastal development (ecosystem protection)	Coastal areas and mainly inshore waters	major	major	major
Ports	Concentrated around ports	moderate	major	major
Shipping	Concentrated around shipping lanes	moderate	moderate	moderate
Recreation (non extractive)	Region-wide but variable in intensity	major	moderate	moderate
Tourism	Region-wide but variable in intensity	major	moderate	moderate
Defence activities	Limited in area and duration	minor	minor	minor
Research activities	Region-wide but limited in intensity	minor	moderate	minor
Commercial fishing	Region-wide but variable in intensity	moderate	major	moderate
Recreational fishing	Region-wide but variable in intensity	moderate	major	moderate

Table 5. Indicators used to assess effectiveness of management for each management topic

CONTEXT
CO1 The values that underpin matters of national environmental significance in the Great Barrier Reef (including outstanding universal value of the Great Barrier Reef World Heritage Area) relevant to.....are understood by managers.
CO2 Direct and indirect impacts associated with.....are understood by managers.
CO3 Consequential and cumulative impacts associated with.....are understood by managers.
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant toare known by managers.
CO5 The stakeholders relevant to.....are well known by managers.
PLANNING
PL1 There is a planning system in place that effectively addresses.....
PL2 The planning system for.....addresses the major pressures and drivers impacting on the Great Barrier Reef's values.
PL3 Actions for implementation regarding.....are clearly identified within the plan.
PL4 Clear, measurable and appropriate objectives for management of.....have been documented.
PL5 The main stakeholders and/or the local community are effectively engaged in planning to address.....
PL6 Sufficient policy currently exists to effectively address.....
PL7 There is consistency across jurisdictions when planning for.....

PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable.
INPUTS
IN1 Current financial resources are adequate and prioritised to meet management objectives to address.....
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address.....
IN3 The right skill sets and expertise are currently available to the managing organisations to address.....
IN4 The necessary biophysical information is currently available to address.....
IN5 The necessary socio-economic information is currently available to address.....
IN6 The necessary traditional (Indigenous) knowledge is currently available to address.....
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address.....
PROCESSES
PR1 The main stakeholders and/or industry(ies) are effectively engaged in the ongoing management of.....
PR2 The local community is effectively engaged in the ongoing management of.....
PR3 There is a sound governance system in place to address.....
PR4 There is effective performance monitoring to gauge progress towards the objective(s)
PR5 Appropriate training is available to the managing agencies to address.....
PR6 Management of.....is consistently implemented across the relevant jurisdictions.
PR7 There are effective processes applied to resolve differing views/ conflicts regarding.....
PR8 Direct and indirect impacts of activities associated with.....are appropriately considered.
PR9 Consequential and cumulative impacts of activities associated with.....are appropriately considered.
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding.....
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding.....
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding.....
PR13 Relevant standards are identified and being met regarding.....
PR14 Targets have been established to benchmark management performance.
OUTPUTS
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for.....
OP2 Implementation of management documents and/or programs relevant to.....have progressed in accordance with timeframes specified in those documents.
OP3 The results (in OP1 above) have achieved their stated management objectives.
OP4 To date, products or services have been produced in accordance with the stated management objectives for.....
OUTCOMES
OC1 The relevant managing agencies are to date effectively addressing.....and moving towards the attainment of the desired outcomes.
OC2 The outputs relating to.....are on track to ensure the values of the Great Barrier Reef are protected (refer CO1).
OC3 The outputs (refer OP1 and 3) for.....are reducing the major risks and the threats to the Great Barrier Reef.
OC4 Use of the Great Barrier Reef relating to.....is demonstrably environmentally sustainable.
OC5 Use of the Great Barrier Reef relating to.....is demonstrably economically sustainable.

OC6 Use of the Great Barrier Reef relating to.....has demonstrably enhanced community understanding and/or enjoyment.

OC7 The relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address.....

Table 6. Assessment of management effectiveness for outcome indicators for biodiversity protection

1 = 0-20% of optimal condition, 2= 21-50% of optimal condition, 3 = 51-80% of optimal condition, 4 = 81-100% of optimal condition

Component of Management	Rating	Justification	Evidence	Confidence	Trend
OC1...the relevant managing agencies are to date effectively addressing biodiversity management and moving towards the attainment of the desired outcomes.	3	<ul style="list-style-type: none"> • Significant increase in GBRMPA attention to biodiversity management evident in their programs leading up to and following Outlook 2009 • Revised zoning plan providing a stronger basis for biodiversity conservation in the GBR • <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> provides a basis for a more coordinated program aimed at biodiversity management • Cumulative impacts still not addressed well. • Water quality and coastal management – ongoing problems – see Brodie 2012 – changes in environmental governance, especially in relation to coastal planning and development in Qld are likely to impede progress. 	<ul style="list-style-type: none"> • There are a number of programs looking at the effects of zoning. Early indications are that zoning is working and preliminary research shows fish numbers and average size are increasing (e.g. James Cook University research in the Whitsunday Islands found numbers of both coral trout and stripey sea perch were more than 1.7 times higher and average fish size was larger) • Research conducted by the Australian Institute of Marine Science, on offshore reefs from Cairns to Gladstone, found coral trout is now about 50 per cent more abundant in Marine National Park (Green) Zones. 	adequate	improving
OC2... the outputs relating to biodiversity management are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	2	<ul style="list-style-type: none"> • Recent data indicating 50% decline in coral cover and relative contribution of causal factors (cyclones, COTS and bleaching) indicative of extent of cumulative and consequential impacts • Recent report on coastal ecosystems prepared by GBRMPA has identified significance and extent to cumulative impacts on coastal ecosystems and the GBR Region. • dugong numbers declining • Green turtles at risk, but loggerhead numbers improving? – See outlook 2009 	<ul style="list-style-type: none"> • De'ath et al. 2012 The 27–year decline of coral cover on the Great Barrier Reef and its causes <i>PNAS</i> www.pnas.org/cgi/doi/10.1073/pnas.1208909109 • Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, Great Barrier Reef Marine Park Authority, Townsville. • McCook et al 2010, Adaptive management of the GBR . . . good news for rezoning - <i>PNAS</i> • Brodie et al 2012 – review of management of the not so GBR – bad news regarding water quality Est Coast Shelf Sci 	adequate	declining

<p>OC3... the outputs (refer OP1 & 3) for biodiversity management are reducing the major risks and the threats to the Great Barrier Reef</p>	<p>3</p>	<ul style="list-style-type: none"> • Water quality and resilience enhancement efforts should improve prospects for biodiversity conservation especially inshore and southern regions of the GBR but may take many years to assess change in condition trend of biodiversity • other pressures from coastal development, ports and shipping climate change, are increasing so overall impact on biodiversity conservation is uncertain 		<p>limited</p>	<p>declining</p>
<p>OC4... use of the Great Barrier Reef relating to biodiversity management is demonstrably environmentally sustainable</p>	<p>2</p>	<ul style="list-style-type: none"> • data show both improvements (humpback whales, fish in “green zones” but also significant declines (coral cover inshore and southern GBR, dugong, etc • 5 of 6 species of turtles in GBR have declined • Draft status and trend assessment shows many more declines in species that stable or increasing species populations but status is uncertain for many groups because of a lack of data • cumulative impacts, especially relating to coastal management and lack of capacity to control these impacts is of concern 	<ul style="list-style-type: none"> • Draft <i>Status of habitats and species</i> document • Outlook 2009 	<p>limited</p>	<p>declining</p>
<p>OC5... use of the Great Barrier Reef relating to biodiversity management is demonstrably economically sustainable</p>	<p>3</p>	<ul style="list-style-type: none"> • Tourism is major industry underpinned by biodiversity of Great Barrier Reef • Fisheries is major industry also underpinned by biodiversity • External market influences and costs of production are making some fisheries operating within the Great Barrier Reef unviable. • Recreational fishing on the other hand is an important contributor to economic sustainability of regional communities. 		<p>adequate</p>	<p>stable</p>

<p>OC6... use of the Great Barrier Reef relating to biodiversity management has demonstrably enhanced community understanding and/or enjoyment</p>	<p>4</p>	<ul style="list-style-type: none"> • Surveys show 80% of Australians and 70% of Queensland visitors satisfied with their Great Barrier Reef experience • Uptake of Reef Guardian program within community is indicative of community interest in and concern for the GBR • A significant move forward since Outlook 2009 has been a stronger focus on embedding GBRMPA key communication messages as part of exhibition development in the GBR Aquarium. This provides a community engagement / education opportunity that helps to distil often quite complex and scientific based information into thematic formats that are more easily understood 	<p>Visitor satisfaction data: 93.9% of respondents to the 2012 Reef HQ Visitor Satisfaction Survey said that that believed they had an improved understanding of the issues relating to the GBR as a result of visiting Reef HQ Aquarium. Also, 88.7% said they had a better understanding of how they can protect/conserv the GBR as a result of visiting Reef HQ Aquarium.</p>	<p>limited</p>	<p>improving</p>
<p>OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address biodiversity management.</p>	<p>4</p>	<ul style="list-style-type: none"> • Many examples of partnerships <ul style="list-style-type: none"> ○ Reef Guardian program ○ LMACs and RACs ○ Eye on the Reef program • Existing liaison arrangements and specialist staff within GBRMPOA to manage these relationships 	<ul style="list-style-type: none"> • CapReef • LMACs • Reef Guardian Schools • Lots of informal partnerships but the effectiveness of these partnerships is not easily measured (Seagrass Watch is an exception with regular performance assessment and continuous improvement) 	<p>adequate</p>	<p>improving</p>

Scores for each element of the IUCN framework were scaled to provide a total score out of 40 and a rating system was developed to convert scores to a rating of management as follows:

- If the total score is between 35–40, then the overall grading statement for that element is **effective**
- If the total score is between 27–34, then the overall grading statement for that element is **mostly effective**
- If the total score is between 16–26, then the overall grading statement for that element is **partially effective**
- If the total score is between 0–15, then the overall grading statement for that element is **ineffective**.

The refined assessment system was reviewed in a workshop attended by key staff from the Authority. Staff provided the independent assessors with data sources and supporting evidence relevant to making a judgement about performance for each of the 45 indicators for each management topic.

The independent assessors reviewed evidence and assigned an initial rating to each of the indicators. The rating was agreed by consensus among the three independent reviewers following discussion of the available evidence. The rating and the reasons for assigning the rating (such as key points of evidence or other considerations relating to the rating) were noted in a standard proforma. The ratings and reasons were subsequently discussed with staff from the Authority to ensure all relevant supporting evidence had been considered. Based on this open and iterative process of discussion and review, the reviewers adjusted a number of assessments where improved knowledge and understanding indicated that the original ratings were either too high or too low and the list of evidence supporting the assessment was refined as necessary.

For each indicator, the trend and confidence with which the scores were given was also provided. For trend, the categories included: improving, deteriorating, stable or no clear trend. For confidence the categories were: adequate high-quality evidence and high level of consensus, limited evidence or limited consensus, or very limited evidence—assessment based on anecdotal knowledge. A summary of the scores is shown in Appendix 1 and the detailed scores, justification, evidence, trend and confidence for each indicator for each topic are shown in Appendix 2.

Outcomes are reported as a summary across all seven outcome indicators and separately for biodiversity outcomes based on the average of indicators OC2, OC3 and OC4. The reporting of biodiversity outcomes is included to permit identification of the effectiveness of biodiversity conservation separate from the influence of scores for other outcomes relating to social, economic and managerial objectives.

2.2 Management tools — stakeholder assessment

Members of Local Marine Advisory Committees (LMACs), Reef Advisory Committees (RACs) and participants in the regional strategic assessment workshops were asked to provide their views on the strengths and weaknesses of the various management tools used by the Authority to manage the 15 management topics addressed in this assessment. Members of the LMACs, RACs and workshop participants were able to provide this information electronically using Survey Monkey.

Ninety-five respondents provided 222 assessments of the management topics. The majority of respondents (69 per cent) were members of Local Marine Advisory Committees, while 16 per cent were members of Reef Advisory Committees. A third of the respondents had attended one of the strategic assessment workshops. A small number of respondents (6) are Traditional Owners. The average length of time that respondents had been involved in the Great Barrier Reef was 18.5 years but the length of experience was highly variable ranging from 0 to 60 years. Only three respondents resided outside Queensland, while a further 11 lived in Queensland outside the Great Barrier Reef adjacent coast. The remaining respondents all lived north of Bundaberg.

The assessment allowed respondents to choose the management topics that they wished to address (they could respond to as many or as few as they wished). For each management topic assessed participants were asked to indicate strengths and weaknesses in the Authority's management of the issue and then to rate the effectiveness of the use of management tools on a four point ordinal scale (very effective, mostly effective, partially effective, not effective). They could also indicate if they had no opinion or believed the tool was not applicable to that topic.

Respondents were only asked to assess tools the Authority had indicated were applicable to management of a particular issue, for example permits are not relevant to recreational fishing.

2.3 Stakeholder input

The methodology for undertaking the assessment of management effectiveness was presented at the Local Marine Advisory Committee Chairs' workshop in Townsville in October 2012, and at three stakeholder workshops coordinated by the Authority in Townsville, Cairns and Rockhampton in December 2012.

Independent reviewers presented the preliminary assessment of management effectiveness and the assessment results concerning the management tools at the stakeholder workshops. Participants were provided an opportunity to discuss results of particular topics. Feedback from stakeholders has been included in the summary statement for each topic in section 3.

3. Summary assessment by topic

3.1 Biodiversity protection

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Overall
					Partially effective	Biodiversity

The Authority is the lead agency for managing biodiversity protection in the Region and uses a number of regulatory and non-regulatory tools.

Protection of the biodiversity of the Great Barrier Reef Region is the primary objective for much of the management action undertaken in the Great Barrier Reef and its catchment and forms part of the primary objective under the *Great Barrier Reef Marine Park Act 1975*. Management of biodiversity is undertaken using an array of tools, principally the Zoning Plan, but also management plans, permits, policy documents, site management, stewardship, education and best practices. A number of Queensland and Commonwealth agencies also have responsibility for protection of biodiversity in the Region. This potentially complex management regime has been simplified through inter-governmental coordination and cooperation.

Evidence has shown a declining trend in coral cover over time³, with an estimated 50 per cent decline in coral cover on the Great Barrier Reef over the past 27 years⁴, which is cause for considerable concern. This highlights the importance of considering cumulative and consequential impacts which are currently less well understood by managers, although these issues are now receiving greater attention in assessments and other considerations of the Authority.

Threat abatement plans, recovery plans and wildlife conservation plans under the EPBC Act, as well as specific on-the-water actions by the Authority (for example, reef protection markers and special management areas), are in place to address individual biodiversity issues for a small number of species and habitats that occur within the Region. Some of those plans, such as the recovery plan for marine turtles, have not been updated in many years. With regard to iconic and threatened species, such as dugong and some marine turtles, these plans and actions have had some effect in stabilising populations. Status and

trend assessments prepared by the Authority indicate that more species are continuing to decline than have stabilised or are increasing resulting in the partially effective biodiversity outcomes. However, status and trend are uncertain for many groups because of lack of data.

The information base for biodiversity protection continues to improve through scientific research and the compilation and assessment of information by Authority staff (such as vulnerability assessments and assessment of status of habitats and species). Gaps in knowledge — for example status and trend for some specific plant and animal groups, habitats and ecosystems — are well recognised. Traditional Owners are increasingly involved in biodiversity management, though their knowledge and understanding is often not available or accessible for decision making.

Planning for biodiversity protection has been significantly improved since the *Outlook Report* through preparation of the draft *Great Barrier Reef Biodiversity Conservation Strategy 2012* and the *Informing the Outlook for the Great Barrier Reef Coastal Ecosystems* technical report. However, targets in the draft *Biodiversity Conservation Strategy* tend to be process and output focused and should be complemented by additional outcome focused targets. On a Reef-wide scale, the Zoning Plan and the complementary plans for the adjacent Great Barrier Reef Coast Marine Park have made the most significant contribution to biodiversity protection. These have provided a robust framework and are already demonstrating positive results.⁵ However, the zoning provisions only address biodiversity protection from direct extractive uses, particularly fishing. Major threats to biodiversity, such as climate change, coastal development (with the exception of Commonwealth managed Islands) and catchment runoff are not addressed by either the zoning provisions or individual biodiversity protection measures, although programs such as the *Reef Water Quality Protection Plan* which are designed to improve water quality will have a positive impact on biodiversity. Many of the actions to address biodiversity are long term and will take time to manifest an improvement in biodiversity outcomes.

Major risks and threats to biodiversity protection are well documented, and risk assessments and management procedures are in place for the major threats. Vulnerability assessments are being prepared for key species and habitats. These provide comprehensive documentation of risks to biodiversity values and mitigation measures within the Region. However, there remains little capacity to track the resource allocations that specifically target biodiversity objectives or to assess which outputs and outcomes result from management

actions. Secure long-term funding for monitoring will be needed to provide data on changes to biodiversity outcomes over time.

Key stakeholders in biodiversity protection have been identified and are generally well known to managers especially through Reef Advisory Committees, Local Marine Advisory Committees and other consultative mechanisms.

A summary of tools used by the Authority in managing biodiversity, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory tools
Great Barrier Reef Marine Park Act and Regulations	Partnerships (e.g. memoranda of understanding, Reef Advisory Committees)
Great Barrier Reef Marine Park Zoning Plan 2003	Education and community awareness (e.g. zoning maps, Reef HQ)
Management plans (e.g. plans of management)	Stewardship and best practice (e.g. Reef Guardians program, best environmental practices)
Joint permits (with Queensland)	
Compliance	Research and Monitoring (Eye on the Reef monitoring, commissioned research)
Policy documents (e.g. policies, position statements, site management plans)	
Site infrastructure (e.g. reef protection markers, public moorings)	

Partner agencies role (lead, partner, advisory) include:

- The Authority has an advisory role to the Department of Sustainability, Environment, Water, Population and Communities for actions that are likely to impact a matter of national environmental significance in the Great Barrier Reef World Heritage Area (for example, development occurring on land that may impact the Marine Park) and a joint responsibility for assessment of these matters within Great Barrier Reef Marine Park.
- The **Department of Sustainability, Environment, Water, Population and Communities** takes a lead role in the development of threat abatement plans and recovery plans for threatened species and ecological communities.
- **Queensland Parks and Wildlife Service** has a lead role in the management of biodiversity in the adjoining Great Barrier Reef Coast Marine Park, the Queensland coastal zone and the 980 islands in the Great Barrier Reef World Heritage Area.
- **Research institutions** provide improved knowledge about the Region and advice on its implications for management.

Effectiveness of management tools as assessed by stakeholders

Surveyed stakeholders considered the Zoning Plan to be the most effective of the management tools used to manage biodiversity conservation in the Marine Park. Zoning, the Great Barrier Reef Marine Park Act and Regulations, education and community awareness, plans of management, and stewardship and best practice were considered to be effective or mostly effective by more than 50 per cent of the respondents. Permits and compliance were seen as the weakest tools in biodiversity protection.

Zoning, along with education and community awareness, were singled out as management strengths. Problems raised by jurisdictional limitations on the Authority to manage activities in the coastal zone and commercial fisheries were commonly cited as weaknesses. Recommendations for improvement included increased field presence and compliance action with greater penalties for breaches.

Workshop participants acknowledged that the Authority undertook an extensive biodiversity protection program; however, they expressed concern that the work being undertaken was not sufficient to protect the values of the reef.

3.2 Indigenous heritage

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Partially effective	Mostly effective	Mostly effective	Partially effective	Mostly effective	Mostly effective	Overall
					Mostly effective	Biodiversity

The Authority has a lead role in the protection of Indigenous heritage in the Region.

Aboriginal and Torres Strait Islander peoples are the Traditional Owners of the Great Barrier Reef Region. There are more than 70 Aboriginal and Torres Strait Islander Traditional Owner clan groups that maintain heritage values for their land and sea country. These values may be cultural, spiritual, economic, social or physical, and demonstrate continuing connections with the Reef and its natural resources.

Traditional Owners have recognised inherent rights and interests over their sea country in which the Authority has a management responsibility. Key management measures for Indigenous heritage include partnerships, education and community awareness, stewardship and best practise, legislation and Traditional Use of Marine Resources Agreements and Indigenous Land Use Agreements

The Authority acknowledges the Convention on Biological Diversity that states in Article 10, Sustainable Use of Components of Biological Diversity, that each contracting party shall, as far as possible and as appropriate (among other things):

“Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements”.

Knowledge of Indigenous values is improving with the Reef Rescue Land and Sea Country Indigenous Partnerships Program and the development of Traditional Use of Marine Resource Agreements. However, direct and indirect impacts, cumulative impacts associated with traditional use of marine resources, and the less tangible Indigenous heritage such as traditional knowledge and maintenance of cultural practice are not widely available and

therefore not well understood nor considered across the Authority. The importance of the Reef in Indigenous economies is also not well understood and not incorporated fully into management.

Planning for Indigenous heritage was considered in the *Heritage Strategy*.⁶ Actions are included in this document, although there are no targets or timeframes associated with the actions. The Reef Rescue Land and Sea Country Indigenous Partnerships Program articulates a set of objectives and targets to ensure “***the continued use, support and reinvigoration of traditional ecological knowledge to underpin biodiversity conservation***”. This program will be evaluated at its completion, however to date there has been 100 per cent completion against milestones. The Authority’s Corporate Plan also includes specific objectives concerning working with Aboriginal and Torres Strait Islanders to take into account traditional affiliations, culture, heritage values and rights of management in the Marine Park.

The Australian Government, under the Caring for our Country initiative, committed \$10 million over five years towards the Reef Rescue Land and Sea Country Indigenous Partnerships Program in 2008. This funding expires in June 2013. Lack of ongoing core funding for this area is of great concern, especially as the current relationship with Traditional Owners has taken many years to establish.

Identifying Traditional Owners who can speak for country can be difficult. The Authority has also established the Indigenous Reef Advisory Committee. This brings together expertise and experience in Indigenous partnership initiatives and sea country management from within the Great Barrier Reef and other parts of Australia to provide issues-based advice that informs the operations of the Authority. One of the benefits of the Traditional Use of Marine Resources Agreement program is the relationship between sea country and a Traditional Owner group that is identified and agreed upon as part of the Traditional Use of Marine Resources Agreement development process.

Sea Country Plans, such as the Kuku Yalanji example, have been developed by Traditional Owners for their own country. This plan identifies values, planning needs and management outcomes and is funded by the Authority and the Department of Sustainability, Environment, Water, Population and Communities through a small grants program. The environment impact management assessment processes need to consider these plans to ensure permitted activities are consistent with community plans. The Field Management Program

also includes planning, development, engagement of Traditional Owners, training, mentoring, resourcing, monitoring, compliance, planning and reporting.

Traditional use of marine resources is the undertaking of activities as part of Aboriginal and Torres Strait Islander people's cultures, customs or traditions for the purpose of satisfying personal, domestic or communal needs.

The framework for Traditional Use of Marine Resources Agreements complements existing community-based measures developed by some Traditional Owner groups to manage their use of some of these resources and recognises entitlements enshrined in the *Native Title Act 1993*. These agreements promote the sustainable use of threatened species such as dugong and turtle, and iconic species such as barramundi cod and giant clams within the Marine Park. There are currently five Traditional Use of Marine Resource Agreements and one Indigenous Land Use Agreement covering more than 20 per cent of the Great Barrier Reef, engaging 14 Traditional Owner clan groups (jointly signed by the Authority and Queensland Government).

While progress has been made in engaging with key Indigenous stakeholders in the Great Barrier Reef, further work is needed to develop a mutually agreed and culturally appropriate process for joint planning. An Indigenous cultural heritage strategy would enable a shared vision to be developed with Traditional Owner groups with actions and timeframes for implementation. The strategy should include protocols for managing culturally sensitive information within the Authority and externally.

A summary of tools used by the Authority in the protection of Indigenous heritage, and which were assessed as part of this review include:

Regulatory tools	Non-regulatory tools
<p>Great Barrier Reef Marine Park Act and Regulations</p> <p>Great Barrier Reef Marine Park Zoning Plan 2003</p> <p>Joint permits (with Queensland)</p> <p>Traditional Use of Marine Resource Agreements</p> <p>Management plans (e.g. plans of management)</p> <p>Policy documents (e.g. Position statement on Indigenous participation in tourism and its management)</p> <p>Site Infrastructure (e.g. public signage)</p>	<p>Partnerships (e.g. Indigenous Reef Advisory Committee, Sea Country Partnerships programs, Sea Country Plans)</p> <p>Education and community awareness (e.g. Story Place, website, Reef HQ)</p> <p>Research and Monitoring (e.g. Sea Country Partnership monitoring and research programs)</p> <p>Stewardship and best practice (e.g. Reef Guardians)</p>

Partners (lead, partner, advisory):

- **Traditional Owners** work with the Authority to protect cultural and heritage values, conserve biodiversity and enhance the resilience of the Great Barrier Reef.
- **Native title bodies** in partnership with Traditional Owners assist in the permit referral process (and the dissemination and collection of information) for permit applications for activities in the marine parks.
- **Queensland Department of Environment and Heritage Protection** is responsible for management of Queensland's environment, including water, salinity, native title and threatened species.

Effectiveness of management tools as assessed by stakeholders

Traditional Use of Marine Resources Agreements were the only management tool considered to be effective or mostly effective by more than 50 per cent of respondents. Policy and permits, as well as the Great Barrier Reef Marine Park Act and Regulations, were seen as ineffective in addressing Indigenous heritage issues.

Respondents generally recognised an improving engagement of the Authority with Traditional Owners, with a better policy and program platform as well as positive results from the development of Traditional Use of Marine Resource Agreements. At the same time, respondents — especially those who are Traditional Owners — recognise there is more to be done, particularly in relation to better informing and involving Traditional Owners in planning and management.

Traditional Owners who participated in the stakeholder workshops expressed wide-ranging views on this topic, including the desire for the development of stronger partnerships and greater involvement in decision-making and management. The need for education and communication with the wider community was also discussed. The need for acknowledgement of native title rights in the management of the Region was also raised.

3.3 Historic heritage

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Partially effective	Partially effective	Partially effective	Mostly effective	Mostly effective	Partially effective	Overall
					Partially effective	Biodiversity

The Authority has a regulatory role in the protection of historic heritage aspects of the environment (however, it has no jurisdiction over Queensland island heritage). The Authority works with other agencies to protect these values.

For the purposes of this report, historic heritage encompasses historic shipwrecks, World War II features and sites, lighthouses and associated structures, historic landscapes, and historic places and structures that embody a specific cultural, historic or scientific value. Natural heritage is considered under biodiversity protection.

There is generally a reasonable understanding by the Authority of the Region's values relevant to historic issues. However, while the Authority has a good understanding of the impacts on natural heritage, the consequential and cumulative impacts associated with historic heritage are less well understood. Information on condition and trend has improved through the 2010–2011 audit of Commonwealth islands' historic heritage. However, little is known about the condition and trend of shipwrecks, World War II sites, or heritage places such as Endeavour Reef.

The Great Barrier Reef Marine Park Act and Regulations provide the legislative power for the protection of historic heritage values and consideration of potential impacts to heritage through the permitting process. There are also strong drivers for heritage management under the Commonwealth and World Heritage obligations. These obligations also drive consistency of implementation of historic heritage management across jurisdictions.

The *Great Barrier Reef Marine Park Heritage Strategy*,⁶ endorsed in 2005, provides guidance for protection of the Marine Park's heritage values through a range of planning instruments and policies. Historic shipwrecks are protected through specific legislation and

entry controls. The strategy identifies actions but does not set a timetable for implementation or indicate relative priorities. Risks and threats have been more explicitly addressed in new periodic reporting processes for World Heritage sites. The strategy requires updating to effectively address major pressures and drivers impacting on historic heritage.

An assessment of the *Heritage Strategy* showed reasonable progress was being made, with 65 per cent of the actions completed or good or satisfactory progress having been made towards completion. Thirty-five per cent of actions had not commenced or been considered. Only one heritage management plan is currently in place, although two others are underway. Policy documents to address issues associated with historic heritage require updating and implementation.

Resourcing of the management of historic heritage is poor, with less than one full-time equivalent position dedicated to working in this area. The frameworks for engagement with stakeholders, industry and the community is good, but limited due to staff resources, with expert advice and consultation provided through the Reef Advisory Committees, the Australian Heritage Council, the tourism industry, Local Marine Advisory Committees, the World Heritage Committee and the Queensland Museum.

The Authority is currently developing a heritage register that will capture all values relevant to historic heritage. The register will assist managers and the community in knowing the location of and an understanding of heritage values.

A summary of tools used by the Authority in the protection of historic heritage, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory tools
<p>Great Barrier Reef Marine Park Act and Regulations</p> <p>Great Barrier Reef Marine Park Zoning Plan 2003</p> <p>Joint permits (with Queensland)</p> <p>Management Plans (e.g. plans of management)</p> <p>Policy Documents (e.g. <i>Heritage Strategy</i>)</p> <p>Site Infrastructure (e.g. public signage)</p>	<p>Partnerships (e.g. Reef Advisory Committees, agreements with agencies for the maintenance of heritage on Commonwealth islands)</p> <p>Education and community awareness (e.g. website, Reef HQ)</p>

Partner agencies role (lead, partner, advisory):

- The Commonwealth **Department of Sustainability, Environment, Water, Population and Communities** manages the National Heritage List and takes a lead role in the protection of National Heritage Places. The Authority is required under the EPBC Regulations 2000 to develop a heritage management strategy and maintain a register.
- **Australian Heritage Council.** Agencies are required to consult the Australian Heritage Council before development of a heritage strategy and take into account any advice received from the council.
- **Queensland Museum** takes the lead role in the management of historic shipwrecks in the Region.
- **Queensland Department of Environment and Heritage Protection** takes a lead role in the management of heritage within Queensland's jurisdiction.
- The **Queensland Heritage Council** is the state's peak body on heritage matters. It works to identify and protect places that have special cultural value to the community and future generations.

Effectiveness of management tools as assessed by stakeholders

Insufficient responses were received to evaluate the effectiveness of management tools for historic heritage. Workshop participants raised the issue of confusing federal and state jurisdictions as a barrier to effective management.

3.4 Community benefits

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Partially effective	Mostly effective	Partially effective	Partially effective	Mostly effective	Mostly effective	Overall
					Mostly effective	Biodiversity

The Authority has a regulatory role in the protection of the environment including the social and economic aspects of the environment. The Authority, together with other agencies, works to adopt an integrated approach to the management of the social, economic and environmental aspects of the Region.

Community benefits of the Reef encompass socio-economic aspects such as employment and income, in addition to less tangible attributes such as understanding, appreciation, enjoyment, personal connection, health benefits and access to the Reef. Many of these attributes are values based.

Management is undertaken using a range of measures, including stewardship and best practice, legislation, zoning plans, permits and site infrastructure. While information and understanding of the value of the Reef from an economic perspective is assessed and monitored, an understanding of the broader community benefits that the Region supports is not well understood nor quantified. This has been recognised and the Authority, as part of the strategic assessment, is beginning to seek community views about threats, values and pressures in relation to community benefits as part of the strategic assessment.

There is likely to be increasing conflict between economic benefits of the Reef — associated with port and coastal development — and the personal, recreational and value based benefits. The consequential and cumulative impacts on community benefits have not been well documented or assessed thoroughly.

Many of the pressures associated with community benefits, such as population change, coastal development, economic growth and climate change, are outside the Authority's direct jurisdiction. However, the *Recreation Management Strategy*⁷ made some progress towards recognising the enjoyment and personal attachment to the Reef. Social, cultural and

heritage values are considered when assessing permits applications, but this application is limited by the Authority's knowledge of these aspects in specific locations.

In particular, the Reef Guardian program, Reef HQ Aquarium, and the *Recreation Management Strategy* have objectives for management associated with community benefits. The Field Management Program, jointly managed with the Queensland Government, also has a strong commitment to ensuring public access to the Reef and islands.

Many of the community benefit issues are considered under programs and policies developed for other purposes such as access to resources, conservation and multiple use. Currently there are no guidelines or benchmarks for social or economic impact assessments for the World Heritage Area. An overarching strategy that outlines the objectives for community benefits, while showing the linkages across the programs, would clarify the Authority's roles and responsibilities. It would also provide an improved framework to assess the management effectiveness with greater accuracy.

Stakeholder engagement through the Reef Advisory Committees, Local Marine Advisory Committees and stakeholders brought together for the strategic assessment enable managers to gain a better understanding of community values and issues of concern. Volunteer programs, such as components of the marine monitoring program (for example, Seagrass Watch) and Eye on the Reef, also provide avenues for community involvement in protecting the Great Barrier Reef.

A summary of tools used by the Authority in the protection of community benefit values, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory tools
Great Barrier Reef Marine Park Act and Regulations	Partnerships (e.g. Reef Advisory Committees, Local Marine Advisory Committees)
Great Barrier Reef Marine Park Zoning Plan 2003	Education and community awareness (e.g. website, Reef HQ)
Policy documents (<i>Recreation Management Strategy</i> , environmental impact management)	Stewardship and best-practice (e.g. Reef Guardians, best practice guidelines)
Compliance	Research and monitoring (social and economic long-term monitoring program)
Site Infrastructure (e.g. reef protection markers, public moorings)	

Partner agencies role (lead, partner, advisory):

- **Queensland Parks and Wildlife Service** has a partnership role with the Authority through joint assessment of permits and field management. It also has a lead role in the management of social and economic aspects of the environment in the adjoining Great Barrier Reef Coast Marine Park, the Queensland coastal zone and the 980 islands in the Great Barrier Reef World Heritage Area.
- **CSIRO** is a partner agency for researching and monitoring the Region's social and economic dimension.
- **Community groups** organise and participate in community activities that help people to understand and protect the Great Barrier Reef.
- **Research institutions and researchers** provide improved knowledge about the Region and advice on its implications for management.
- **Natural resource management bodies** work with the Authority to implement programs that assist in the protection of social and economic aspects of the environment.

Effectiveness of management tools by stakeholders

The Zoning Plan, the Great Barrier Reef Marine Park Act and Regulations were seen as most effective in promoting community benefits, primarily by making the Marine Park accessible to the community. The permits system, stewardship programs such as Reef Guardians, and research and monitoring were seen as very or mostly effective by more than half of the respondents.

Community partnership programs such as Reef Guardians and educational materials were viewed as strengths of the Authority's management. A lack of adequate resources for management was identified as a weakness.

Stakeholders at the workshops commented that the Authority did not prioritise managing community benefits and that with growing coastal populations there was potential for greater conflict between user groups. It was suggested the Authority was not addressing the issue.

3.5 Water Quality Protection

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Partially effective	Overall
					Partially effective	Biodiversity

The Authority has a lead role for the management activities that impact water quality within the Marine Park, as well as an advisory or partnership role with other agencies in relation to activities that occur outside the Region that may impact on the water quality in the Marine Park.

The Authority's management of water quality is through legislation and permits for point source discharges into the Marine Park, as well as undertaking the marine monitoring functions of Reef Plan. However, the most significant contribution to water quality decline in the Great Barrier Reef is from activities outside the Marine Park associated with agricultural practices. This limits the Authority's capacity to take direct action with respect to water quality decline. The non-point source discharges, such as runoff from agriculture, is managed through partnerships with the Queensland Government, the Department of Sustainability, Environment, Water, Population and Communities, land holders and industry groups, and through education and community awareness, stewardship and best practice.

The assessment for management effectiveness undertaken for the *Outlook Report 2009* concluded there was slow progress being made towards the attainment of the desired outcomes and to reducing the risks and threats to the Reef's values. The *Outlook Report* recognised the positive work that was being done through the *Reef Water Quality Protection Plan*,⁸ but highlighted the little evidence of change through a lack of monitoring, and the lack of delivering with the planning framework.

The values that underpin the matters relevant to water quality are well understood by managers. While many of the direct and indirect impacts of poor water quality are well known, knowledge is not as comprehensive concerning the consequential and cumulative impacts of water quality. Current condition and trend are known for specific species such as corals and seagrass; however, despite early evidence of a reduction in loads of pollutants,

there is still little documented evidence concerning improvements in water quality in the Region.

Since the 2009 *Outlook Report*, a review of Reef Plan has provided better focus and direction for managers, including targets for water quality and land management improvement. The revised Reef Plan reduces the list of actions from 65 to 11 to provide a more strategic and adaptive plan. It is focused on outcomes and takes into account new policy documents and regulatory frameworks. Measureable targets, improved accountability, and coordinated monitoring, evaluation and reporting underpin it. Targets are focused on short and medium-term outcomes for water quality and land management. In addition, water quality guidelines and the development of a *Coastal Ecosystems Assessment Framework* by the Authority set limits for water entering the Marine Park and provide a framework for assessment of ecosystem services within the basins located in the catchment with a focus on improving the health and resilience of the Reef. In terms of assessing performance, a Reef Plan monitoring, evaluation and reporting strategy has been developed and the first Reef Plan report card has been published.

The Authority engages with key stakeholders and has expanded the Reef Guardians Program (which commenced with schools and local councils), to include farmers, graziers and fishers. However, as the management of water quality leaving the Great Barrier Reef catchment is significantly within the Queensland Government's jurisdiction, the Authority can only work with the community and stakeholders to encourage best practice land management.

The Authority has its greatest direct influence on water quality through the Great Barrier Reef Marine Park Act and Regulations (Section 66(2)e of the Act) under which it is illegal to discharge waste into the Marine Park except for some permissible actions. Permitting the discharge of wastewater into the Reef is assessed on a case by case basis, against guideline trigger levels.

The Authority has allocated significant resources into understanding the water quality issues from a biophysical aspect, though information is still limited with respect to the socio-economic impact of loss of ecosystem services from poor water quality. The Authority monitors the long-term health of key marine ecosystems and the condition of water quality in the inshore lagoon. The Australian Government has committed more than \$200 million to the improvement of water quality in the Reef, including water quality grants, Reef Partnerships, Land and Sea Country Indigenous Partnerships, research and development, and monitoring

and reporting (including the publication of an annual Great Barrier Reef water quality report card).

The downstream effects from land-based water quality from changes to Queensland Government policy, such as the coastal plan, are unknown at this stage; however, it is likely they will hamper rather than improve the current water quality situation.

A summary of tools used by the Authority in managing water quality, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory Tools
Great Barrier Reef Marine Park Act and Regulations	Partnerships (e.g. Great Barrier Reef Intergovernmental Agreement, Reef Plan)
Great Barrier Reef Marine Park Zoning Plan 2003	Education and community awareness (e.g. website, Reef HQ)
Management Plans (e.g. plans of management)	Stewardship and best practice (e.g. Reef Guardians program, best environmental practices)
Joint permits (with Queensland)	Research and monitoring (<i>Informing the Outlook for Coastal Ecosystems</i> technical report, Coastal Ecosystems Assessment Framework, Paddock to Reef program through the delivery of the marine monitoring program)
Compliance	
Policy documents (water quality guidelines, sewage discharge policy)	

Partner agencies role (lead, partner, advisory):

Queensland Departments:

- **Department of Environment and Heritage Protection** is the lead agency on environmental management matters including the assessment and approval of works in intertidal areas, internal water and the Great Barrier Reef catchment. This department is also responsible for implementing the Healthy Waters for Queensland program (in partnership with the Queensland Department of Natural Resources and Mines).
- **Department of Premier and Cabinet** provides overall coordination and direction for Queensland Government involvement in Great Barrier Reef matters. Within this department, the Reef Secretariat provides leadership and coordination for Great Barrier Reef matters including Reef Plan (in partnership with the Authority and the Commonwealth Department of Sustainability, Environment, Water, Population and Communities).
- **Queensland Parks and Wildlife Service** has a partnership role with the Authority through joint assessment of permits and field management. It also

has a lead role in the management of water quality in the adjoining Great Barrier Reef Coast Marine Park, the Queensland coastal zone and the 980 islands in the Great Barrier Reef World Heritage Area.

- The Authority has an advisory role to the **Department of Sustainability, Environment, Water, Population and Communities** for actions that are likely to impact a matter of national environmental significance in the Great Barrier Reef World Heritage Area (for example, development occurring on land that may impact the Marine Park) and a joint responsibility for assessment of these matters within Great Barrier Reef Marine Park.
- **Local government** has a lead role in local government planning and development decisions. (The Authority works with catchment councils in a stewardship capacity through Reef Guardians).
- **Natural resource management** bodies work in partnership with the Authority to implement land management strategies that improve the connectivity of waterways, minimise runoff and facilitate recovery of coastal ecosystems.

Effectiveness of management tools as assessed by stakeholders

Education and community awareness, followed by research and monitoring, were considered to be the most effective of the management tools used to manage water quality in the Great Barrier Reef Marine Park. Compliance, the Great Barrier Reef Marine Park Act and Regulations were seen as the weakest tools in managing water quality.

Reef Plan and the Reef Guardian programs are regarded by many respondents as strengths of management. Water quality is seen as an area where effective partnerships are crucial for effective management. A lack of jurisdictional responsibilities, the sheer scale of the issue, and lack of corresponding resources and political will are seen as the major weaknesses and impediments. A number of respondents called for greater attention to compliance with existing regulations, stiffer penalties for breaches and an extension of the Authority's powers to control activities outside the Marine Park that impact on Great Barrier Reef values.

These findings were supported at the workshops where discussions focused on management issues outside the Authority's jurisdiction, and where participants supported the positive changes achieved by stewardship programs.

3.6 Climate change and extreme weather

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Mostly Effective	Mostly Effective	Mostly Effective	Mostly Effective	Mostly Effective	Partially effective	Overall
					Ineffective	Biodiversity

The Authority has a lead role in facilitating awareness of the impacts from climate change and extreme weather and in building resilience in the Marine Park. The Authority has an advisory role to other agencies in relation to mitigation and adaptation to climate change and extreme weather in the Region.

The Authority has limited jurisdictional responsibility for addressing climate change in the broad sense. However, the Authority contributes significantly to the development of international best practice for managing responses to climate change and extreme weather issues as they relate to the Great Barrier Reef ecosystem. This is chiefly done through research and monitoring, and partnerships with research institutions, government agencies and stakeholder groups as well as education, community awareness and stakeholder engagement programs.

The *Climate Change Strategy and Action Plan 2012–2017* acknowledges the important role the Authority plays in informing national and international climate policy and providing knowledge to support effective management of inshore areas. However, the direct management role of the Authority is statutorily limited, requiring a focus on ecosystem-based adaptation to increase the resilience of the Reef by reducing impacts from other sources such as land-based sediments and nutrients. Assessing the effectiveness of the Authority in this role is challenging, as so much depends on the actions of others.

The Authority's planning initiatives are focused on enhancing the capacity of ecological, socio-economic and management systems to adapt to change in ecological and social variables. Dedicated staff positions have been established and specialist expertise exists within the Authority to coordinate efforts in this area, as well to facilitate national, regional and international collaboration which is necessary to address the complex issues involved. Climate change considerations have now been incorporated into many business areas across the Authority, rather than being confined to one work unit.

Work completed under the *Climate Change Strategy and Action Plan*⁹ to 2012 has included raising awareness of the implications of climate change for the Great Barrier Reef and the ecosystem services it provides. Effort has also been focused on building interest in adaptation planning as a way to reduce future risks from climate change and minimise its impact on the environment. This has included work with reef-dependent industries such as tourism and fishing, as well as communities, and considers planning and adaptation actions at all levels from individuals and businesses through to managers and government.

Vulnerability assessments for specific functions and activities that have the potential to impact on the Region's values continue to provide good contextual information for management of climate change implications. The 2009 assessment for the *Outlook Report* noted that managers and key community stakeholders recognised that while climate change drivers and influences are largely global in nature, regional and local activities give rise to specific vulnerabilities that require action.

Climate change plans and strategies were in place in 2009 and the focus has now moved to implementing the *Climate Change Adaptation Strategy and Action Plan 2012–2017*. This aims to translate objectives into specific policies and measurable actions for on-ground management by the Authority to increase the resilience of the Reef ecosystem. Specific threats such as increasing sea temperatures, ocean acidification, increased storm events and associated changes to freshwater inputs, currents and connectivity have been identified as matters to be addressed by adaptation initiatives that seek to minimise the impacts of these events.

A number of the Authority's management initiatives contribute to offsetting the impacts of climate change by reducing risks from other stressors. The Authority's climate change work provides adaptation resources to help minimise the vulnerability of coastal communities and Reef-dependent industries while also increasing their capacity to collaborate in building ecosystem resilience to climate change. From a review of the supporting evidence, implementation and evaluation of the *Climate Change Adaptation Strategy and Action Plan* appears to be on schedule.

While direct and indirect impacts of activities related to climate change and extreme weather are understood by managers — and risk-based approaches have been applied in adaptation work — they are not yet appropriately considered in all aspects of Reef management. The amendment of policy documents and procedures, along with development of practical

guidelines for relevant permit-holders and applicants, have been identified as priorities for attention.

Work continues on identifying the gaps in available biophysical information. The particular need to clarify socio-economic implications is also recognised (e.g. Marshall et al., 2011) and some of the information gaps are being addressed. Evaluation of resilience indicators and completion of a reef resilience atlas were identified in 2009 as particularly important to address cumulative impacts, both biophysical and socio-economic.

In 2012, climate change work was instrumental in improving understanding and consideration of consequential and cumulative impacts, but this remains a challenge. Critical elements of current condition and trend cannot be confidently determined and monitored by managers. Efforts continue, including work with Traditional Owners, to apply available traditional knowledge to consider climate change implications, particularly through Traditional Use Marine Resources Agreements.

Community engagement relating to climate change and extreme weather continues through initiatives such as Eye on the Reef and the Reef Guardian program which includes schools, councils, fishers and farmers. Work under the *Climate Change Action Plan* contributed to substantially strengthened partnerships with key sectors of the commercial fishing industry and the marine tourism industry. An incident response framework was developed in 2011, in consultation with stakeholders, and includes:

- coral bleaching response plan
- cyclone response plan
- coral disease response plan
- crown-of-thorns starfish response plan (in preparation).

The \$200 million Reef Rescue program has funded local actions to address degradation of water quality. Case studies of actions that can enhance the Reef's resilience to climate change and extreme weather are being documented.

Despite significant progress in building the ecological resilience of the Reef, and the social and economic resilience of Reef industries, the work of the Authority cannot make the Reef and its industries invulnerable to the impacts of extreme weather. A series of extreme weather events such as cyclones, floods and heatwaves between 2002 and 2011 caused significant impacts to corals, seagrasses, dugong and green turtles, as well as the tourism

and fishing industries. This decade of extreme weather provided an indication of what is to come if the planet's climate continues to change at the current rate. The future success of the Authority's work in adapting to climate change and extreme weather is dependent on successful global efforts to mitigate climate change.

The planned and systematic approach being applied gives confidence that the Authority is achieving all that might be reasonably expected to reduce the threats posed to matters of national environmental significance from climate change and extreme weather in the Great Barrier Reef Region. However, in spite of good systems and processes, the long-term trend for Great Barrier Reef ecosystems is still poor, and the extent to which specific initiatives can effectively address particular problems will only become clear over time. This situation highlights the importance of robust performance monitoring and adaptive management.

A summary of tools used by the Authority which were assessed as part of this review include:

Regulatory tools	Non-regulatory tools
<p>Great Barrier Reef Marine Park Act and Regulations</p> <p>Joint Permits (with Queensland)</p> <p>Policy documents (e.g. <i>Climate Change Adaptation Strategy and Action Plan 2012–2017</i>)</p> <p>Note: most regulatory tools aim to increase resilience.</p>	<p>Partnerships (e.g. Reef Advisory Committees, Local Marine Advisory Committees, incident response framework)</p> <p>Education and community awareness (e.g. website, Reef HQ)</p> <p>Stewardship and best practice (e.g. Reef Guardians Program, ProVision Reef Stewardship Action Plan developed by commercial fishers)</p> <p>Research and Monitoring (e.g. Eye on the Reef program, resilience framework, social and economic long-term monitoring program)</p>

Partner agencies role (lead, partner, advisory):

- Commonwealth **Department of Climate Change and Energy Efficiency** is the lead agency for the development and coordination of Australia's climate change policies and programs.
- Commonwealth **Department of Sustainability, Environment, Water, Population and Communities** leads the development and implementation of national policies, programs and legislation to protect and conserve Australia's natural environment and heritage.

- Queensland **Department of Environment and Heritage Protection** is responsible for management of the state's environment, including water, salinity, native title and threatened species.
- **Local government** has a lead role in local government planning and development decisions. (The Authority works with catchment councils in a stewardship capacity through Reef Guardians).
- The Authority has an advisory role to the Department of Sustainability, Environment, Water, Population and Communities for actions that are likely to impact a matter of national environmental significance in the Great Barrier Reef World Heritage Area (for example, development occurring on land that may impact the Marine Park) and a joint responsibility for assessment of these matters within Great Barrier Reef Marine Park.
- **Research institutions** provide improved knowledge about the Region and advice on its implications for management.
- **Tourism operators** work in partnership with the Authority, through permits and community monitoring programs, to keep an eye on reef condition and improve management of the Reef.
- **Commercial fishers** work in partnership with management agencies, through stewardship and best practice programs, to ensure fisheries are ecologically sustainable and to adapt to climate change.

Effectiveness of management tools as assessed by stakeholders

Research and monitoring was considered to be the most effective of the management tools used to manage climate change and extreme weather in the Great Barrier Reef Region. The Great Barrier Reef Marine Park Act and Regulations were considered to be only partially effective, while education and community awareness was mostly effective. Surprisingly, given the effort the Authority has expended in these areas, stewardship and best practice and partnerships were not regarded as particularly effective by a majority of respondents in this survey. However, feedback from evaluation processes conducted in relation to projects with partners in the fishing industry provides positive evidence that the Authority's partnership and stewardship approach is valued and has been effective in progressing climate change and extreme weather related activities and management. This suggests there may be a need to promote awareness about the success of these partnerships.

Workshop participants recognised the work that the Authority was undertaking, but felt the Authority lacked jurisdictional responsibility in this area.

3.7 Coastal development (protection of coastal ecosystems)

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Mostly effective	Partially effective	Partially effective	Partially effective	Partially effective	Partially effective	Overall
					Partially effective	Biodiversity

The Authority has an advisory role in the management of coastal development and the protection of coastal ecosystems.

Fourteen broad categories of coastal ecosystems are important to the functioning of the Great Barrier Reef Region: coral reefs, lagoon floors, islands, open water, seagrasses, coastline, estuaries, freshwater wetlands, forested floodplains, heath and shrublands, grass and sedgeland, woodlands, forests and rainforests. These ecosystems provide important links between land, freshwater and marine environments, as well as feeding and breeding grounds for many terrestrial, wetland and marine species. Changes to, or loss of these coastal ecosystems, can lead to a variety of adverse environmental, social and cultural impacts, with serious implications for matters of national environmental significance and for industries and communities dependent on the Great Barrier Reef Region.

Critical habitats in the Great Barrier Reef catchment provide for marine ecosystem functions directly through ecosystem connectivity. They also support healthy marine ecosystems by preventing excess sediments, nutrients and pollutants from being transported to the Reef lagoon. Reef coastal ecosystems support a variety of ecosystem functions, such as nursery areas for marine species, floodwater buffers and sediment and nutrient sinks.

As a result of the 2009 *Outlook Report*, the Authority has developed a comprehensive document, *Informing the Outlook for the Great Barrier Reef Coastal Ecosystems*¹⁰ which assesses the pressures affecting coastal ecosystems that have the potential to influence the Reef's health and resilience. This document provides an effective context for management as it describes the functioning, as well as the threats, pressures, risks and trends of the Reef's coastal ecosystems.

The Authority's regulatory role in managing coastal ecosystems is restricted to addressing the impacts of coastal development works such as jetties, marinas and dredging which occur below mean low water or on Authority-managed Commonwealth islands. The Authority has an advisory role to the Department of Sustainability, Environment, Water, Population and Communities on the EPBC Act referrals, for actions likely to have a significant impact on the Great Barrier Reef World Heritage Area and a joint assessment role for activities impacting on matters within the Marine Park. Such actions may be located within or outside the Region.

The Authority also works in partnership with Queensland and local governments to provide technical advice and facilitate improved understanding of the values of the World Heritage Area and the critical role coastal ecosystems play in the functioning of the Reef. Additionally, the Authority's stewardship programs, including its Reef Guardians program, focus on working with industry sectors and the broader community to improve understanding of the connectivity between coastal and marine ecosystems and to facilitate improved management practices.

The Queensland Government has jurisdiction over most development and management in the coastal zone (above the mean low water mark). The former Queensland Coastal Protection State Planning Policy has been replaced with the new draft Coastal Protection State Planning Regulatory Provision. This potentially has significant implications for the Great Barrier Reef Region because it removes many of the specific requirements placed on local government and potential developers to undertake best practice and to minimise environmental harm. These changes potentially reduce the capacity of the Authority and Queensland agencies to avoid, minimise or mitigate impacts on the Reef, its ecosystems and species. The changes may weaken the measures protecting the Great Barrier Reef coast and open this area to more development pressures, some of which are considered to be of high risk and high impact.

It is evident the Authority has a reasonable understanding of the direct and indirect impacts associated with coastal ecosystems, though there has been little quantification of these impacts. The consequential and cumulative impacts require better understanding and monitoring. Urgent action is also needed to improve the health of coastal ecosystems to boost the health and resilience of the Reef. Vulnerability assessments for each of the at-risk coastal ecosystems have also been undertaken.

Targets and performance measures for coastal ecosystems are included in the draft *Biodiversity Conservation Strategy*¹¹, but they lack outcome specific targets. Reef Plan, which focuses on non-point source water quality, also contains a number of performance measures relating to coastal ecosystems. Stakeholder engagement remains effective.

The Authority's stakeholder engagement on coastal ecosystem management is increasing. The Australian Government's Reef Rescue grants to improve land management practices laid the groundwork for building relationships with farmers. Partnerships continue to grow through the Reef Guardian Farmers stewardship program. Coastal ecosystems management is also the focus of coastal Reef Guardian Councils and Schools, and is regularly discussed at Local Marine Advisory Committees and Reef Advisory Committees.

The work done in the Authority's draft *Biodiversity Conservation Strategy* and *Informing the Outlook for Great Barrier Reef coastal ecosystems* suggests the long-term condition and trend for coastal ecosystems is very poor if joint management action is not taken soon to halt and reverse the decline in inshore and coastal ecosystems, particularly south of Port Douglas.

Given the number of agencies involved in managing coastal ecosystems, an integrated framework for planning, assessment and approvals is needed to ensure the values of the Great Barrier Reef Region are maintained and where possible improved.

A summary of tools used by the Authority in managing coastal development, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory tools
Nil	<p>Partnerships (e.g. Great Barrier Reef Intergovernmental Agreement, provision of technical advice for EPBC Act assessments for the World Heritage Area and Marine Park, natural resource management bodies)</p> <p>Education and community awareness (e.g. website, Reef HQ)</p> <p>Stewardship and best practice (e.g. Reef Guardians program, best environmental practices)</p> <p>Research and Monitoring (<i>Informing the Outlook for Coastal Ecosystems</i> technical report, Coastal Ecosystems Assessment Framework, Paddock to Reef program through the delivery of the marine monitoring program)</p>

Partner agencies role (lead, partner, advisory):

- **Queensland Government:**
 - **Department of Environment and Heritage Protection** is the lead agency on environmental management matters including the assessment and approval of works in intertidal areas, internal water and the Great Barrier Reef catchment. The Authority only has an advisory role and provides technical advice to this department.
 - **Department of Premier and Cabinet** provides overall coordination and direction for Queensland Government involvement in Great Barrier Reef matters. Within this department, the Reef Secretariat provides leadership and coordination for Great Barrier Reef matters including Reef Plan (in partnership with the Authority and the Commonwealth Department of Sustainability, Environment, Water, Population and Communities).
 - **Queensland Parks and Wildlife Service** has an advisory role in the management of coastal development in the adjoining Great Barrier Reef Coast Marine Park, the Queensland coastal zone and the 980 islands in the Great Barrier Reef World Heritage Area.
- **Local government** has a lead role in local government planning and development decisions. (The Authority works with catchment councils in a stewardship capacity through Reef Guardians).
- The Authority has an advisory role to the Department of Sustainability, Environment, Water, Population and Communities for actions that are likely to impact a matter of national environmental significance in the Great Barrier Reef World Heritage Area (for example, development occurring on land that may impact the Marine Park) and a joint responsibility for assessment of these matters within Great Barrier Reef Marine Park.
- **Natural resource management** bodies work in partnership with the Authority to implement land management strategies that improve the connectivity of waterways, minimise runoff and facilitate recovery of coastal ecosystems.
- **Farmers and land holders** work with the Authority to improve ground cover management, reduce load reductions and implement improved management practices to improve water quality and coastal ecosystem function.

Effectiveness of management tools as assessed by stakeholders

Most respondents rated management tools as either not effective, or only partially effective, in relation to coastal ecosystems. The only tools to be rated as effective or very effective by

more than 40 per cent of the respondents were research and monitoring along with education and community awareness.

The work of the Reef Guardians program with local farmers and other partnership programs were regarded as a strength by respondents, while a lack of influence on coastal planning and development decisions (and by some, a perceived political will to control development) are regarded as the most significant weaknesses. Respondents see a need to extend the Authority's jurisdictional control over activities that impact on the values of the Marine Park, to improve compliance action (especially in relation to permit conditions and compliance action by state authorities), and an increased focus on partnerships between the Authority, local government and local industry.

Stakeholder comments at workshops reflected the survey results, consistently raising concerns over the Authority's limited influence over the management of coastal ecosystems and the consequential impacts on Reef health and resilience.

3.8 Ports

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Mostly effective	Partially effective	Partially effective	Mostly effective	Partially effective	Partially effective	Overall
					Partially effective	Biodiversity

The Authority has an advisory role in the management of ports, due to most ports being located outside of the Marine Park (within port exclusion areas).

The planning and development responsibilities for ports lie with the Queensland Government and the Department of Sustainability, Environment, Water, Population and Communities. The role of the Authority is therefore restricted to the consequential impacts from ports. However, actions may affect matters of environmental significance and trigger a referral requirement under the EPBC Act, requiring assessment from the Department of Sustainability, Environment, Water, Population and Communities and potentially the Authority if it affects the Marine Park or World Heritage Area. Outside the Marine Park, the Authority's role is advisory. This means that while the impact of the port development may be assessed, the Authority has limited responsibilities over the planning of port locations and port activities that occur within the exclusion areas. For example, dredging often occurs outside the Marine Park or within the excluded area. Dredging and disposal may also occur within the Marine Park, but in these instances the Authority has some accountability and will assess the activity under its permit process.

The increase in the number of proposals for new and expanded ports along the Great Barrier Reef coast is of particular concern. There is also an increase in requests for dredging to extend outside of port exclusion areas and into the Marine Park — for example dredged entrance channels to allow for larger draft ships to access ports such as Townsville and Hay Point. The Authority has identified risks from the proposed port developments to the inshore area of the Region, which have the potential to cause significant negative impacts on species and habitats critical to the healthy functioning of the Reef's ecosystem.

While dredging associated with ports usually occurs within port limits, dredge material disposal often occurs within the Marine Park. There is generally a good understanding of the

direct and indirect impacts of dredging on the values of the Reef and policies for the disposal of dredge material and environmental impact management require direct and indirect impacts to be considered. However, this is often considered on an application-by-application basis and the consequential and cumulative impacts of dredging and spoil disposal are less well understood. There is also little knowledge about the condition and trend of many of the ecosystems and species at risk from port development.

The Authority has a role to play in the implementation of offsets associated with some port approvals under the EPBC Act (for example, Curtis Island and Abbot Point). This is a new role for the Authority and it is currently developing guidelines and procedures for managing the funds, while ensuring the offsets meet the intended effects and expenditure is not duplicated with other offsets (for example, those required under Queensland Government approvals).

There is no overarching strategy for port development in Queensland although a consultation paper has recently been released, and there are multiple port expansions and new port development proposals. This has a significant impact on the Authority's ability to protect the Region's values, as each port proposal is assessed individually on its merits. Where there are activities within the Authority's jurisdiction, this case-by-case approach results in increased workloads and does not enable issues, such as cumulative impacts, to be addressed at a strategic level. The complex jurisdictional environment within which ports operate — combined with the lack of Authority policy documents for ports — continues to negatively impact on the Authority's capacity to avoid, mitigate, offset and adaptively manage the impacts from ports on the Region's values. Greater certainty and coordinated planning and approval processes are required by Commonwealth and Queensland jurisdictions to inform where and how ports can operate within and adjacent to the Region.

Where the Authority has jurisdiction over impacts of port development (for example, dredge material disposal within the Marine Park), objectives, actions for implementation, guidelines and standards have been developed. *Guidelines for hydrodynamic numerical modelling for dredging projects*¹² provide guidance and standards for all new applications. The draft *Biodiversity Conservation Strategy* is committed to “reducing threats to protected and at risk habitats, species and groups of species” are also in draft form. The environmental management charge currently does not extend to dredge material disposal. Given the charge is a contribution towards management of the Marine Park, extension of this charge to high risk activities such as ports and dredging should be considered.

Resourcing for assessing and managing the impacts of port proposals or developments has increased but is not sufficient to keep pace. While staff have been committed to developing policy positions, assessments have also increased. Stakeholder engagement by the Authority is sound, with regular meetings held for key stakeholders such as Local Marine Advisory Committees and Reef Advisory Committees, as well as regular meetings with the Queensland Ports Association. Community input is limited to occasions when a proposal triggers the environmental impact assessment process under the EPBC Act or the Great Barrier Reef Marine Park Act because it may have impacts on matters of national environmental significance or the proposal occurs within the Marine Park. Documentation associated with environmental impact assessment processes are made available for public comment.

There is little evidence of outcomes to support ports being environmentally sustainable. However, ports are seen to be economically sustainable and local communities are reliant on ports for goods and services, as well as employment. This is balanced against the loss of amenity and “enjoyment” and potential economic losses of other industries (for example fishing) near port developments and potentially further afield given the potential for dredge material to resuspend and disperse further than the dredge disposal areas.

A summary of tools used by the Authority in managing ports, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory tools
<p>Great Barrier Reef Marine Park Act and Regulations</p> <p><i>Environment Protection (Sea Dumping) Act 1981</i></p> <p>Great Barrier Reef Marine Park Zoning Plan 2003</p> <p>Joint permits (with Queensland — predominantly for dredging activities in the Marine Park, sea dumping permits)</p> <p>Policy Documents (e.g. dredging and spoil disposal, environmental impact management, guidelines for hydrodynamic modelling)</p>	<p>Partnerships (e.g., provision of technical advice for EPBC Act assessments for the World Heritage Area and Marine Park, Memorandum of Understanding with Queensland Ports)</p> <p>Education and community awareness (e.g. website, Reef HQ)</p> <p>Research and Monitoring (Regional Sustainability Planning projects associated with dredging, <i>Informing the Outlook for Coastal Ecosystems</i> technical report)</p>

Partner agencies role (lead, partner, advisory):

- Queensland **Department of State Development, Infrastructure and Planning** has the lead role in planning and infrastructure associated with ports. This includes developing regional plans along the Great Barrier Reef coast.
- The Authority has an advisory role to the Department of Sustainability, Environment, Water, Population and Communities for actions that are likely to impact a matter of national environmental significance in the Great Barrier Reef World Heritage Area (for example, development occurring on land that may impact the Marine Park) and a joint responsibility for assessment of these matters within Great Barrier Reef Marine Park.
- **Port authorities** work with the Authority under a memorandum of understanding to establish a collaborative effort between Queensland ports and the Authority to strategically improve coordination between port management and Authority management associated with port activity within or adjacent to the Marine Park.

Effectiveness of management tools as assessed by stakeholders

None of the management tools available to the Authority were seen to be particularly effective in managing ports. Permits (including impact assessment), the Zoning Plan, research and monitoring, and the Great Barrier Reef Marine Park Act and Regulations were considered to be the most effective of the management tools. Policy was seen as the weakest tool in managing ports with more than 90 per cent of respondents rating it as ineffective or only partially effective. Two contrasting views of the Authority's involvement in Ports planning and management were evident in the responses. One reflected a view that the Authority does not fully understand port development and their environmental management systems and is "driven by a culture that regards port activity as inherently harmful". The other view sees ports as a major threat to the Reef but that the Authority lacks the jurisdictional authority, capacity or willingness to address the impacts posed by port development and management.

The engagement of the Authority with port authorities was seen positively, although there was generally little strength in management identified by respondents. Jurisdictional limitations and a corresponding lack of influence of port development and management decisions, weak compliance enforcement, a lack of understanding by the Authority of the ports industry and a lack of consistent messages from the Authority concerning port development were identified as weaknesses.

A number of respondents saw an extension of the jurisdictional reach of the Authority to have a greater say over port development as a potential solution, while a number called for more explicit policy from the Authority on port planning and management.

Extensive discussions about ports occurred at the workshops. The main management issues raised were: the need to improve assessment processes, overlapping state and federal responsibilities, concerns about dredge disposal, improved governance arrangements for ports, and the Authority's lack of influence over decision-making and management.

3.9 Shipping

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Mostly effective	Mostly effective	Partially effective	Mostly effective	Mostly effective	Mostly effective	Overall
					Mostly effective	Biodiversity

The Authority has a limited regulatory role and a strong partnership role with other agencies to manage shipping within the Region. Shipping in the Great Barrier Reef is managed by several government agencies including the Australian Maritime Safety Authority, Maritime Safety Queensland, and the Authority. The main management tools used by the Authority to manage shipping include legislation and the Zoning Plan. Permits, compliance, policy documents and education are used to a lesser extent.

The assessment of management effectiveness undertaken for the *Outlook Report* concluded there were relatively few incidents threatening the Reef values relative to the large number of shipping movements in and through the area, and that invasive species were the highest risk with respect to shipping.

In 2011–12, there were 125 recorded shipping, pollution and small vessel incidents within or adjacent to the Great Barrier Reef World Heritage Area. No major ship spill or grounding occurred in 2011–12, with the greatest risk to the Marine Park coming from a vessel breakdown. Statistics show there is a general upward trend in the number of pollution and vessel incidents reported.¹³

Since the release of the *Outlook Report 2009* and in response to mining industry growth, there has been a significant increase in development proposals to expand all of Queensland's major trading ports. There are also several new port development proposals. Mining industry growth will result in the construction of new shipping berths, infrastructure development, dredging and a rise in shipping traffic through Reef waters. The extent to which this increase in ports and shipping activities will emerge as a threat to the health of the Reef will undoubtedly depend on how well these activities are managed by all stakeholders, industry and regulators.

In 2012, it is estimated about 4000 ships transited through the Great Barrier Reef. Over the next five years, a significant increase in shipping traffic is expected. The most concerning issues with regards to shipping are the threat of oil, chemical and cargo releases, groundings and the introduction of invasive marine species. In addition, a greater range of hazardous substances (such as chemicals and liquefied natural gas) is now being shipped through the Reef.

Potential direct and indirect environmental impacts associated with shipping activities are understood, although the cumulative impacts are less well known. A reasonable planning and legislative framework for managing shipping is in place. However, there are exceptions for threats posed by bio-fouling, ballast water discharges, containerised chemicals, noise, turbidity and light, antifouling biocide leaching, physical impacts from vessel groundings, response and rehabilitation of environment following grounding events, and increasing anchorage concerns.

The Great Barrier Reef Marine Park is one of the world's most regulated shipping areas. Existing comprehensive management arrangements for shipping mean there continues to be few incidents threatening the Reef's values, relative to the large number of shipping movements in and through the Marine Park. However, experience from the *Shen Neng 1* grounding in 2010¹⁴ highlighted significant gaps in the Authority's ability to take action and rehabilitate following this incident. Agencies that manage shipping need to address a major gap in the capacity to respond to non-oil spills with rapid clean up (for example, access to emergency funds sufficient to clean up in timely and cost-effective manner).

There are stringent management requirements for commercial shipping in the waters of the Great Barrier Reef which was designated a Particularly Sensitive Sea Area by the International Maritime Organisation in 1990. Shipping traffic is confined to designated shipping areas in the Great Barrier Reef Region, defined in the Zoning Plan 2003, unless a specific permit is issued. Measures to increase navigational safety and reduce the risk of ship groundings and collisions include:

- compulsory pilotage
- mandatory vessel reporting and monitoring (REEFVTS)
- aids to navigation
- pollution response
- emergency towage
- ship discharge restrictions

There is concern about resourcing levels given the increase in shipping movements. With the decline in funding for the Field Management Program, there is significant risk for appropriate preparedness and response times to a shipping incident.

There is good stakeholder engagement with regular discussions about shipping issues at Local Marine Advisory Committee and Reef Advisory Committee meetings. Representatives from the shipping sector are also members on some of the committees. Regular meetings are held with the Queensland Ports Association. The Australian Maritime Safety Authority, the Authority and Maritime Safety Queensland work closely together to protect the marine environment from adverse consequences of shipping operations and provide for the safety of life of ship crews, passengers and other users of the Reef.

The Authority is working with other agencies to assess the effectiveness of current shipping safety measures. This is needed to inform any additional measures needed to protect the value of the Reef. Authority plans for oil pollution response are well documented and managed. However, there continues to be an absence of clear measurable objectives and targets with respect to shipping, while progress on addressing other contaminants and marine pests remains slow.

A summary of tools used by the Authority in managing shipping, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory tools
Great Barrier Reef Marine Park Act and Regulations (e.g. compulsory pilotage provisions)	Partnerships (e.g. Great Barrier Reef Intergovernmental Agreement)
Great Barrier Reef Marine Park Zoning Plan 2003 (e.g. designated shipping areas)	Education and community awareness (e.g. website, Reef HQ)
Joint permits (with Queensland)	Research and Monitoring (Regional Sustainability Planning projects associated with ship anchorages, <i>Informing the Outlook for Coastal Ecosystems</i> technical report)
Compliance	

Partner agencies role (lead, partner, advisory):

- **Australian Maritime Safety Authority** is the lead agency responsible for managing shipping activities throughout the Region.
- **Australian Quarantine Inspection Service** is the lead agency for quarantine inspection services for all vessels entering the Region.

- **Maritime Safety Queensland** is the lead Queensland agency responsible for the safe navigation of vessels in Queensland waters.
- **Queensland Parks and Wildlife Service** has a partnership role in the management of shipping in the adjoining Great Barrier Reef Coast Marine Park.
- **Queensland Department of Agriculture, Fisheries and Forestry** is the lead agency tasked with implementing legislation relevant to biofouling, ballast water and biosecurity.

Effectiveness of management tools as assessed by stakeholders

The Zoning Plan and compliance were seen as very or mostly effective by more than 50 per cent of respondents. The Great Barrier Reef Marine Park Act and Regulations, along with education and community awareness, were seen as least effective with 60 per cent of respondents regarding them as ineffective or only partially effective.

Collaboration with other authorities and arrangements for compulsory pilotage and designated shipping lanes are regarded as strengths in management of shipping, while the capacity to address likely increases in shipping and potential impacts from marine pests were cited as weaknesses.

Workshop participants consistently raised management issues which are outside the Authority's jurisdiction, such as the need for improved pilotage, bilge and ballast water management, marine debris and other impacts from 'parked' ships, exclusion of other users in high shipping areas, and management response to groundings.

3.10 Recreation

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Overall
					Mostly effective	Biodiversity

The Authority has a regulatory role (predominantly through the Zoning Plan) and a strong partnership role to manage recreation within the Region.

The Authority manages recreation through a variety of management tools including legislation, the Zoning Plan, plans of management, site management, partnerships, education and community awareness. Permits are not required for low impact activities, including recreational activities; however, permits may be required for group activities in specific instances where the impact is likely to be significant. Specific policies for interaction with whales, dolphin and seabird breeding islands are also in place. However, the diffuse nature of recreation and lack of permit control mean that plans of management and site planning arrangements do not provide certainty regarding where uses may occur and where impacts are likely to be acceptable.

The Authority considers tourism as those travelling or carried by a commercial tourism operation, while recreation includes locals recreating and a portion of traditional tourists under international definitions (for example, free and independent tourists).

The assessment of management effectiveness for recreation undertaken for the *Outlook Report* concluded that despite the lack of an overarching planning framework and targeted management objectives, quality recreation products and services have been provided, and that good governance and management processes are in place to address recreation issues. In response to the *Outlook Report*, the Authority prepared a *Recreation Management Strategy*. The strategy is designed to provide an overarching framework for the management of recreation in a coordinated manner and to inform the public of the management approach. The strategy also identifies which management tools are in place for each recreation activity. The values that attract large numbers of visitors are well documented, and threats and risks

to those values are clearly articulated in the strategy. The risk analysis determined there were no threats that posed a very high or high risk to the values. Cumulative impacts are recognized as an issue in the strategy, but are not specifically addressed. The condition and trend of recreation is referenced, but the strategy does not address the impacts of recreation on condition and trend as a whole.

The development and implementation of the *Recreation Management Strategy* is identified in the Authority’s Strategic Plan, and resources are allocated in line with the objectives. Funding is concentrated mainly on determining what activities are undertaken where and on stewardship and education programs, and less on site planning, site infrastructure and recreation-specific policy document development.

Stakeholder engagement remains strong with the Tourism and Recreation Reef Advisory Committee consulted regularly as part of recreation planning. Recreation representatives are also included in the 12 Local Marine Advisory Committees which have produced regional brochures specifically for recreational users. Authority staff in the Cairns, Mackay and Rockhampton regional offices interact with recreational users particularly through Community Access Points. However, the diversity and informality inherent in the sector presents an ongoing challenge to engage with the majority of recreational users and to document their values and activities spatially.

Coordination between relevant agencies (the Authority, Queensland Parks and Wildlife Service, Queensland Boating and Fisheries Patrol, Maritime Safety Queensland, Australian Water Police) to enforce Marine Park Acts, Regulations, Zoning Plans and plans of management is high. In addition, some products and services such as maps and brochures are jointly prepared and presented.

The *Recreation Management Strategy* provides excellent data concerning the risk-based approach adopted by the Authority, while identifying the major risks and threats associated with recreation and avenues to reduce those risks. However, timeframes and targets to meet the objectives will assist in assessing the performance on the strategy in achieving the desired outcomes.

A summary of tools used by the Authority in managing recreation, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory tools
Great Barrier Reef Marine Park Act and	Partnerships (e.g. Reef Advisory Committees, Local

Regulations	Marine Advisory Committees)
Great Barrier Reef Marine Park Zoning Plan 2003	Education and community awareness (e.g. website, Reef HQ)
Management Plans (e.g. plans of management)	Stewardship and best-practice (e.g. best practice guidelines)
Compliance	Research and monitoring (Eye on the Reef program, Sightings Network)
Policy Documents (e.g. <i>Recreation Management Strategy</i>)	
Site Infrastructure (e.g. reef protection markers, public moorings)	

Partner agencies role (lead, partner, advisory):

- **Queensland Parks and Wildlife Service** has a partnership role with the Authority through joint assessment of permits and field management. It also has a lead role in the management of recreation in the adjoining Great Barrier Reef Coast Marine Park, the Queensland coastal zone and the 980 islands in the Great Barrier Reef World Heritage Area.
- **Maritime Safety Queensland** is responsible for licencing, registration and the safe navigation of vessels.
- **Community groups** organise and participate in community activities that help people to understand and protect the Reef.

Effectiveness of management tools

All management tools apart from compliance and policy were seen as very or mostly effective by more than 40 per cent of respondents, with the Zoning Plan and the Great Barrier Reef Marine Park Act and Regulations being seen as the most effective tools overall.

The Zoning Plan, Reef Guardian programs and educational programs are seen as strengths in recreation management, while a lack of compliance enforcement and availability of field staff are the main identified weaknesses.

Workshop participants raised the need for better understanding of the changing recreational sector, in particular the growing number of new recreational users as a result of the mining boom. Suggested future management actions included more reef protection markers and moorings, as well as increased education.

3.11 Tourism

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Effective	Mostly effective	Mostly effective	Mostly effective	Effective	Effective	Overall
					Mostly effective	Biodiversity

The Authority is the lead agency for management of marine tourism in the Region. Management of tourism in the Great Barrier Reef employs a mix of management tools, with emphasis on plans of management for intensively used areas and partnerships with accredited tour operators, as well as permits – often with specific conditions. Tourism within the Reef is recognised by managers as one of the most significant uses of the Region and the presentation of its values. Tourism is acknowledged to be a major driver for economic growth and employment for coastal Queensland. Tourism, commercial fishing, recreation and scientific research contribute \$5.7 billion per annum — of this, \$5.2 billion is attributed to tourism.¹⁵

The *Outlook Report* recognised high levels of visitor satisfaction and significant economic benefits to local communities but noted that longer-term environmental performance would depend on clearer understanding of the implications of latent capacity in the permit system and improved documentation of the levels of specific activities undertaken in each location over time. This has been partially improved with the implementation of the environmental management charge online system and the Reef management system (a permitting system).

With the launch of the Great Barrier Reef as a National Landscape in March 2012 (Australian Government 2012), the Authority sought to reinforce the mutual understanding between tourism operators and managers on values underpinning matters of national environmental significance in the Great Barrier Reef for tourism. The Authority chaired the regional Steering Committee for the Great Barrier Reef National Landscape which has members from Tourism Queensland, Queensland Parks and Wildlife Service, key tourism industry representatives, and the conservation sector.

Plans of management covering less than 10 per cent of the total Great Barrier Reef area are in place for the areas that receive more than 80 per cent of tourist visits but enhanced planning capability within the Authority and a schedule of regular reviews would improve

consistency. The *Outlook Report* assessment noted some tourism activities occur over a wide area and that the planning system did not include an overarching strategy to guide tourism activities. An overarching strategy, although under development, is still outstanding and an expansion of site planning has not occurred to areas where growth is increasing such as the southern Great Barrier Reef. If site planning is not pre-emptive, protection of the Region's values in these expanding areas will not be as effective.

Policies covering many aspects of tourism are now out-dated and work is still needed to address shortcomings identified in 2009. Implementation of the *Climate Change Action Strategy*, marine tourism contingency planning and development of a co-ordination framework to assist with consistency across jurisdictions are priorities in working towards an overarching strategy for managing tourism in the Region.

Sound governance, industry partnerships and management processes are in place to address tourism issues; the Authority is widely recognised as a world leader in this area. Joint permitting and assessment processes support consistency in the approach across jurisdictions. Most tourists are carried by a small number of highly accredited tour operators. Permit conditions seek to limit cumulative impacts and the potential problems arising from significant latent capacity within the permit system have been recognised and, at least, partially addressed through plans of management, capping permits and a booking system for sensitive sites. While the permitting system manages tourism well, a tourism permit can be more than 16 pages long and contain more than 50 conditions. Whether these permits are effective at informing and educating tourism operators about what they can and can't do – while delivering required outcomes for the environment, social, cultural and heritage values – requires evaluation. A key issue is the complexity of the current management arrangements for tourism. Knowing where you can go and what you can do relies on knowledge of zoning plans, plans of management, complex permissions and best practices. Simplification and alignment of current arrangements through regular ongoing reviews is required.

Since 2012, environmental management charge records can be recorded online (online bookings are expected to be rolled out in late 2012) improving efficiencies for the operators and the government agencies involved. Permit bookings are displayed on the Authority's website, providing a new level of public transparency.

The tourism industry has experienced difficulty in retaining and attracting experienced staff due to industry downturns and competition from the mining sector. This, alongside a reduction in educational opportunities (the reef discovery training program is no longer

operational) has generally led to a decline in the delivery of education on World Heritage Area values and the Authority's obligations regarding presentation of these values. However, within the Authority there continue to be high levels of skills related to marine tourism management and impact assessment. Expert advice also continues to be sought through the Tourism and Recreation Reef Advisory Committee and also the Indigenous Reef Advisory Committee. Representatives from the tourism industry are also members of Local Marine Advisory Committees.

The Authority endeavours to build on best available biophysical and monitoring research information to make relevant management decisions, including reef health monitoring information provided by tourism operators through the Eye on the Reef program. This program collects information through various methods including the Sightings Network, the Eyes and Ears Incident Reporting Network, Tourism Weekly Monitoring, Rapid Monitoring and Reef Health and Impact Survey sub-programs. Eye on the Reef has been enhanced and now integrates data and reporting across programs, while having a user-friendly data portal and the provision for online training.

The knowledge base within the Authority and the wider community has continued to increase, contributing to a reduction in major risks to the values of the Great Barrier Reef which underpin matters of national environmental significance.

A summary of tools used by the Authority in the management of tourism, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory tools
Great Barrier Reef Marine Park Act and Regulations	Partnerships (e.g. Reef Advisory Committees, Local Marine Advisory Committees)
The Great Barrier Reef Marine Park Zoning Plan 2003	Education and community awareness (e.g. zoning maps, website, Reef HQ)
Management Plans (e.g. plans of management)	Stewardship and best-practice (e.g. High Standard Tourism Operators, best practice guidelines)
Joint permits (with Queensland)	Research and Monitoring (Eye on the Reef program, Sightings Network)
Compliance	
Policy Documents (e.g. tourism related policies, position statements, guidelines and site management plans)	
Site Infrastructure (e.g. reef protection markers, public moorings)	

Partner agencies role (lead, partner, advisory):

- **Queensland Parks and Wildlife Service** has a partnership role with the Authority through joint assessment of permits and field management. It also has a lead role in the management of tourism in the adjoining Great Barrier Reef Coast Marine Park, the Queensland coastal zone and the 980 islands in the Great Barrier Reef World Heritage Area.
- **Industry Associations** (for example, Association of Marine Park Tourism Operators, Whitsunday Bareboat Operators Association, Queensland Tourism Industry Council, Whitsunday Charter Boat Industry Association and Cairns Professional Game Fishing Association) work in partnership with the Authority in the management of tourism and in the protection of the Great Barrier Reef World Heritage Area.
- **Tourism Operators** work in partnership with the Authority, through permits and community monitoring programs, to keep an eye on the Reef's condition and improve management of the Reef.
- **EcoTourism Australia** works in partnership with the Authority to identify and monitor High Standard Tourism Operations.
- **Tourism Queensland** and **Tourism Australia** work with the Authority and tourism operators to facilitate promotion of the Region's outstanding universal value and the area as a world class product.

Effectiveness of Management Tools as assessed by stakeholders

The Zoning Plan, followed by plans of management, were seen as the most effective tools in managing tourism. All tools, with the exception of site infrastructure (for example, reef protection markers, public moorings and signage), were seen as very effective by some respondents. More than half of the respondents understood compliance to be only partially effective.

Good industry relationships and strong partnerships with groups such as the Association of Marine Park Tourism Operators, together with the zoning and permit systems and plans of management, are seen as strengths. Nevertheless, respondents identified a need to improve standards in some Reef tourism operations with more experienced and trained interpretive staff. They saw the Authority could play a role in improving standards through the permit and compliance monitoring systems. More regular reviews of plans of management and making permits for commercial tourism operators easier to understand were suggested improvements.

Other areas for improvement identified include:

- more effective engagement at the management level with tourism operators
- reduced bureaucracy and enhanced flexibility in permit processing
- more human resources allocated to speed up permit processing
- streamlining processes for reviewing and amending plans of management
- more compliance activity and 'sticks' to deal with the poor performing operators who are 'damaging the brand'
- innovative policy development rather than continuing rounds of 'document to exhaustion'.

The desirability of the Authority in taking a proactive leadership role in defining the iconic tourism experience, rather than simply responding to proposals by tour operators, was also raised, as was the need for site infrastructure to follow destination development planning rather than being reactive.

Workshop participants raised the inflexibility of plans of management to respond to changes in the tourism industry.

3.12 Defence activities

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Effective	Effective	Effective	Effective	Effective	Effective	Overall
					Effective	Biodiversity

The Authority has a limited regulatory role in the management of defence activities within the Region. Defence activities and movements by the navy, air force and army occur throughout the Region. Three defence training areas are within the Great Barrier Reef: Shoalwater Bay, Cowley Beach and Halifax Bay. The Shoalwater Bay, Tully, High Range and Mt Stuart training areas also include significant catchment areas which drain into the Reef.

The Defence Department is responsible for the conduct of training activities by the defence forces, including visiting overseas defence force members. This responsibility includes the management of the environmental impacts of those activities, subject to the application of zoning plans. The management of defence operations within the Great Barrier Reef Region therefore relies substantially on the environmental management standards of the Defence Department and the strength of the partnership agreement between this body and the Authority¹⁶. The assessment for the *Outlook Report* concluded the limited area of operations and high level of performance by the Defence Department in managing the environmental impacts means that defence activities pose minimal threats to Great Barrier Reef values.

The Department of Defence has an environmental management strategy that includes objectives to implement best practice environmental management in its operations. In addition, a strategic environmental assessment¹⁷ was developed by the Defence Department and the Authority, covering defence activities in the Great Barrier Reef World Heritage Area. This document clearly outlines the values of the Great Barrier Reef and adjacent areas, including matters of national environmental significance and the potential risks to these values. The assessment was developed in 2006 and is currently being updated.

As noted in the 2009 *Outlook Report*, defence activities are allowed under the Zoning Plan. Strategic documents, policies and regular meetings facilitate implementation of the management agreement and ensure a consistent approach with other management agencies. Specific defence resources are devoted to environmental management, while staff exchanges, secondments, patrols and systematic application of the Defence Heritage Toolkit

help boost the department's expertise to manage defence activities and their potential impacts on Reef values.

Adequate biophysical information within defence training areas continues to be available for the Authority's management decisions. Navy hydrographic surveys improve knowledge of benthic habitats, ocean and weather conditions relevant to management. Surveys and studies about a range of ecological communities and species are undertaken. Local communities continue to be engaged in planning for specific exercises and routinely through Defence Environmental Advisory Committees.

Training exercises are thoroughly planned and include good performance monitoring, debriefs and post exercise monitoring. The identification of clear performance indicators, particularly those related to addressing cumulative impact issues, remains a challenge. The other area of concern relates to the high level of reliance by the Authority on planning, assessment and performance monitoring work undertaken by the Defence Department. While Authority staff have an appropriate mix of skills to fulfil their statutory responsibilities for defence activities, the liaison and monitoring work is undertaken as a relatively low priority by a small number of Authority staff in competition with other core business. The skills required to assess defence activities are limited to a few core staff. An increase in training and sharing of corporate knowledge is essential to ensure this activity is effectively managed into the future.

A systematic approach generally ensures that statutory and planning timeframes are routinely met and results are reported by the Defence Department in a timely manner. The knowledge base for confident management of defence activities in the Great Barrier Reef, both within the Authority and in the wider community, continues to increase as a result of consultative meetings and reports documenting efforts to minimise environmental impacts, along with a lack of evidence of death or injury to species such as dugong and marine turtles.

A summary of tools used by the Authority in managing defence activities, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory Tools
Great Barrier Reef Marine Park Act and Regulations	Partnerships (e.g. Memorandum of Understanding with the Department of Defence)
Great Barrier Reef Marine Park Zoning Plan 2003 (e.g. Part 5 Directions)	Education and community awareness (e.g. website)

	<p>Stewardship and best practice (e.g. strategic environmental assessment)</p> <p>Research and Monitoring (turtle and seagrass monitoring in Shoalwater Bay)</p>
--	--

Partner agencies role (lead, partner, advisory):

- The **Department of Defence** is responsible for the conduct of training activities by defence forces, including visiting overseas defence force members.
- **Queensland Parks and Wildlife Service** works in partnership with the Authority to manage defence activities in the Great Barrier Reef World Heritage Area.

Effectiveness of management tool as assessed by stakeholders

Insufficient responses were received to assess the effectiveness of management tools for defence activities.

3.13 Research Activities

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Effective	Overall
					Effective	Biodiversity

The Authority has a lead role in relation to the management of research activities (that is, access to the Marine Park to undertake research) within the Region. The Great Barrier Reef is known internationally as a premier site in which to conduct scientific studies. The majority of research occurs at the four major research stations at Lizard Island, Orpheus Island, One Tree Island and Heron Island. Diffuse research is conducted at other locations.

The Authority manages the impacts of research activities on Reef values, including extractive and observational research use, through a mix of management tools. As provided for in the Great Barrier Reef Marine Park Act and Regulations, permits for specific research projects and accreditation of partner research institutions are the principal means of managing the potential impacts from this activity. These mechanisms cross reference to the Zoning Plan and plans of management for specific geographic areas, as well as to specific policy documents on managing research and provisions for compliance and enforcement of permit conditions.

The Authority's *Scientific information needs for the management of the Great Barrier Reef Marine Park* report¹⁸ identifies key information needed to better inform management of the area. This document, along with partnership agreements with key research institutions, provides the basis for research alignments which should deliver valuable outcomes for improved management. The Authority is updating this document as a key input to the development of an integrated monitoring framework for the World Heritage Area.

The assessment of management effectiveness undertaken for the *Outlook Report* concluded that management of research in the Reef was moving towards desired outcomes, reducing risks and threats to Reef values. While research activities were generally considered to be environmentally sustainable, it was recognised there was a need to more effectively manage research through the implementation of a relational database designed to capture and manage permitted use. To date, this system (now renamed the Reef Management System) is still under development and unable to inform intended and actual research take through

queries and reports. This limits the ability to manage cumulative use. This has been identified as an area requiring improvement and will be particularly valuable for the scientific research zones that surround research stations where research is heavily concentrated.

Further opportunity to improve the management of cumulative impacts has been identified through the development and implementation of environmental management plans for high use scientific research zones. In 2009, the development of these plans was judged to be slow, with only one plan completed and another two in draft form. While little progress has been made since then, other management arrangements are in place to assist with the effective management of these zones. For example, permit conditions require consultation and negotiation between researchers and research station staff regarding the location and timing of permitted research activities. Researchers are also required to submit reports detailing their collection throughout the permit duration.

Historically, research has been focused on biophysical systems but there has been more recent interest in socio-economic drivers. While more biophysical information is available upon which to address management of scientific research, there is limited traditional knowledge and socio-economic information is only slowly becoming available. Research proposals with the potential to impact Indigenous values are referred to the relevant Indigenous liaison staff for guidance. However, Traditional Owner participation in research within their sea country, and dissemination of research results to them, is limited (in contrast to their high level of interest in this area). Direct risks and threats to Reef values from specific research activities are recognised but potential cumulative impacts on the Region's values are unclear and warrant more focused attention. Ironically, the Reef's reputation as one of the best managed reef systems in the world is likely to make it a preferred site for more research which could significantly add to the pressure on research sites.

The Authority has very successful and effective relationships with the research community in relation to how scientific research is managed in the Great Barrier Reef. This is shown through the accreditation process and strong partnerships with research institutions. Co-accreditation arrangements are in place to ensure consistency between jurisdictions, while permits require stakeholder and local community engagement as necessary. Management staff have appropriate research skills and expertise to effectively manage research activities; however, resources available for the management of research activities are limited. Consequently there is limited capacity to contribute to the formulation of regulations and policies associated with research or to develop environmental management plans for scientific research zones.

The 2004 Policy on Managing Scientific Research needs to be reviewed and updated to reflect this focus on cumulative impacts. In addition, the limited impact and collection limits in the Regulations need to be revised to ensure the take limits are ecologically sustainable (for example, a researcher could collect five tiger sharks from one location under the current accreditation scheme).

Uncertainties resulting from the limited understanding of potential cumulative impacts and limited attention to compliance with permit conditions make it impossible to state categorically that outcomes for management of research activities are being met and objectives are as clear and measurable as they need to be.

Research activities on the Reef are well regarded internationally and there are robust management processes and governance arrangements in place to manage research on the Reef. In general, research is not seen to have a large and detrimental impact on the Reef ecosystem. However, confidence that research is environmentally sustainable is reduced by the limited knowledge of cumulative impacts of collection undertaken for research. It will be important for an updated policy, coupled with information needs documentation, to set clear targets to guide the management of research of the next 25 years. Particular attention should be paid to addressing potential cumulative impacts in intensively researched areas.

A summary of tools used by the Authority in managing research activities, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory tools
Great Barrier Reef Marine Park Act and Regulations	Partnerships (e.g. accredited research institutions, researchers)
Great Barrier Reef Marine Park Zoning Plan 2003	Education and community awareness (e.g. zoning maps, website, Reef HQ)
Joint permits (with Queensland)	Research and Monitoring (e.g. <i>Scientific Information Needs</i> report, Eye on the Reef program)
Management Plans (plans of management)	Stewardship and best practice (e.g. best environmental practices)
Compliance	
Policy Documents (e.g. scientific research, translocation of marine species, environmental management plans for scientific research stations)	

Partner agencies role (lead, partner, advisory):

- **Queensland Parks and Wildlife Service** has a partnership role with the Authority through joint assessment of permits and field management. It also has a lead role in the management of research activities in the adjoining Great Barrier Reef Coast Marine Park, the Queensland coastal zone and the 980 islands in the Great Barrier Reef World Heritage Area.
- **Research station managers** work with the Authority through the permit system and accreditation program to coordinate research use around research stations, cross-check permit requirements and collect research collection reports.
- **Accredited research institutions** work in partnership with the Authority through a memorandum of understanding and codes of conduct to facilitate the conduct of limited impact research within the Region.
- **Research institutions and researchers** provide improved knowledge about the Region and advice on its implications for management.

Effectiveness of management tools as assessed by stakeholders

The Zoning Plan, partnerships, and education and community awareness were seen as the most effective management tools for scientific research. Compliance, policy, stewardship and permits were seen as ineffective or only partially effective.

The existing partnerships with research institutions are identified as a major strength. However, the limited research capability within the Authority itself is noted as a weakness and is attributed to the lack of long-term secure funding to support strategic research. The possibility is also raised of establishing a specialist board to guide research. The limited amount of compliance monitoring, especially on the cumulative impacts of research, is identified as a weakness, along with the need for better housekeeping and management of research sites.

Workshop participants did not specifically address research activities.

3.14 Commercial Fishing

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Mostly effective	Partially effective	Partially effective	Partially effective	Partially effective	Partially effective	Overall
					Partially effective	Biodiversity

The Authority has a regulatory role in the management of commercial fishing through its zoning plan, regulations and permits for a limited number of Queensland managed commercial and developmental fisheries. The Authority has an advisory role to other agencies in relation to the management of commercial fishing in the Region.

Fishing is the principal extractive use of the Great Barrier Reef. Commercial fishing targets a range of species including fish, sharks, crabs, lobsters and prawns. Viable commercial fishing industries depend on a healthy ecosystem.

Management of fishing and its dependent aquatic environment is shared between the Australian and Queensland governments. While the Authority has a direct role in ensuring that fishing is ecologically sustainable in the Marine Park it has an advisory role on the management of commercial fisheries, and works with other agencies to improve fisheries management. The total revenue from commercial fishing in the World Heritage Area in 2010–11 was estimated at \$192 million.¹⁵

The Authority's primary management tools with respect to commercial fishing are the Zoning Plan, associated Regulations, stewardship (Reef Guardian fishers) and permits for a small number of harvest fisheries and developmental fisheries. Special management areas are in place to regulate fishing practices in areas important to dugong. These tools complement the Queensland legislation that licences commercial fishing. Compliance, undertaken by the joint Australian and Queensland governments' Field Management Program, also plays a significant role in managing the impacts of commercial fishing.

As identified in the 2009 *Outlook Report*, the Authority has a good understanding of commercial catch information. Cumulative impacts associated with commercial fishing are reasonably well known. The recent ecological risk assessment of the East Coast Otter Trawl Fishery in the Great Barrier Reef found the overall ecological risks from trawling are

relatively low, but there are some high ecological risks for deep water skates, several rays, and sea-snakes.¹⁹

A reduction in trawl fishing effort of more than 40 per cent between 2005 and 2009, driven by prevailing economic conditions rather than management intervention, has significantly reduced the ecological risk from trawling. However, higher effort levels are still allowable under existing management arrangements. Further reductions in trawl by-catch and other efforts to reduce risks for species of conservation concern are important for the sustainability of the fishery.

Stewardship among commercial fishers is promoted through the Authority's Reef Guardian Fishers program which currently involves nine fishing operations and up to 50 fishing vessels. These commercial fishers demonstrate leadership in their sector by going well beyond regulations to maximise the ecological sustainability of their operations. A significant example of stewardship by commercial fishers is the self-imposed moratorium on commercial coral collection in a large part of the Keppel Islands following flooding impacts.

The Authority has completed vulnerability assessments for threadfin salmon and grey mackerel. These assessments show the minimum legal size for both species are smaller than reported sizes at first maturity, exposing these species to fishing pressure before fish can breed. Size limits need to protect the immature populations if they are to be effective in ensuring ecologically sustainable fisheries for the long term. The Authority is also actively involved with a range of fishery related projects, such as assessment of coral trout stocks. However, the status and trend of many other fish stocks are unknown. Protection of dugong from netting in the Townsville region has improved through rule changes for commercial fishing within part of the Bowling Green Bay Species Conservation (Dugong Protection) Special Management Area in 2011. However, illegal fishing is considered one of the greatest risks to the environmental sustainability of commercial fishing.

Commercial fisheries arrangements in the Reef are accredited against national sustainability guidelines. The Authority is involved in this role in an informal advisory capacity only. Engagement with stakeholders is critical for the Authority to positively influence the management of fishing. The Authority partners with the Queensland Government, the fishing industry and other stakeholders such as the CSIRO and James Cook University to better understand the impacts of fishing on the Reef and to help ensure use of the Reef is ecologically sustainable. The Authority has also worked with commercial fishers to develop a Reef Guardian Fishers stewardship program to recognise and promote sustainable fishing

practices. The sector is also represented on most Reef Advisory Committees and Local Marine Advisory Committees.

The Authority's Field Management Program resources are focused on compliance, partnerships and engagement, with further work undertaken through the *Climate Change Adaptation Strategy and Action Plan*. However, funding for the Field Management Program has been static since 2008 and declining in real terms. Funding has not kept pace with an increase in the protected area.

A summary of tools used by the Authority in managing commercial fishing, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory tools
<p>Great Barrier Reef Marine Park Act and Regulations</p> <p>Great Barrier Reef Marine Park Zoning Plan 2003</p> <p>Joint permits (with Queensland)</p> <p>Compliance</p>	<p>Partnerships (e.g. Great Barrier Reef Intergovernmental Agreement, advisory role to the Department of Sustainability, Environment, Water, Population and Communities on fishery assessments)</p> <p>Education and community awareness (e.g. website, Reef HQ)</p> <p>Research and Monitoring (e.g. trawl ecological risk assessment and related documents)</p> <p>Stewardship and best practice (e.g. Reef Guardian Fishers, ProVision Reef Stewardship Action Plan developed by commercial fishers, best environmental practices)</p>

Partners (lead, partner, advisory):

- Queensland **Department of Agriculture, Fisheries and Forestry** takes the lead role in the management of fisheries within the Region and is responsible for the development and implementation of policies and programs relating to commercial fisheries.
- **Queensland Boating and Fisheries Patrol** (in partnership with the Authority through the Field Management Program) enforces Queensland fisheries regulations and marine parks legislation.
- Commonwealth **Department of Agriculture, Fisheries and Forestry** generally has limited jurisdiction over commercial fishing, with the Queensland Department assuming lead responsibility for commercial and recreational fishing.
- Commonwealth **Department of Sustainability, Environment, Water, Population and Communities**, through implementation of the EPBC Act, requires the Australian Government to assess the environmental performance of fisheries and promote

ecologically sustainable management. The Authority provides an advisory role to the department on the fishery assessments for Queensland fisheries.

- **Commercial fishers** work in partnership with management agencies through stewardship and best practice programs to ensure fisheries are ecologically sustainable and to adapt to climate change.

Effectiveness of management tools as assessed by stakeholders

Zoning was considered to be the most effective of the management tools used to manage commercial fishing in the Great Barrier Reef Marine Park. Research and monitoring, along with the Great Barrier Reef Marine Park Act and Regulations, were considered to be very or mostly effective by more than 50 per cent of the survey respondents. Partnerships, compliance, plans, permits and policy were seen as ineffective or only partially effective by more than 60 per cent of respondents.

The Zoning Plan is seen as the most effective management tool, although the compliance effort and political will to enforce restrictions is seen as weak. Getting the balance right between the interests of commercial and recreational fishers is seen as an area requiring attention by some respondents. Vessel monitoring systems are regarded as effective but need to be extended.

3.15 Recreational fishing

Effective	Mostly effective	Partially effective	Ineffective
-----------	------------------	---------------------	-------------

Context	Planning	Inputs	Processes	Outputs	Outcomes	
Partially Effective	Mostly effective	Partially Effective	Partially Effective	Partially Effective	Partially Effective	Overall
					Partially Effective	Biodiversity

The Authority has a limited regulatory role in relation to recreational fishing and collecting (primarily through the Zoning Plan and Regulations). The Authority has an advisory role to the Queensland Government in relation to the management of recreational fishing in the Region.

Recreational fishing is one of the most significant recreational activities undertaken on the Reef. The main target species are coral trout and other cod, emperor, tropical snapper, barramundi, bream, mackerel, whiting, crabs, lobster and bait fish. Recreational fishers report that they release nearly half of all fish caught²⁰ but the survival of released fish is highly variable and dependent on a number of factors including the experience of the fisher.

Management of the ecological sustainability of recreational fishing by the Authority is primarily through the Zoning Plan and Regulations through public appreciation areas that limit spearfishing, in addition to education and awareness programs. As is the case with commercial fishing, compliance plays a role in the management of recreational fishing. Recreational fishing is predominately managed by the Queensland Department of Agriculture, Fisheries and Forestry through size, take and possession limits; however, there is no total allowable catch for this fishery. Fishing gear constraints and limitations of the take of certain species contained in the Zoning Plan and the Great Barrier Reef Marine Park Regulations also contribute to the management of recreational fishing and collecting.

The *Recreation Management Strategy* identified the key threats to the Reef from recreational fishing but did not consider this activity in detail. Ecosystem effects and cumulative impacts of fishing are poorly understood, but are likely to be concentrated in inshore areas close to major population centres. Local depletion, particularly of some inshore species, is of concern in some areas.⁵ Economic data estimated that more than \$57 million per annum was spent on recreational fishing, with more than 3.4 million fishing trips undertaken in 2012.¹⁵

While anchor damage in the Whitsundays led to the establishment of no anchoring areas, the *Recreation Management Strategy* identified that recreational fishing practices are unlikely to result in significant direct or indirect impacts on the habitats of the Region. However, an increase in the coastal population and the fly-in-fly out community could lead to a decline in the Region’s values if not spatially monitored and managed.

The Authority has no specific policy document on recreational fishing, and there are no explicit objectives, actions or targets articulated for recreational fishing. Responsible reef practices are detailed on the Authority’s website, providing best practice guidance for a number of activities associated with recreational fishing, such as boating, anchoring and mooring. Consequential or cumulative impacts are less well understood by managers and will require long-term trend and habitat monitoring to give confidence that potential impacts can be effectively addressed. Compliance and wider Field Management Program financial resources, associated with the surveillance of recreational fishing, appears inadequate and on the decline. For the Reef to be environmentally sustainable, illegal fishing needs to be identified and ceased. The current Field Management Program is operating at capacities set in the 1990s when Reef usage and pressures were lower, and prior to the seven-fold expansion of the area of highly protected zones and the emergence of climate change.

Stakeholder engagement is good with respect to user groups, with representatives on the Local Marine Advisory Committees. However, many individuals do not belong to groups or clubs. The *Recreation Management Strategy* identifies that engagement and collaboration with recreational users, Traditional Owners and the community more broadly are likely to play a key role in further reducing risks associated with recreational fishing. As identified in the *Outlook Report*, effective collaboration in management efforts and getting a better indication of the total recreational fishing effort are particularly challenging in the diffuse recreational fishing sector.

A summary of tools used by the Authority in managing recreational fishing, and which were assessed as part of this review, include:

Regulatory tools	Non-regulatory tools
Great Barrier Reef Marine Park Act and Regulations	Partnerships (e.g. Great Barrier Reef Intergovernmental Agreement)
Great Barrier Reef Marine Park Zoning Plan 2003	Education and community awareness (e.g. zoning maps, website, Reef HQ)
Compliance	Research and monitoring (e.g. Eye on the Reef program)
Policy Documents (e.g. <i>Recreation</i>)	

<i>Management Strategy</i>	Stewardship and best practice (e.g. best environmental practices)
----------------------------	--

Partner agencies role (lead, partner, advisory):

- Queensland **Department of Agriculture, Fisheries and Forestry** takes the lead role in the management of recreational fishing within the Region and is responsible for the development and implementation of policies and programs relating to recreational fishing.
- **Queensland Parks and Wildlife Service** has a partnership role with the Authority through joint assessment of permits and field management and a lead role in the management of recreational fishing in the adjoining Great Barrier Reef Coast Marine Park, the Queensland coastal zone and the 980 islands in the Great Barrier Reef World Heritage Area.
- **Queensland Boating and Fisheries Patrol** (in partnership with the Authority through the Field Management Program) enforces Queensland fisheries regulations and marine parks legislation.

Effectiveness of management tools as assessed by stakeholders

The Zoning Plan is the only tool considered to be very or mostly effective in managing recreational fishing by more than 50 per cent of respondents. Policy, along with stewardship and best practice, were seen as being the least effective. Workshop participants consistently raised the need for more baseline information about recreational fishing, a greater compliance presence and the cross-jurisdictional issues with state fisheries management.

The Zoning Plan, associated educational maps and materials, and a broad ecosystem-based approach to management were seen as strengths of the Authority's management of recreational fishing. A lack of capacity to manage recreational fishing effort or take and a lack of rangers in the field were regarded as weaknesses.

A lack of effective compliance of the Zoning Plan, the Great Barrier Reef Marine Park Act and Regulations was also highlighted by many respondents. Some respondents proposed additional Marine National Park Zones (green zones), especially along the coastline, to improve fish recruitment and the sustainability of recreational fishing. The introduction of a recreational fishing licence to improve user compliance and raise additional revenue for management of the Marine Park was also proposed. Improved information based on better research and monitoring was seen as necessary to improve management and the understanding of users.

4. Elements of effectiveness

4.1 Context

Understanding of values, direct and indirect threats and stakeholders is strong for most management issues assessed — with the exception of Indigenous heritage, historic heritage, recreational fishing and community benefits. In particular, defence activities, tourism, research activities and water quality protection are well understood. This reflects a solid information and research base and a very mature understanding of the key values of the Great Barrier Reef in a national and international context, along with the direct and indirect threats to those values. Understanding of cumulative and consequential impacts, as well as condition and trend, is more variable across the management issues.

Understanding of stakeholders is consistently strong across all issues (in fact, it shows the strongest performance across the entire range of assessment criteria). Table 7 summarises the management effectiveness scores for the context for each of the management topics. Note that none of the topics was scored 'ineffective'.

Table 7. Summary of management effectiveness scores for context

Biodiversity protection	Mostly effective
Indigenous heritage	Partially effective
Historic heritage	Partially effective
Community benefits	Partially effective
Water quality protection	Effective
Climate change and extreme weather	Mostly effective
Coastal development	Mostly effective
Ports	Mostly effective
Shipping	Mostly effective
Recreation	Mostly effective
Tourism	Effective
Defence activities	Effective
Research activities	Effective
Commercial fishing	Mostly effective
Recreational fishing	Partially effective

4.2 Planning

Significant efforts have been made in planning for a number of issues such as biodiversity protection, coastal development and recreation. Some plans are still in draft form, considerably out-dated or are yet to be fully implemented, although planning effectiveness is improving. In the case of coastal development, the Authority's development of the Coastal Ecosystems Assessment Framework is very positive, however the fractured nature of the planning regime is problematic and recent changes to coastal planning in Queensland have raised concerns.

In the case of ports, the project specific nature of planning means that a Great Barrier Reef-wide strategic view to direct development and maintain and enhance values is generally not available. Recent plans for expanding the number and size of ports in response to mining industry growth in Queensland are of concern. Lack of resourcing means an updating of the *Heritage Strategy* and the preparation of heritage management plans has not been satisfactorily progressed. Lack of consistency across jurisdictions is the weakest aspect of planning.

Table 8 summarises the management effectiveness scores for planning for each of the management topics. Note that none of the topics was scored 'ineffective'.

Table 8. Summary of management effectiveness scores for planning

Biodiversity protection	Mostly effective
Indigenous heritage	Mostly effective
Historic heritage	Partially effective
Community benefits	Mostly effective
Water quality protection	Mostly effective
Climate change and extreme weather	Mostly effective
Coastal development	Partially effective
Ports	Partially effective
Shipping	Mostly effective
Recreation	Mostly effective
Tourism	Mostly effective
Defence activities	Effective
Research activities	Mostly effective
Commercial fishing	Partially effective
Recreational fishing	Mostly effective

4.3 Inputs

Adequacy of inputs is variable across management issues, being least effective for community benefits, coastal development, ports, shipping, commercial and recreational fishing, and historic heritage management. The adequacy of socio-economic and Indigenous knowledge is a problem for most issues and is among the worst performing criteria across the whole assessment. Secure resourcing is a significant ongoing issue for many management areas and a better understanding and documentation of management resource requirements is needed (see Recommendation 6.2.1). Table 9 summarises the management effectiveness scores for inputs for each of the management topics. Note that none of the topics was scored 'ineffective'.

Table 9. Summary of management effectiveness scores for inputs

Biodiversity protection	Mostly effective
Indigenous heritage	Mostly effective
Historic heritage	Partially effective
Community benefits	Partially effective
Water quality protection	Mostly effective
Climate change and extreme weather	Mostly effective
Coastal development	Partially effective
Ports	Partially effective
Shipping	Partially effective
Recreation	Mostly effective
Tourism	Mostly effective
Defence activities	Effective
Research activities	Mostly effective
Commercial fishing	Partially effective
Recreational fishing	Partially effective

4.4 Process

Management processes are particularly strong for defence activities. They are weakest for coastal development, community benefits, commercial and recreational fishing, ports and Indigenous heritage. Addressing consequential and cumulative impacts, application of socio-economic and Indigenous knowledge, and setting of targets to benchmark performance are problematic for most issues. As was found in the *Outlook Report* assessment, the extent to which consequential and cumulative impacts are being addressed and the application of Indigenous knowledge remain the weakest indicators across the entire management effectiveness assessment. Stakeholder engagement and application of biophysical information are the strongest aspects of management across all issues. Table 10 summarises the management effectiveness scores for processes for each of the management topics. Note that none of the topics was scored 'ineffective'.

Table 10. Summary of management effectiveness scores for process

Biodiversity protection	Mostly effective
Indigenous heritage	Partially effective
Historic heritage	Mostly effective
Community benefits	Partially effective
Water quality protection	Mostly effective
Climate change and extreme weather	Mostly effective
Coastal development	Partially effective
Ports	Mostly effective
Shipping	Mostly effective
Recreation	Mostly effective
Tourism	Mostly effective
Defence activities	Effective
Research activities	Mostly effective
Commercial fishing	Partially effective
Recreational fishing	Partially effective

4.5 Outputs

Delivery of desired outputs has been weakest for coastal ecosystems, commercial and recreational fishing and ports. They are strongest in relation to climate change and extreme weather, defence, commercial marine tourism and research activities, with a noticeable improvement in the delivery of outputs relating to water quality management compared to the *Outlook Report*. The knowledge base of the management agencies and community has consistently improved. While the majority of management programs are progressing satisfactorily, timeframes frequently slip and it is not yet clear that the programs are achieving all their desired objectives. Table 11 summarises the management effectiveness scores for outputs for each of the management topics. Note that none of the topics was scored 'ineffective'.

Table 11. Summary of management effectiveness scores for outputs

Biodiversity protection	Mostly effective
Indigenous heritage	Mostly effective
Historic heritage	Mostly effective
Community benefits	Mostly effective
Water quality protection	Mostly effective
Climate change and extreme weather	Mostly effective
Coastal development	Partially effective
Ports	Partially effective
Shipping	Mostly effective
Recreation	Mostly effective
Tourism	Effective
Defence activities	Effective
Research activities	Mostly effective
Commercial fishing	Partially effective
Recreational fishing	Partially effective

4.6 Outcomes

Achievement of desired outcomes (values protected, threats reduced, long-term environmental and economic sustainability) is highly variable across issues. Objectives in relation to community understanding of issues and development of effective partnerships are being achieved. Overall, the greatest concern in relation to achievement of desired outcomes relates to climate change, coastal ecosystems, ports, commercial and recreational fishing and water quality, where management is led by other agencies and outside the Authority's jurisdiction.

When environmental outcomes are separated out from the broader outcome context, the biodiversity protection outcomes score drops to a partially effective rating, while the climate change and extreme weather outcomes score drops to an ineffective rating. Table 12 summarises the management effectiveness scores for outcomes for each of the management topics.

Table 12. Summary of management effectiveness scores for outcomes

	Overall outcomes	Biodiversity outcomes
Biodiversity protection	Mostly effective	Partially effective
Indigenous heritage	Mostly effective	Mostly effective
Historic heritage	Partially effective	Partially effective
Community benefits	Mostly effective	Mostly effective
Water quality protection	Partially effective	Partially effective
Climate change and extreme weather	Partially effective	Ineffective
Coastal development	Partially effective	Partially effective
Ports	Partially effective	Partially effective
Shipping	Mostly effective	Mostly effective
Recreation	Mostly effective	Mostly effective
Tourism	Effective	Mostly effective
Defence activities	Effective	Effective
Research activities	Effective	Effective
Commercial fishing	Partially effective	Partially effective
Recreational fishing	Partially effective	Partially effective

4.7 Summary

The Authority is striving to manage effectively in all areas, and there have been considerable improvements in a number of areas since the *Outlook Report 2009*. The difficulties in achieving positive outcomes on the ground, given the spatial and temporal scales of the threats facing matters of national environmental significance and the diminishing resource base to implement actions, are recognised. However, greater traction in threat reduction is needed for an improvement in outcomes. Improved threat reduction is, in turn, dependent on the adoption of significant changes to current policies regarding coastal development, resource use, control of other human impacts and sufficient resourcing to implement threat reduction programs in the field.

Management effectiveness is strongest on issues limited in scale or intensity and presenting only minor or moderate complexity such as defence and research activities. Tourism operates across much of the region and is moderately complex. It has received significant management attention and is effectively managed.

Management effectiveness challenges are evident for those broad scale issues which are complex socially, biophysically and jurisdictionally. These include ports, shipping, climate change and extreme weather, coastal development, water quality protection, commercial and recreational fishing, and Indigenous heritage.

In the case of climate change and extreme weather, coastal development and water quality protection, the particular management challenges occur in consistency across jurisdictions which impacts on planning. For commercial and recreational fishing, there are particular

challenges in the areas of monitoring and compliance, especially as they relate to addressing potential cumulative impacts. For Indigenous heritage, the management challenges are particularly in areas of understanding the context and processes to better incorporate Indigenous heritage across the Authority.

In general, most indicators for management effectiveness were either improving or stable. The exceptions were indicators around financial inputs and cross-jurisdictional cooperation which were regularly scored as declining.

In most cases, adequate evidence was available to confidently provide a grading. Topics where confidence in the assessment was low included Indigenous heritage, historic heritage and community benefits. Gradings for indicators around condition and trend and traditional knowledge were frequently made with limited evidence.

Improving trends in context, planning, processes and outputs for a number of the topics, such as biodiversity protection, climate change and extreme weather and recreation, reflect the significant work undertaken by the Authority following the *Outlook Report*.

5. Survey results: effectiveness of management tools

A total of 95 people responded to the survey, in most cases answering questions in relation to two or three issues. The number of people responding to each issue was quite low, so statistical analysis of results by issue is difficult but some general patterns of effectiveness are evident for most tools. Individual results are given with the assessment of management effectiveness of issues in Section 3. The results here examine respondent views of the effectiveness of the various management tools looking across all issues. The summarised results are shown in Table 13.

Table 13. Overall assessments of effectiveness of management tools by survey respondents

Tools	n	%Very or mostly effective	% Very effective	% Mostly effective	% Partially effective	% Not effective	% No opinion	% Not applicable
Zoning Plan	20	53	18	35	23	13	5	5
Education and community awareness	20	48	14	34	33	17	2	0
Research and monitoring	21	43	15	28	33	16	7	1
Traditional Use of Marine Resources Agreements	7	43	29	14	14	14	14	14
Plans of management	10	41	11	30	32	12	10	5
Act and regulations	22	40	9	30	35	19	6	1
Stewardship and best practice	17	39	11	28	36	18	6	1
Site infrastructure	63	37	8	29	35	6	19	3
Permits (incl. environmental impact assessment)	20	36	9	27	38	15	7	5
Partnerships	16	35	11	23	39	17	8	1
Compliance (formal and informal)	16	26	4	22	41	24	8	1
Policy documents	20	23	4	19	38	22	14	3

Only the Zoning Plan was considered to be effective or mostly effective (hereafter called “effective”) by more than half of the respondents. Compliance and policy documents were

considered to be the least effective tools, with less than one in three respondents considering them to be effective.

The perceived lack of effectiveness of most of the main management tools used in managing the Great Barrier Reef is a matter of concern and warrants more in depth consideration by the Authority. The detailed qualitative comments of respondents could provide a starting point for such a study which could be carried out in collaboration with Reef Advisory and Local Management Advisory Committee members.

Problems with the level of compliance and enforcement of regulations were commonly cited as concerns in the qualitative comments of respondents. The other commonly cited issue limiting the effectiveness of management tools is the limited jurisdictional responsibility of the Authority, with many issues falling partly or largely under the responsibility of state and local government. There was also a perceived lack of commitment at those levels to the protection of the Great Barrier Reef.

6. Recommendations

6.1 Overview

The recommendations below outline specific actions that are necessary for effective management for each of the management topics considered. However, there is a need for integrated outcome-based approach to progressing management effectiveness with clear actions and timeframes supported by appropriate resourcing. The revised Reef Plan is an example of how a very complex, cross-jurisdictional issue can be effectively managed.

One of the most important recommendations is to address resourcing for key programs. This recommendation has been considered first, as the need for transformational change of on-ground outcomes will not occur without substantial secure funding and a concomitant increase in management capacity.

While it has been recommended that a number of strategies be developed for the specific management topics that were addressed in this assessment, it is possible to combine such strategies into broader integrated plans.

For effective management, it is critical to understand the values, threats and stakeholders of the region, and to have clear vision, goals and objectives to conserve the values and reduce the threats. The issue of cumulative impacts needs to be considered across most topics.

The Authority has a sufficient set of tools for the effective management of the Region. However, plans, policies and strategies could be improved by articulating clearer actions, timeframes and outcomes, with a regular schedule of review and evaluation.

6.2 Resourcing

Undertake a comprehensive assessment to determine the resourcing required to implement key programs and then seek a commitment from governments to secure these resources. Areas requiring particular attention in relation to available resources include:

- compliance and enforcement
- field management
- Great Barrier Reef and Torres Strait Vessel Traffic Service
- environmental management charge and offsets policy development and auditing
- Reef Guardians

- comprehensive long-term biophysical, social and economic monitoring of the Region
- Indigenous Sea Country Partnerships
- historic heritage including management of Commonwealth islands and coastal ecosystems
- Reef Plan.

Explore options for obtaining increased funding including:

- a review of intergovernmental resourcing levels;
- Contributions to management charges such as expanding the Authority's environmental management charge to other activities. This has the potential to equitably share the costs of managing and protecting the outstanding universal value of the Marine Park between the Australian public and those that derive a private benefit from activities permitted under the Great Barrier Reef Marine Park Zoning Plan 2003. Currently this potential is limited only to a small suite of users (for example, tourism and sewage discharge) and has not been extended to users that pose the greatest risk to and impact on the Marine Park.

6.3 Biodiversity Protection

- Review draft *Biodiversity Conservation Strategy* and add more outcome-oriented targets.
- Prioritise knowledge gaps for status and trend of species and habitats, and publicise these to the research community, while encouraging research projects to address these gaps.
- Consider long-term monitoring requirements in light of identified areas of biodiversity concern (for example, inshore coastal ecosystems).
- Identify any critical areas of habitats requiring more detailed planning for biodiversity conservation and prepare a plan of management for the area.
- Develop offset policy to address issues such as the:
 - use of funds arising from offset arrangements;
 - effectiveness of offset arrangements where the offsetting action is unlikely to deliver benefits for biodiversity but the impact being offset is more immediate;
 - perceived lack of effectiveness of most management tools by respondents to the stakeholder survey to better understand why Local Marine Advisory Committee and Reef Advisory Committee members consider so many of the tools to be largely ineffective.

6.4 Indigenous Heritage

- Develop an Indigenous heritage strategy with clear objectives, actions and milestones.
- Develop appropriate mechanisms to allow Indigenous knowledge to be considered in decision making and planning across the range of the Authority's influence.
- Consider mechanisms and models for implementation of co-management with Traditional Owners for sea country.

6.5 Historic heritage

- Finalise the heritage database and identify gaps in knowledge.
- Review and update the *Heritage Strategy* to focus on the protection of historic heritage and provide timeframes for implementation and targets.

6.6 Community benefits

- Develop overarching strategy with realistic timeframes and targets for actions to tie existing work together to identify gaps in knowledge and provide management policies to maintain the range of different social, economic, heritage, cultural aesthetic values attributable to different Great Barrier Reef locations.
- Maintain and strengthen partnerships and encourage public participation and transparency in decision making through existing mechanisms.
- Implement measures for outreach to the broader constituency who are not engaged at present (for example organise an annual regional forum in conjunction with the relevant Local Marine Advisory Committee to review monitoring and research results, as well as planning and developments in the Region).
- Document and consider environmental, social and economic costs and benefits of the Authority's major management decisions on Reef dependent communities.

6.7 Water quality protection

- Continue to work with the Australian and Queensland Governments to strengthen efforts to improve water quality to build resilience and aid the recovery of coral reefs. Additionally, it is recommended that further resources be invested in catchments contributing nutrients to the source areas of crown-of-thorn outbreaks.
- Ensure compliance of point source discharge with permit conditions, and consider a cross- jurisdictional program to improve water quality from point source discharges.

6.8 Climate change and extreme weather

- Amend policy and procedures documents and develop practical guidelines for relevant permit-holders and applicants, so all aspects of the Authority's management include opportunities to monitor change, and contribute to adaptive management.
- Establish a system to regularly report on relevant climate change indicators for underpinning adaptive management to provide robust scientific data on key indicators on the impacts of climate change.

6.9 Coastal development

Improve governance of the management of coastal ecosystems across relevant state and Commonwealth jurisdictions by:

- Amending the *Intergovernmental Agreement 2009* to include bilateral commitments to integrated marine and coastal planning.
- Developing an intergovernmental program to address management of coastal ecosystems in relation to impacts on the Great Barrier Reef, based on the Reef Plan model¹.
- Using the Reef Guardian Council program to develop a strategy with each council that identifies critical coastal ecosystem management issues in local government areas and establish goals, strategies and targets for management of these ecosystems.
- Conducting more detailed studies of coastal and marine linkages and potential for cumulative impacts of historic land use change at a catchment scale for priority catchments identified in the *Informing the Outlook for coastal ecosystems* report.

6.10 Ports

- Finalise ports position statements to articulate the Authority's interest in the location and management of port infrastructure, reflecting the potential for ports development to negatively impact on matters of national environmental significance.
- Actively participate in the decision making about coastal development and the location of port development and expansion.
- Develop an offsets policy concerning port development and expansion, ensuring a demonstrable net environmental benefit.

¹ This recommendation aligns with the FRDC funded project *Changing Currents in Marine Biodiversity Governance and Management: Responding to Climate Change*; University of Tasmania and University of Queensland.

- Improve governance of the management of coastal ecosystems across relevant state and Commonwealth jurisdictions by amending the *Intergovernmental Agreement 2009* to include bilateral commitments concerning port development, and develop an intergovernmental program to address management of port development in relation to impacts on the Region.

6.11 Shipping

- Develop a strategy and action plan to address potential shipping impacts (for example, introduced marine pests, physical damage, chemicals and other material spills, and increasing anchoring and transiting). The strategy needs to address the immediate response to impacts and the longer-term rehabilitation of the reef.
- Develop best practices in partnership with the shipping industry (for example reduced illumination lighting, waste management plans, carbon offsetting).

6.12 Recreation

- Develop timeframes and implementation plan for existing strategy.
- Undertake long-term survey to identify recreational use, values and changes over time to allow for proactive management in areas of high or conflicting use.

6.13 Tourism

- Accelerate pre-emptive site planning in those areas such as the southern Great Barrier Reef where growth in tourism activities is occurring.
- Review policies and effectiveness of permit conditions that govern tourism and influence the behaviour of tour operators and visitors to protect Great Barrier Reef values underpinning matters of national environmental significance.
- Consider a compliance plan for ensuring operators are operating within their permit conditions.
- Work with tourism operators to improve the quality of reef interpretation and presentation.

6.14 Defence activities

- Ensure retention of the skills required to assess defence activities by increasing training and sharing of corporate knowledge to give confidence that the Authority has the capacity to effectively manage defence activities into the future.

6.15 Research activities

- Update and strengthen the Reef Management System to monitor the level of actual research take, so it is better able to inform cumulative impact assessment processes for research activities, particularly around research stations.
- Review and update the Policy on Managing Scientific Research to include cumulative impacts.
- Revise the limited impact collection limits in the Regulations to ensure the take limits are ecologically sustainable.
- Develop environmental management plans for all scientific research zones.

6.16 Commercial fishing

- Deter and reduce illegal fishing through mechanisms such as real time vessel tracking capability on all commercial fishing vessels, improved technology such as the use of drones, increased number of patrol days, and enhanced education and communications with respect to zoning compliance.
- Develop a formal forum for relevant fisheries within the Marine Park to align planning for fishing among jurisdictions to facilitate ecologically sustainable use (for example, ensuring implementation of vulnerability assessment recommendations where issues are identified within a commercial fishery).

6.17 Recreational fishing

- Improve compliance with respect to illegal fishing through improved education and awareness, as well as increased patrols.
- Consider a permit system to improve compliance.
- Undertake long-term survey to identify recreational use and values, as well as changes over time, to allow for proactive management in areas of high or conflicting use.
- Develop a system to monitor recreational activity, fishing effort, catch and location to support the development of strategies to deliver long-term ecologically, socially and economically sustainable recreational fishing.

6.18 Management tools

- Establish a schedule for regular review and evaluation of plans, including recovery plans, policies and strategies.
- Improve stakeholder knowledge of tools used by the Authority through improved communication of management strategies and outcomes.

- Investigate the perceived lack of effectiveness of most management tools by respondents to the stakeholder survey to better understand why Local Marine Advisory and Reef Advisory Committee members consider so many of the tools to be largely ineffective.

7. References

1. Hockings, M., Stolton, S., Leverington, F., Dudley, N. and Courrau, J. 2006, *Evaluating effectiveness: a framework for assessing management effectiveness of protected areas*, 2nd edn, IUCN, Gland, Switzerland.
2. Great Barrier Reef Marine Park Authority 2009a, *Outlook Report 2009*, Great Barrier Reef Marine Park Authority, Townsville.
3. Bellwood, D.R., Hughes, T.P., Folke, C. and Nyström, M. 2004, Confronting the coral reef crisis, *Nature* 429: 827-833.
4. De'ath, G., Fabricius, K.E., Sweatman, H. and Puotinen, M. 2012, *The 27-year decline of coral cover on the Great Barrier Reef and its causes*, PNAS - Proceedings of the National Academy of Sciences of the United States of America, United States.
5. McCook, L.J., Ayling, T., Cappo, M., Choat, J.H., Evans, R.D., DeFreitas, D.M., Heupel, M., Hughes, T.P., Jones, G.P., Mapstone, B., Marsh, H., Mills, M., Molloy, F.J., Pitcher, C.R., Pressey, R.L., Russ, G.R., Sutton, S., Sweatman, H., Tobin, R., Wachenfeld, D. and Williamson, D. 2010, Adaptive management of the Great Barrier Reef: a globally significant demonstration of the benefits of networks of marine reserves, *Proceedings of the National Academy of Science, USA* 107(43): 18278-18285.
6. Great Barrier Reef Marine Park Authority 2005, *Great Barrier Reef Marine Park Heritage Strategy*, Great Barrier Reef Marine Park Authority, Townsville.
7. Great Barrier Reef Marine Park Authority 2012a, *Recreation Management Strategy for the Great Barrier Reef Marine Park*, Great Barrier Reef Marine Park Authority,.
8. Department of Premier and Cabinet 2009, *Reef Water Quality Protection Plan 2009 for the Great Barrier Reef World Heritage Area and adjacent catchments*, Reef Water Quality Protection Plan Secretariat, Department of Premier and Cabinet, Brisbane.
9. Great Barrier Reef Marine Park Authority 2012b, *Climate change adaptation: Outcomes from the Great Barrier Reef Climate Change Action Plan 2007-2012*, Great Barrier Reef Marine Park Authority, Townsville.
10. Great Barrier Reef Marine Park Authority 2012c, *Informing the Outlook for Great Barrier Reef coastal ecosystems*, Great Barrier Reef Marine Park Authority, Townsville.
11. Great Barrier Reef Marine Park Authority 2012d, *Great Barrier Reef Biodiversity Conservation Strategy (Draft)*, GBRMPA, Townsville.
12. Great Barrier Reef Marine Park Authority *Guidelines for the use of hydrodynamic numerical modelling for dredging projects in the Great Barrier Reef Marine Park*.
13. Turner, M., Beattie, S. and Edison, K. 2011, *Great Barrier Reef Marine Park Authority Environment and Science Coordinators Report 2011-2012*, Great Barrier Reef Marine Park Authority, Townsville, Queensland.

14. Great Barrier Reef Marine Park Authority 2011, *Grounding of the Shen Neng 1 on Douglas Shoal, April 2010: Impact Assessment Report*, Great Barrier Reef Marine Park Authority, Townsville.
15. Deloitte Access Economics 2012, *Economic Contribution of the Great Barrier Reef 2011-2012*.
16. Department of Defence and Great Barrier Reef Marine Park Authority 2008, *Management Agreement between Department of Defence and the Great Barrier Reef Marine Park Authority on implementation of the strategic environmental assessment of defence activities in the Great Barrier Reef Marine Park*, .
17. URS Australia Pty Ltd 2006, *Strategic Environmental Assessment of Defence Activities in the Great Barrier Reef World Heritage Area*, Directorate of Environmental Stewardship, Department of Defence, Canberra.
18. Great Barrier Reef Marine Park Authority 2009b, *Scientific information needs for the management of the Great Barrier Reef Marine Park 2009-2014*, Great Barrier Reef Marine Park Authority, Townsville.
19. Pears, R.J., Morison, A.K., Jebreen, E.J., Dunning, M., Pitcher, C.R., Courtney, A.J., Houlden, B. and Jacobsen, I.P. 2012, *Ecological risk assessment of the East Coast Otter Trawl Fishery in the Great Barrier Reef Marine Park: Technical Report (Volume 1)*, Great Barrier Reef Marine Park Authority, Townsville.
20. Taylor, S., Webley, J. and McInnes, K. 2012, *2010 Statewide recreational fishing survey*, State of Queensland, Department of Agriculture, Fisheries and Forestry.

APPENDIX 1 – Calculation of grades for each topic

	Biodiversity protection	Indigenous heritage	Historic heritage	Community benefits	Water quality protection	Climate change	Coastal development	Ports	Shipping	Recreation	Tourism	Defence	Research	Commercial fishing	Recreational fishing	
CONTEXT																
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to ... are understood by managers.	4	2	3	3	4	4	3	3	4	4	4	4	4	3	3	
CO2 Direct and indirect impacts on ... are understood by managers.	4	2	2	3	4	4	3	3	3	4	4	4	4	3	3	
CO3 Consequential and cumulative impacts on ... are understood by managers.	2	2	2	2	3	3	3	2	2	3	4	4	3	2	2	
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to ... are known by managers	3	2	2	2	3	2	3	3	3	3	3	4	3	3	2	
CO5 The stakeholders relevant to ... are well known by managers.	4	4	4	3	4	4	4	4	4	3	4	4	4	4	3	
Overall Grade	Mostly effective	Partially effective	Partially effective	Partially effective	Effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Effective	Effective	Effective	Mostly effective	Partially effective
PLANNING																
PL1 There is a planning system in place that effectively addresses ...	4	2	2	3	4	4	2	2	3	4	4	4	3	2	3	
PL2 The planning system for ... addresses the major pressures and drivers impacting on the Great Barrier Reef's values	3	3	2	3	3	3	2	2	3	4	3	4	3	2	3	
PL3 Actions for implementation regarding ... are clearly identified within the plan	3	3	2	2	3	3	2	2	3	3	4	4	4	2	3	
PL4 Clear, measurable and appropriate objectives for management of ... have been documented	3	3	2	3	3	2	3	2	2	3	3	4	4	2	2	
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address ...	4	3	2	3	4	3	3	4	3	4	4	4	3	3	2	
PL6 Sufficient policy currently exists to effectively address ...	4	3	3	3	4	3	2	1	2	3	3	4	3	2	3	
PL7 There is consistency across jurisdictions when planning for ...	4	3	3	3	2	2	1	1	3	3	3	4	3	2	3	
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	2	3	2	3	2	3	1	1	4	2	3	4	4	4	4	
Overall Grade	Mostly effective	Mostly effective	Partially effective	Mostly effective	Mostly effective	Mostly effective	Partially effective	Partially effective	Mostly effective	Mostly effective	Mostly effective	Effective	Mostly effective	Partially effective	Mostly effective	
INPUTS																
IN1 Current financial resources are adequate and prioritised to meet management objectives to address ...	2	3	2	2	4	4	2	2	2	2	3	4	3	2	2	

	Biodiversity protection	Indigenous heritage	Historic heritage	Community benefits	Water quality protection	Climate change	Coastal development	Ports	Shipping	Recreation	Tourism	Defence	Research	Commercial fishing	Recreational fishing
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address ...	3	2	2	2	2	4	2	2	2	2	3	3	3	2	2
IN3 The right skill sets and expertise are currently available to the managing organisations to address ...	3	3	2	2	3	4	3	2	2	4	4	3	4	3	3
IN4 The necessary biophysical information is currently available to address ...	3	3	3	3	3	3	3	3	3	4	4	4	4	2	3
IN5 The necessary socio-economic information is currently available to address ...	2	2	2	2	3	3	3	3	3	3	3	2	3	2	3
IN6 The necessary traditional (Indigenous) knowledge is currently available to address ...	2	3	N/A	2	3	2	2	2	1	2	2	3	3	2	2
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address ...	4	3	N/A	3	4	4	3	N/A	N/A	4	4	3	3	3	3
Overall Grade	Mostly effective	Mostly effective	Partially effective	Partially effective	Mostly effective	Mostly effective	Partially effective	Partially effective	Partially effective	Mostly effective	Mostly effective	Effective	Mostly effective	Partially effective	Partially effective

	Biodiversity protection	Indigenous heritage	Historic heritage	Community benefit	Water quality protection	Climate change	Coastal development	Ports	Shipping	Recreation	Tourism	Defence	Research	Commercial fishing	Recreational fishing
PROCESSES															
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of ...	4	3	4	3	3	4	3	4	3	3	4	4	4	4	3
PR2 The local community is effectively engaged in the ongoing management of ...	3	3	4	3	3	4	3	3	2	3	3	4	3	2	3
PR3 There is a sound governance system in place to address ...	3	3	4	3	3	3	2	3	4	4	4	4	4	3	3
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	3	3	3	3	3	3	2	2	2	2	3	3	4	3	2
PR5 Appropriate training is available to the managing agencies to address ...	2	2	2	2	2	3	2	3	3	3	3	3	4	2	
PR6 Management of is consistently implemented across the relevant jurisdictions	3	3	4	2	2	3	2	3	4	4	4	4	4	2	3
PR7 There are effective processes applied to resolve differing views/ conflicts regarding	4	2	4	3	3	2	2	3	3	3	4	4	4	2	3
PR8 Direct and indirect impacts of activities associated with are appropriately considered.	4	2	3	3	3	3	3	3	3	3	4	4	3	3	3
PR9. Consequential and cumulative impacts of activities associated with are appropriately considered.	2	2	2	3	2	3	2	2	2	3	3	4	2	2	2
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding	4	2	3	3	4	4	2	2	3	3	4	4	4	4	3
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding	3	2	N/A	2	3	2	3	3	3	3	3	3	3	2	2
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding	2	2	N/A	2	3	2	2	2	1	3	3	3	3	1	1
PR13 Relevant standards are identified and being met regarding	3	2	4	2	3	4	1	3	4	3	3	4	4	4	4
PR14 Targets have been established to benchmark management performance	3	3	2	2	4	3	2	1	1	2	3	3	2	2	2
Overall Grade	Mostly effective	Partially effective	Mostly effective	Partially effective	Mostly effective	Mostly effective	Partially effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Effective	Mostly effective	Partially effective	Partially effective
OUTPUTS															
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for	3	3	3	3	3	4	3	3	3	3	4	4	3	2	2

	Biodiversity protection	Indigenous heritage	Historic heritage	Community benefit	Water quality protection	Climate change	Coastal development	Ports	Shipping	Recreation	Tourism	Defence	Research	Commercial fishing	Recreational fishing
OP2 Implementation of management documents and/or programs relevant to have progressed in accordance with timeframes specified in those documents	3	3	3	3	3	4	2	N/A	3	3	3	4	3	2	2
OP3 The results (in OP1 above) have achieved their stated management objectives	2	3	3	3	2	2	2	2	2	4	3	3	4	2	2
OP4... to date, products or services have been produced in accordance with the stated management objectives for	3	4	3	3	3	4	3	2	4	3	4	4	3	4	4
Overall Grade	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Mostly effective	Partially effective	Partially effective	Mostly effective	Mostly effective	Effective	Effective	Mostly effective	Partially effective	Partially effective
OUTCOMES															
OC1...the relevant managing agencies are to date effectively addressing and moving towards the attainment of the desired outcomes.	3	3	2	3	3	3	2	2	3	3	4	4	4	2	2
OC2... the outputs relating to are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	2	3	2	3	2	1	2	2	3	3	3	4	4	2	2
OC3... the outputs (refer OP1 & 3) for are reducing the major risks and the threats to the Great Barrier Reef	3	3	2	3	3	1	2	2	3	3	4	4	4	2	2
OC4... use of the Great Barrier Reef relating to is demonstrably environmentally sustainable	2	3	3	3	2	1	1	2	3	3	3	4	3	2	2
OC5... use of the Great Barrier Reef relating to is demonstrably economically sustainable	3	NA	N/A	4	2	1	3	4	4	3	3	N/A	N/A	2	3
OC6... use of the Great Barrier Reef relating to has demonstrably enhanced community understanding and/or enjoyment	4	3	3	4	3	3	3	3	2	4	4	4	4	3	4
OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address	4	3	3	3	3	4	3	3	2	3	4	4	4	3	3
Overall Grade	Mostly effective	Mostly effective	Partially effective	Mostly effective	Partially effective	Partially effective	Partially effective	Partially effective	Mostly effective	Mostly effective	Effective	Effective	Effective	Partially effective	Partially effective
Biodiversity Outcomes	Partially effective	Mostly effective	Partially effective	Mostly effective	Partially effective	Ineffective	Partially effective	Partially effective	Mostly effective	Mostly effective	Mostly effective	Effective	Effective	Partially effective	Partially effective

APPENDIX 2 – Management Effectiveness Grading Statements

Appendix 2: Management Effectiveness Grading Statements

SCORING SYSTEM

N/A means not applicable

1 = Relevant but rarely true ~1-20% of optimum condition

2 = Relevant and sometimes true ~21-50% of optimum condition

3 = Relevant and often true ~51-80% of optimum condition

4 = Relevant and generally true ~81-100% of the optimum condition

Confidence Rating Refers to how confident the assessors were about making a decision about the rating: adequate (high-quality evidence and high level of consensus), limited (limited evidence or limited consensus) or very limited evidence (assessment based on anecdotal knowledge)

Trend Improving, deteriorating, stable or no clear trend.

Management Topic: Biodiversity Protection

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to biodiversity protection are understood by managers.	4	<ul style="list-style-type: none"> The Great Barrier Reef (GBR) is one of the best studied coral reef ecosystems in the world The Great Barrier Reef Marine Park (GBRMP) was made a Matter of National Environmental Significance (MNES) in 2009 but the identification of values that underpin MNES and the Outstanding Universal Value (OUV) of the GBR is only just now being fully documented as part of the Strategic Assessment although the Lucas <i>et al</i> (1997) review provided initial detail on OUV Other current projects such as <i>Defining the aesthetic values of the GBRWHA</i> are improving knowledge of values that were not given significant attention in the past 	<ul style="list-style-type: none"> <i>Draft GBR Biodiversity Conservation Strategy, 2012</i>; Lucas et al. 1997 GBRMP Act Amendment 26 Nov 2008 – Changing Object of the Act to incorporate heritage and recognise definition of environment includes social, economic and cultural (as per <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC)) Values and attributes table underpinning MNES Biogeographic zoning undertaken in association with the RAP (Representative Areas Program) Numerous plans and programs (e.g. site management plans) that document values 	Adequate	Improving
CO2 Direct and indirect impacts on biodiversity are understood by managers.	4	<ul style="list-style-type: none"> The sheer scale of the ecosystem means monitoring has focused on a few key habitats and species or groups of species, generally those that are iconic (such as coral reefs, seabirds), commercially important (such as seagrass meadows, coral trout) or threatened (such as dugongs, marine turtles). There are few long-term monitoring programs established and the baseline from which to make comparisons is different for each group studied. Vulnerability assessments completed for climate change, coastal ecosystems, water quality seagrass, shorebirds, sharks and rays, inshore dolphins, Threadfin salmon, Grey mackerel, Dwarf minke whale, Sawfish, Sea snakes, Seabirds and underway for Snapper, Dugong, Holothurians, Marine turtles, Coral reefs, Islands, Estuaries and Open water Direct impacts on the GBR of major concern (declining water quality, climate change, impacts of extractive use, Crown of Thorns Starfish (COTS)) have been well studied for a considerable time but some indirect impacts are only now beginning to be understood (e.g. there is emerging evidence that poor water quality resulting from floods and extreme weather events in the summers of 2009 to 2011 have created conditions which has resulted in COTS numbers increasing at some locations in the GBR) Improved understanding of extent of decline in inshore species identified as a need in <i>Draft GBR Biodiversity Conservation Strategy</i> Improved understanding of regional differences in biodiversity status as a result of recent studies Progress with understanding bycatch and potential for use of bycatch reduction devices 	<ul style="list-style-type: none"> <i>Draft Status of habitats and species</i> document Climate change vulnerability assessment 2007 <i>Draft Biodiversity Strategy & Vulnerability Assessments</i> Trawl Ecological Risk Assessments from the East Coast Trawl Fishery Environment Impact Management (EIM) Policy, Structures Policy, Dredging and Spoil Disposal Policy http://www.gbrmpa.gov.au/about-us/legislation-regulations-and-policies/policies-and-position-statements Guidelines for Hydrodynamic Modelling (of Dredge Spoil) National Assessment Guidelines for Dredging 2009 EIM Risk assessment framework 2009 http://www.gbrmpa.gov.au/data/assets/pdf_file/0008/4949/gbrmp_a_EAMRiskManagementFramework.pdf If an action triggers EPBC for the GBRMP or World Heritage Area (WHA), the Authority will undertake an assessment with the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) under the Memorandum of Understanding (MoU). Courtney, A.J., Haddy, J.A., Campbell, M.J., Roy, D.P., Tonks, M.L., Gaddes, S.W., Chilcott, K.E., O'Neill, M.F., Brown, I.W., McLennan, M., Jebreen, E.J., et al. 2007, Bycatch weight, composition and preliminary estimates of the impact of bycatch reduction devices in Queensland's trawl fishery, Report to the Fisheries Research and Development Corporation, Project no. 2000/170, Department of Primary Industries and Fisheries, Brisbane. Courtney, A.J., Schemel, B.L., Wallace, R., Campbell, M.J., Mayer, D.G. and Young, B. 2010, Reducing the impact of Queensland's trawl fisheries on protected sea snakes, Department of Employment, Economic Development and Innovation, Brisbane. 	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
			<ul style="list-style-type: none"> Peter Kyne PhD – sharks and rays – bycatch and bycatch reduction devices in trawl Alvaro Berg Soto PhD – inshore dolphins – bycatch - management Report on spatial management of trawling Effects of Line Fishing Program Water Quality Program Dugong risk assessment – Helene Marsh, Alana Grech et al. Inshore dolphin status material Poiner, I., Glaister, J., Pitcher, R., Burrridge, C., Wassenberg, T., Gribble, N., Hill, B., Blaber, S., Milton, D., Brewer, D. and Ellis, N. (1998). Environmental Effects of Prawn Trawling in the Far Northern Section of the Great Barrier Reef 1991-1996. Final Report to Great Barrier Reef Marine Park Authority and the Fisheries Research and Development Corporation (June 1998). Miscellaneous publication, CSIRO Division of Marine Research. Plethora of turtle work – Limpus, Chaloupka, etc 		
CO3 Consequential and cumulative impacts on biodiversity are understood by managers.	2	<ul style="list-style-type: none"> Consequential and cumulative impacts less well understood but are now receiving increased attention, especially as part of Strategic Assessment Data indicating 50% decline in coral cover and relative contribution of causal factors (cyclones, COTS and bleaching) indicative of extent of cumulative and consequential impacts Recent report on coastal ecosystems prepared by GBRMPA has identified significance and extent to cumulative impacts on coastal ecosystems and the GBR Region. Improved understanding of cumulative impacts on elements of biodiversity identified as a need in <i>Draft GBR Biodiversity Conservation Strategy</i> 	<ul style="list-style-type: none"> De'ath et al 2012 The 27-year decline of coral cover on the Great Barrier Reef and its causes <i>PNAS</i> www.pnas.org/cgi/doi/10.1073/pnas.1208909109 Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, Great Barrier Reef Marine Park Authority, Townsville. Grech, A., Coles, R., and Marsh, H. (2011) A broad-scale assessment of the risk to coastal seagrasses from cumulative threats. <i>Marine Policy</i>, 35 (5). pp. 560-567 	Limited	Improving
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to biodiversity protection are known by managers	3	<ul style="list-style-type: none"> GBRMPA has information on condition and trend of numerous species and habitats however this information is not electronically incorporated into the Reef Management System database Condition and trend of some values underpinning OUV and MNES understood at level sufficient to inform management actions (e.g. some habitats (mangroves, seagrass, coral reefs); iconic, migratory and threatened species, some physical and chemical processes related to water quality) Condition and trend of other values less well understood (e.g. natural beauty and aesthetics, some ecological processes such as ecosystem linkages, coastal ecosystems, heritage values, soft-bottom communities, deep water and pelagic habitats) Poor understanding of some species including vulnerable exploited species (e.g. guitarfish complex) 	<ul style="list-style-type: none"> Draft <i>Status of habitats and species</i> document Values and attributes table underpinning MNES Outlook Report 2009 De'ath et al 2012 The 27-year decline of coral cover on the Great Barrier Reef and its causes <i>PNAS</i> www.pnas.org/cgi/doi/10.1073/pnas.1208909109 Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, Great Barrier Reef Marine Park Authority, Townsville. Coles, R., McKenzie, L., De'ath, G., Roelofs, A., and Lee Long, W. (2009). Spatial distribution of deepwater seagrass in the inter-reef lagoon of the Great Barrier Reef World Heritage Area. <i>Marine Ecology Progress Series</i> 392: 57–68. Grech, A. and Marsh, H. 2007, Prioritising areas for dugong conservation in a marine protected area using a spatially explicit population model, <i>Applied GIS</i> 3(2): 1-14. Fernandes, L., Day, J., Lewis, A., Slegers, S., Kerrigan, B., Breen, D., Cameron, D., Jago, B., Hall, J., Lowe, D., Innes, J., Tanzer, J., Chadwick, V., Thompson, L., Gorman, K., Simmons, M., Barnett, B., Sampson, K., De'ath, D., Mapstone, B., Marsh, H., Possingham, H., Ball, I., Ward, T., Dobbs, K., Aumend, J., Slater, D., AND Stapleton, K. (2005). Establishing representative no-take areas in the Great Barrier Reef: Large-scale implementation of theory on Marine Protected Areas. <i>Conservation Biology</i>: 1733–1744. Pitcher, C.R., Doherty, P., Arnold, P., Hooper, J., Gribble, N., Bartlett, C., Browne, M., Campbell, N., Cannard, T., Cappel, M., Carini, G., Chalmers, S., Cheers, S., et al (2007). Seabed Biodiversity on the Continental Shelf of the Great Barrier Reef World Heritage Area. AIMS/CSIRO/QM/QDPI CRC Reef Research Task Final Report. 320 pp. 	Adequate	Improving
CO5 The stakeholders relevant	4	<ul style="list-style-type: none"> The GBRMPA has four Reef Advisory Committees (RACs): Catchment and Coastal; 	<ul style="list-style-type: none"> RAC's: http://www.gbrmpa.gov.au/about-us/reef-advisory-committee 	Adequate	Stable

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
to biodiversity protection are well known by managers.		<p>Ecosystem; Indigenous; and Tourism and Recreation. A key role for the RACs is to advise the GBRMPA in relation to actions that can be taken to address the risks to the Great Barrier Reef Marine Park identified in the Great Barrier Reef Outlook Report 2009.</p> <ul style="list-style-type: none"> • Major advances in stewardship and Reef Guardian programs since 2009 • Indigenous Women's Gathering was held in September 2012 to better understand female roles in land and sea management • Local Marine Advisory Committees provide contact with stakeholder groups at regional level • Considerable coordination and engagement between governments (e.g. FMP ECSU addressing the remaining impacts of fishing) • Extensive ongoing engagement with industry (fisheries, defence, tourism, etc) • Reef Guardian Schools • Reef Check • Eye on the Reef • Various community groups • Seagrass watch • Regional Offices (GBRMPA CPG) • GBR Ministerial Council • SELTMP: social and economic monitoring program being developed through NERP. 	<ul style="list-style-type: none"> • Our Partners: http://www.gbrmpa.gov.au/our-partners • Field Management Program (FMP) documents 		
PLANNING					
PL1 There is a planning system in place that effectively addresses biodiversity protection	4	<ul style="list-style-type: none"> • Draft Biodiversity Conservation Strategy addresses gap identified in Outlook 2009 (but note that targets in the plan tend to be process and output focused and should be complemented by additional outcome focused targets) • Vulnerability assessments will support effective planning • Impact of replacement of State Planning Policy 3/11: Coastal Protection by the Coastal Protection State Planning Regulatory Provisions and transfer of responsibility from Department of Environment and Heritage Protection to State Development, Infrastructure and Planning uncertain but is likely to negatively affect integrated planning for biodiversity in the coastal zone. Relevant parts of Regional Coastal Management plans are also suspended by the Coastal Protection State Planning Regulatory Provisions. • Legislative changes in 2009 aim to better integrate the Great Barrier Reef Marine Park Act 1975 (GBRMP Act) and Great Barrier Reef Marine Park Regulations 1983 with the national environment law—the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), so that a single environmental impact assessment system applies to the marine park. • Zoning Plan for GBR is primarily about biodiversity protection • Reef Plan • GBRMPA Plans of Management address biodiversity issues in high tourism areas. 	<ul style="list-style-type: none"> • <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> • <i>Draft Status of habitats and species</i> document • see http://www.mondaq.com/australia/x/201442/Building+Construction/Queensland+Government+introduces+draft+Coastal+Protection+State+Planning+Regulatory+Provision for one analysis of some of the likely impacts of changes to State coastal planning • New Policies, Position Statements, Guidelines since Outlook 2009 include: <ul style="list-style-type: none"> ○ Emergency disposal of foreign fishing vessels (invasive marine pest risk) ○ Guidelines for the use of Hydrodynamic Numerical Modelling for Dredging Projects in the Great Barrier Reef Marine Park (to ensure good baseline information is gathered dredging/habitat modification activities) • Examples of policies and position statements re: dugong, protected species, sharks & rays, translocation and guidelines (see GBRMP website: http://www.gbrmpa.gov.au/about-us/legislation-regulations-and-policies/policies-and-position-statements) 	Adequate	Improving
PL2 The planning system for biodiversity protection addresses the major pressures and drivers impacting on the Great Barrier Reef's values	3	<ul style="list-style-type: none"> • In conjunction with the Biodiversity Conservation Strategy, comprehensive Vulnerability Assessments (VAs) have been developed identifying those elements of biodiversity that need specific attention as well as actions to address them. Twelve VAs have been completed to date (including seagrass, shorebirds, sharks and rays, inshore dolphins) and others are currently being developed. These VA's go a long way towards addressing comment in Outlook 2009 assessment that there was a comprehensive risk assessment across the full range of risks • Some plans are silent on specific actions necessary to protect biodiversity (for example the Zoning Plan focuses on extractive uses e.g. fishing). Certainty around where large developments may go (a major pressure) is not provided for in the Zoning Plan. Plans of Management are also only really designed to manage tourism and recreation in specific areas. • Site Planning is often reactive rather than proactive when it comes to protecting 	<ul style="list-style-type: none"> • Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments • http://provisionreef.org/ • Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, Great Barrier Reef Marine Park Authority, Townsville. • Grech, A., Marsh, H. and Coles, R. 2008, A spatial assessment of the risk to a mobile marine mammal from bycatch, <i>Aquatic Conservation: Marine and Freshwater Ecosystems</i> 18(7): 1127-1139. 	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
		<p>biodiversity (e.g. a site plan for the Keppels has not been developed; yet commercial aquarium fishermen through ProVision Reef have agreed voluntarily to stop collecting corals there due to the impacts from coral bleaching).</p> <ul style="list-style-type: none"> • Trawl plan includes requirements for TED's for Turtles, BRD's for other bycatch/fish • Traditional Use of Marine Resources Agreements (TUMRAs) recognise traditional take of turtle and dugong. • Threatened species listed under EPBC and species recovery plans • Planning systems address individual threats but do not Adequately address consequential or cumulative risks • Issues of scale and connectivity not comprehensively understood but information in Coastal Outlook assessment represents progress on this • Planning does not yet address major threats of Climate Change 			
L3 Actions for implementation regarding biodiversity protection are clearly identified within the plan	3	<ul style="list-style-type: none"> • <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> identifies actions at broad level. Tangible, on-ground actions from vulnerability assessments need to be built into the action plan arising from the draft Biodiversity Conservation Strategy. • NERP Project: Prioritizing management actions for Great Barrier Reef islands • Recovery Planning for listed species in the GBR is SEWPaC driven 	<ul style="list-style-type: none"> • <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> • For proposed actions referred for assessment under EPBC, Significant Impact Guidelines for marine turtles are under development by the DSEWPaC to assist with assessments • Development of multi-species Recovery Plan for 3 listed species of sawfish and river sharks (including speartooth shark) under development by the DSEWPaC 	Limited	Improving
PL4 Clear, measurable and appropriate objectives for management of biodiversity protection have been documented	3	<ul style="list-style-type: none"> • <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> identifies objectives at broad level but targets in the plan tend to be process and output focussed and should be complemented by additional outcome focussed targets to match to the objectives of the plan 	<ul style="list-style-type: none"> • <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> 	Limited	Improving
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address biodiversity protection	4	<ul style="list-style-type: none"> • AIMS, CSIRO and university-based researchers are significantly engaged in research, monitoring and planning for management of biodiversity in the GBR • Integrated marine monitoring program is addressing needs for biodiversity assessment and monitoring • Strategic Assessment Stakeholder Engagement Strategy has involved a large amount of stakeholder consultation to identify what values are important to stakeholders, what they see as the biggest risks/impacts to the reef and how effective the Authority's management arrangements are. • In the review of the Zoning Plan & the Representative Areas Program, stakeholders and local communities were highly engaged in the planning process. However, many plans deal with aspects of biodiversity (e.g. species protection) but avoid the broader context of biodiversity (including dealing with connectivity issues). • There are a wide range of other consultative processes that engage communities/stakeholders in planning issues – RACs, LMACs, specific consultation whenever a new policy or plan is being developed (e.g. public consultation periods for the biodiversity strategy) 	<ul style="list-style-type: none"> • <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> • Integrated monitoring program and stakeholder workshops 	Adequate	Improving
PL6 Sufficient policy currently exists to effectively address biodiversity protection	4	<ul style="list-style-type: none"> • <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> identifies objectives at broad level • The Authority has a number of policies, position statements strategies and guidelines to address biodiversity protection. 	<ul style="list-style-type: none"> • <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> • List of policies and strategies being developed in association with Strategic Assessment 	Adequate	Improving
PL7 There is consistency across jurisdictions when planning for biodiversity protection	4	<ul style="list-style-type: none"> • Zoning and management plans between Queensland and Commonwealth are consistent and Field Management Program is agreed across relevant agencies and jurisdictions • The Great Barrier Reef Intergovernmental Agreement 2009 (IGA) provides the framework for the Australian and Queensland governments to work together to protect the Great Barrier Reef 	<ul style="list-style-type: none"> • http://www.environment.gov.au/coasts/gbr/publications/pubs/communique-12august2011.pdf • http://www.environment.gov.au/coasts/gbr/publications/pubs/gbr-agreement.pdf • http://www.daff.qld.gov.au/28_1238.htm • http://www.daff.qld.gov.au/documents/Fisheries_Habitats/Declared-FHA- 	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
		<ul style="list-style-type: none"> Great Barrier Reef Ministerial Forum established, met once in 2011 but with a requirement to meet at least annually – provides mechanism for coordination on key issues and in particular to 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 Consultation and alignment with SEWPAC and EPBC improved. Management of issues such as coastal land use impacts on water quality that have major implications for biodiversity have been integrated across jurisdictions 2009-2014 Queensland Declared Fish Habitat Area network strategy 2009-14 recognises a need to improve the profile of declared FHAs in government, and ensuring recognition and consideration of declared FHAs in planning and other initiatives (including marine park zoning and national park declarations) and the need to form new partnerships to enhance declared FHA management. Current arrangements place responsibility for declared FHAs with the Department of National Parks, Recreation, Sport and Racing, however, development applications in declared FHAs are processed by Fisheries Queensland. Recent changes in coastal planning arrangements in Queensland are likely to have implications for biodiversity protection in inshore areas along the Queensland coast, especially in developed areas and could impact significantly on consistency across jurisdictions Consistency has been drawn where possible between Queensland's <i>Building Nature's Resilience: A Biodiversity Strategy for Queensland</i>, their <i>Back on Track Actions for Biodiversity 2010</i> documents and the <i>Draft GBR Biodiversity Conservation Strategy 2012</i>. 	network-strategy-1to10.pdf		
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	2	<ul style="list-style-type: none"> Preservation zones, dugong protection areas provide restrictions on activities that may impact on areas of particular biodiversity significance. Zoning provides areas of protection for a representative sample of biogeographic regions and habitats but zones are established on the basis of addressing the full range of values and allowable uses of the GBR not just biodiversity. Zoning does not provide explicit guidance on where many activities not directly regulated by the zoning plan can be carried out. Permit assessment processes assess potential impacts of activities on biodiversity but in many cases the lack of site specific knowledge about species/habitat distributions and important sites for biodiversity will hinder the ability to properly reflect biodiversity concerns in the management of activities through permits. Vulnerability assessments that have been completed will assist to some extent but many of these assessments acknowledge the limitations of available knowledge. Actions to address these knowledge gaps and better address issues of biodiversity protection are contained in the draft Biodiversity Conservation Strategy but are yet to be fully implemented 	<ul style="list-style-type: none"> http://www.gbrmpa.gov.au/about-the-reef/biodiversity/draft-biodiversity-conservation-strategy/vulnerability-assessments <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> 	Adequate	Stable
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address biodiversity protection	2	<ul style="list-style-type: none"> Significant financial resources have been allocated to address major threatening processes impacting biodiversity such as water quality Some financial resources have been allocated to addressing COTS outbreaks but not to adequately cover the scale of the issue – focused on major outbreak areas Capacity of Field Management Program (FMP) to address biodiversity protection and natural resource management issues in marine and island environment is very limited and decreasing with closure of bases but increasing demands Funding for key programs such as the Reef Rescue Indigenous Land and Sea Country Partnership Program requires improvement of onward funding in order to achieve biodiversity conservation outcomes Management of funding arising from offset arrangements is not clear. Should not 	<ul style="list-style-type: none"> FMP Review 	Adequate	Deteriorating

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
		be used to replace core funding.			
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address biodiversity protection	3	<ul style="list-style-type: none"> Reallocation of GBRMP effort in areas relevant to ecosystem and species management has enabled increased focus on work such as draft Biodiversity Conservation Strategy, vulnerability assessments Capacity of FMP to address biodiversity protection and natural resource management issues in marine and island environment is very limited and decreasing with closure of bases but increasing demands 		Adequate	Increasing
IN3 The right skill sets and expertise are currently available to the managing organisations to address biodiversity protection	3	<ul style="list-style-type: none"> Skill sets within the Authority for biophysical science are adequate for planning and management tasks that they undertake and there is extensive collaboration with relevant scientists in AIMS, universities and CSIRO Social science capacity within the Authority is more limited but there is emerging collaboration with universities and CSIRO in this area Agencies generally do have right expertise/skill sets reflected in position descriptions 		Adequate	Stable
IN4 The necessary biophysical information is currently available to address biodiversity protection	3	<ul style="list-style-type: none"> Outlook 2009, vulnerability assessments, Draft <i>Status of habitats and species</i> document, Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, Great Barrier Reef Marine Park Authority, Townsville have all compiled latest information and made it accessible to managers but key gaps exist (e.g. connectivity, trophic interactions, deep water, far north GBR) More than half the assessments of habitat and species condition in the biodiversity chapter of Outlook 2009 were graded as of uncertain status because of a lack of available information GBR continues to be focus of major, multi-institution research efforts so knowledge is consistently accumulating Non-charismatic or taxa of no apparent economic value are poorly understood Poor knowledge of ecological processes, e.g. groundwater inflows, sink/source, implications of deepwater upwellings, planktonic/larval movements Problem of shifting baselines remains but there is now greater awareness of this issue Significant loss on knowledge and expertise in relevant State agencies as a result of downsizing Little knowledge of habitats and communities below 100m depth 	<ul style="list-style-type: none"> Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments Draft <i>Status of habitats and species</i> document Values and attributes table underpinning MNES Outlook Report 2009 De'ath et al 2012 The 27-year decline of coral cover on the Great Barrier Reef and its causes <i>PNAS</i> www.pnas.org/cgi/doi/10.1073/pnas.1208909109 Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, Great Barrier Reef Marine Park Authority, Townsville. 2011 Development of a population model for the Northern Great Barrier Reef green turtle stock: This population model allowed management agencies to examine the impact on the stock under various harvest regimes, including harvesting of adult females and eggs laid on beaches. The model can also be used to examine the impact of climate change and catastrophic weather events (such as tropical cyclones) on the long-term viability of the stock. GBRMPA funded the development of this model in association with Queensland. 	Adequate	Stable
IN5 The necessary socio-economic information is currently available to address biodiversity protection	2	<ul style="list-style-type: none"> Some economic information for key industries but apparent lack of social information The Authority has appointed manager for socio-economic issues and current and planned projects have begun to address this area Work programs are underway to address this issue but results are yet to be delivered and integrated into management There is a need to better develop and integrate Traditional ecological knowledge and stakeholder knowledge into management and conservation of biodiversity recognised in <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> 	<p>Current NERP projects of particular relevance to improved management of the Great Barrier Reef World Heritage Area (GBRWHA) are</p> <ul style="list-style-type: none"> Project 10.1 'Social and Economic Long Term Monitoring Programme (SELTMP)' Project 10.2 'Socio-economic systems and reef resilience' Gaps and reliability issues continue to surround data on extractive use, e.g. spatial precision of log books, data on recreational extraction 	Limited	Improving
IN6 The necessary traditional (Indigenous) knowledge is currently available to address biodiversity protection	2	<p>NON-ONGOING GRANT Money (to end in 2013)</p> <ul style="list-style-type: none"> In December 2008, the Australian Government under the Caring for our Country initiative, committed \$10 million over five years towards the Reef Rescue Land and Sea Country Indigenous Partnerships Program. The program actively engages Aboriginal and Torres Strait Islander communities in the management and protection of the reef's marine resources and cultural diversity through: <ul style="list-style-type: none"> The expansion of Traditional Use of Marine Resources Agreements (TUMRAs) across the Great Barrier Reef Catchment 	<ul style="list-style-type: none"> The Reef Rescue Program has strengthened communications across the community to build a better understanding of Traditional Owner issues on the management of the GBR Marine Park: Over \$1m provided to Traditional Owners of the GBR under the small grants program (capped at \$50K); representing twenty three projects focused on the management of natural and cultural values across all four marine park management areas. Six traditional owner groups from Cairns to Cape York received grants of between \$30,000 and \$50,000 for environmental projects 	Limited	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
		<ul style="list-style-type: none"> ○ Strengthening communications and knowledge sharing ○ Enhancing compliance ○ Engaging with communities • Building community capacity through Grants and sponsorship opportunities. • The Reef Rescue Land and Sea Country Indigenous Partnerships Program is closely coordinated with other Caring for our Country Indigenous Partnership initiatives which provide opportunities for longer term funding and employment such as Working on Country, while also contributing to broader Australian Government goals including Closing the Gap for Indigenous Australians. <p>ONGOING AGENCY FUNDING:</p> <ul style="list-style-type: none"> • Internal funding towards management of Indigenous Partnerships is one of the lowest percentage investments when compared to other units within the Authority. • SUMMARY: Given the high level of short-term funding and low level of secured long-term funding the GRBMPPA's capacity to build an understanding of cultural heritage and improve its management of indigenous heritage is limited. The relationships built with Traditional Owners to date have taken many years and a lot of investment. Staff turnover within this area will not be readily fixed with different staff and will need to be built back up again if these programs are not continued and Reef Rescue staff leave in 2013. • move beyond just a focus on development of TUMRAs to broader engagement • Some Biodiversity management through Reef Rescue Programs • Aside from turtle and dugong, there is very little information about how traditional communities use marine resources and documenting or applying their knowledge of non-charismatic biodiversity 	<p>along the GBR. The grants allow traditional owner groups to "monitor seagrass, receive training in sea country management and become Junior Reef Ambassadors". Grant recipients will complete their projects over the next 12 months.</p> <ul style="list-style-type: none"> • The Sponsorship Program has provided support to approximately 75 Traditional Owners to share and increase their knowledge and skills base in sea country management. • An update of the 2005 GBR Heritage Strategy is underway; this will recommend a much greater focus on Indigenous Heritage given the greater recognition now provided by the 2009 amendments to the GBRMP Act and the recently approved Statement of OUV for the GBRWHA. • Pilot project to establish an Indigenous Marine Biodiversity Monitoring Program is currently being constructed • Reef Rescue programs: See link for 2010-2011 successful grants project and their purpose: • http://www.gbrmpa.gov.au/our-partners/traditional-owners/reef-rescue/sea-country-partnerships-grants-program-2011-2012 • http://www.gbrmpa.gov.au/_data/assets/pdf_file/0007/17881/2011-12-Successful-Grants-projects.PDF • Some traditional knowledge used in development of TUMRAs and QDPIF work • Assigning protected area boundaries based on traditional knowledge is rare. 		
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address biodiversity protection	4	<ul style="list-style-type: none"> • Much of the information on biodiversity comes from researchers outside the Authority (e.g. AIMS, universities, CSIRO) • Many volunteer groups are involved in monitoring and field management related to biodiversity issues (e.g. Reef Check, Eye on the Reef, OUCH etc, Seagrass and Mangrove Watch, Tangaroa Blue marine debris program) • Reef Guardian program is growing in scope and activity 	<ul style="list-style-type: none"> • Eco Barge – based in the Whitsundays is a volunteer service which aims to reduce debris in the Marine Parks to help protect biodiversity. • Volunteer groups and events include: <ul style="list-style-type: none"> ○ Reef Check ○ Eye on the reef ○ CapReef ○ Reef Guardian Schools ○ NGO's on RACs ○ Numerous Traditional Owner groups ○ LMACs ○ fisheries working groups ○ Mackay turtle watch ○ Bowen –Queens beach turtle watch ○ OUCH ○ Beach clean-up days Research stations 	Adequate	Improving

PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of biodiversity protection	4	<ul style="list-style-type: none"> Engaging communities and fostering stewardship is one of three principal strategies in the <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> While previous engagement with industries in the GBR has been extensive, it has not been focused explicitly on biodiversity issues (although biodiversity concerns underpin many other issues) Mining industry has not been extensively engaged but consequential impacts of mining and associated developments are likely to have significant impacts on biodiversity Tourism industry extensively engaged through programs such as Eye on the Reef RACs, LMACS TUMRA liaison officers 	<ul style="list-style-type: none"> Expert advice sought on biodiversity matters through the Conservation, Heritage and Indigenous Partnerships Reef Advisory Committee (CRAC), Fisheries RAC, Water Quality and Coastal Development RAC, and the Tourism and Recreation RAC. All appropriate managing agencies are involved in biodiversity protection management for the GBR, e.g. EPA, DEWHA, DPI&F, AMSA, etc. Industries are engaged in planning processes for biodiversity protection throughout the GBR (e.g. through commitments in the 25 Year Strategic Plan) Reef Guardian Council draft MOU and Action plans 	Adequate	Improving
PR2 The local community is effectively engaged in the ongoing management of biodiversity protection.	3	<ul style="list-style-type: none"> Engaging communities and fostering stewardship is one of three principal strategies in the <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> Many volunteer groups are involved in monitoring and field management related to biodiversity issues (e.g. Reef Check, Eye on the Reef, OUCH etc, Seagrass and Mangrove Watch) but need to recognise that these groups are not representative of the whole community Need to consider mechanisms for broader community engagement. especially reef users who are not aligned to current programs Reef Guardian program has grown substantially in scope and activity LMACS Regional offices 	<ul style="list-style-type: none"> Launched the Reef Guardian Grazing pilot program in 2011 and finalised pilot programs in Reef Guardian Farmers in the cane, banana and grazing sectors; Desirable Assessment Standards and evaluation processes for Reef Guardian Farmers and Reef Guardian Fishers Reef Guardian Fishers - finalised pilot programs in the reef line and marine aquarium fish and coral collection sectors; also trialling electronic data collection devices with Reef Guardian Fishers in the inshore gillnet fishery Reef Guardian Councils - Action plans received from all 13 Councils in the program which included over 920 projects in the areas of land management, waste management, water management, climate change, community education and capacity building. Reef Guardian Schools - More than 285 schools and over 113,000 students are helping build the resilience of the GBR through our Reef Guardians Schools program. Reef Guardian School students are currently undertaking over 1600 projects in their schools and local communities in the areas of waste management, water management, biodiversity/land management and climate change mitigation and adaptation. Thirty-five Future Leaders Eco Challenges (FLECs) involving over 1500 students were held in the GBR Catchment, enabling students and teachers to participate in local environmental projects within their school or community. Students had an opportunity to take part in activities that are aimed at improving catchments, water quality, sustainability and Reef health. Improvements in public reporting capacity for shipping and pollution incidents, and marine wildlife strandings, via mobile phone applications. Local community engagement organisations and processes include: <ul style="list-style-type: none"> Reef Check, Seagrass Watch and Mangrove Watch Eye on the Reef CapReef Reef Guardian Schools NGO's on RACs Numerous Traditional Owner groups with NRM programs LMACs fisheries working groups Mackay turtle watch OUCH Beach clean-up days (e.g. Tangaroa Blue) Ecobarge 	Adequate	Improving

PR3 There is a sound governance system in place to address biodiversity protection	3	<ul style="list-style-type: none"> • EPBC Act and GBRMP Act provide strong legislative basis for biodiversity protection and control of potential impacts on MNES • The Great Barrier Reef Intergovernmental Agreement 2009 provides the framework for the Australian and Queensland governments to work together to protect the Great Barrier Reef • Great Barrier Reef Ministerial Forum established, met once in 2011 but with a requirement to meet at least annually – provides mechanism for coordination on key issues and in particular to 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. • The Authority has four Reef Advisory Committees (RACs): Catchment and Coastal; Ecosystem; Indigenous; and Tourism and Recreation. A key role for the RACs is to advise the Authority in relation to actions that can be taken to address the risks to the Great Barrier Reef Marine Park identified in the Great Barrier Reef Outlook Report 2009. • Local Marine Advisory Committees provide contact with stakeholder groups at regional level • Extensive ongoing engagement with industry (fisheries, defence, tourism, etc) • Zoning and management plans between Queensland and Commonwealth are consistent and Field Management Program is agreed across relevant agencies and jurisdictions • Management of issues such as coastal land use impacts on water quality that have major implications for biodiversity have been integrated across jurisdictions • Recent changes in coastal planning arrangements in Queensland are likely to have implications for biodiversity protection in inshore areas along the Queensland coast, especially in developed areas 	<p><i>Draft GBR Biodiversity Conservation Strategy, 2012</i></p> <ul style="list-style-type: none"> • http://www.environment.gov.au/coasts/gbr/publications/pubs/communique-12august2011.pdf • http://www.environment.gov.au/coasts/gbr/publications/pubs/gbr-agreement.pdf 	Adequate	Stable
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	3	<ul style="list-style-type: none"> • Significant recent progress in completing status and trend and vulnerability assessments for many key species and habitats • Outlook Report process now firmly entrenched within management system and good evidence that the 2009 assessment has been used to both assess progress towards objectives and to plan additional management actions where required • AIMS LTMP results are informing planning and management 	<ul style="list-style-type: none"> • Outlook Report 2009 • Draft <i>Status of habitats and species</i> document • Climate change vulnerability assessment 2007 • Draft Biodiversity Strategy & Vulnerability Assessments • AIMS LTMP 	Adequate	Improving
PR5 Appropriate training is available to the managing agencies to address biodiversity protection	2	<ul style="list-style-type: none"> • Base training of staff is good • Limited on-the-job training for field staff in biodiversity protection issues 		Limited	Stable
PR6 Management of biodiversity is consistently implemented across the relevant jurisdictions	3	<ul style="list-style-type: none"> • Generally consistent management across jurisdictions within the GBR and some key issues for biodiversity in regions adjacent to the GBR • Recent changes in coastal planning arrangements in Queensland are likely to have implications for biodiversity protection in inshore areas along the Queensland coast, especially in developed areas and especially in areas of high ecological significance where the QLD Minister can now approve development proposals 	<ul style="list-style-type: none"> • Examples of consistency (e.g. Joint permitting under the IGA), complementary zoning between state and commonwealth Marine Parks, port management plans, defence environmental planning, shipping planning) but examples also exist of a lack of consistency (e.g. Qld Fish Habitat Zone & GBRMPA Habitat Protection Zone) • Strategic placement of new oiled wildlife response equipment to assist trained staff along the GBR coast to respond to oil spill threats. • see http://www.mondaq.com/australia/x/201442/Building+Construction/Queensland+Government+introduces+draft+Coastal+Protection+State+Planning+Regulatory+Provision for one analysis of some of the likely impacts of changes to State coastal planning 	Adequate	Stable
PR7 There are effective processes applied to resolve differing views/ conflicts regarding biodiversity protection	4	<ul style="list-style-type: none"> • Public comment processes in place to allow public to comment on permit applications that are expected to impact on other users. • Governance arrangements between State and Commonwealth provide mechanism for conflict resolution 	<ul style="list-style-type: none"> • The number of applications open for public comment has increased since 2009 see GBRMPA public comment web page: http://www.gbrmpa.gov.au/about-us/consultation • RIS and Review Rights processes as part of the Permit Application assessment are designed to incorporate conflict resolution elements 	Adequate	Stable

			<ul style="list-style-type: none"> • Evaluation mechanisms for conflict resolution are lacking 		
PR8 Direct and indirect impacts of activities associated with biodiversity protection are appropriately considered.	4	<ul style="list-style-type: none"> • Direct impacts generally well considered for developments within the GBRMP requiring a permit or other approval • Plans of Management (PoMs) and Special Management Areas identify and address issues of biodiversity protection 	<ul style="list-style-type: none"> • GBRMP Regulations 1983 Regulation 88Q, 88R and 88S provide for consideration of biodiversity values and impacts on these values • see examples of Plans of Management at http://www.gbrmpa.gov.au/zoning-permits-and-plans/plans-of-management/ and plans for Special Management Areas at http://www.gbrmpa.gov.au/zoning-permits-and-plans/special-management-areas 	Adequate	Stable
PR9. Consequential and cumulative impacts of activities associated with biodiversity protection are appropriately considered.	2	<ul style="list-style-type: none"> • Cumulative impacts assessment is attempted through Environmental Impact Assessment (EIA) processes, but is still done on a case by case basis (i.e. as applications are received) - otherwise are not generally well considered • Timeframes for assessment are restricted and this limits capacity to address consequential and cumulative impacts • Abbott Point port development exercise includes assessment of cumulative impact across development proposals but this is rare case of consideration of cumulative impacts across proposals • Cumulative impacts of many coastal developments poorly or not addressed as shown in Coastal Ecosystems Outlook Report • Awareness of importance of cumulative impacts and shifting baselines is rising 	<ul style="list-style-type: none"> • http://www.nqbp.com.au/wp-content/uploads/2012/05/Scopes-for-Cumulative-Impact-Studies-Abbot-Point-pp-1-and-22.pdf • Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, Great Barrier Reef Marine Park Authority, Townsville. 	Limited	Stable
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding biodiversity protection	4	<ul style="list-style-type: none"> • Extensive research is available through Australian Institute of Marine Science (AIMS), CSIRO and universities and the Authority staff have good linkages to this research community. • Information from this work has been integrated into various Authority planning and strategy documents relating to biodiversity protection • Outlook Report 2009 and ongoing Outlook reporting processes and the current Strategic assessment are drawing on this information. • AIMS LTMP and Eye on the Reef program are providing extensive monitoring information to the Authority 	<ul style="list-style-type: none"> • Eye on the Reef - Development of a major data collection and storage system to observe, record and report on coral reef health. • The Integrated "Eye on the Reef" program incorporates surveys by field staff with data collected by researchers, the tourist industry and stakeholder observations, to detect and assess impacts from extreme weather events, warm water bleaching, flood plumes, Crown-of-Thorns Starfish, ship and smaller vessel groundings and disease. The integrated database, mapping and reporting system is undergoing final testing and will enable a wide range of users to contribute to GBR management through: <ul style="list-style-type: none"> ○ Reef Health status reporting ○ Reef-wide early warning system ○ Reef-wide and local incident response ○ Increased stewardship. • Analysis of the "GBR Seabird Atlas" identifying trends of declining seabird breeding in several seabird species. The analysis combined with research observations of poor breeding during warm water events has led to the development and implementation of a new seabird monitoring strategy targeting species and issues of greatest concern. <p>National Environmental Research Program - The largest of the five NERP hubs, the Tropical Ecosystems Hub is addressing issues of concern for the management, conservation and sustainable use of the World Heritage listed Great Barrier Reef and its catchments. Current projects of particular relevance to improved management of the GBRWHA are:</p> <ul style="list-style-type: none"> • Project 1.1 'Monitoring status and trends of coral reefs of the Great Barrier Reef' • Project 1.2 'Marine wildlife management in the Great Barrier Reef World Heritage Area' • Project 1.3 'Characterising the cumulative impacts of global, regional and local stressors on the present and past biodiversity of the Great Barrier Reef' • Project 4.2 'The chronic effects of pesticides and their persistence in tropical waters' • Project 4.3 'Ecological risk assessment of pesticides, nutrients and sediments on water quality and ecosystem health - Phase 1' 	Adequate	Improving

			<ul style="list-style-type: none"> • Project 5.1 'Understanding diversity of the Great Barrier Reef: Spatial and temporal dynamics and environmental drivers' • Project 5.2 'Experimental and field investigations of combined water quality and climate effects on corals and other reef organisms' • Project 5.3 'Vulnerability of seagrass habitats in the Great Barrier Reef to flood plume impacts: light, nutrients, salinity' • Project 6.1 'Maximising the benefits of mobile predators to Great Barrier Reef ecosystems: the importance of movement, habitat and environment' • Project 6.2 'Drivers of juvenile shark biodiversity and abundance in inshore ecosystems of the Great Barrier Reef' • Project 6.3 'Critical seabird foraging locations and trophic relationships for the Great Barrier Reef' • Project 8.1 'Monitoring the ecological effects of the Great Barrier Reef zoning plan on mid and outer shelf reefs' • Project 8.2 'Do no-take marine reserves contribute to biodiversity and fishery sustainability? Assessing the effects of management zoning on inshore reefs of the Great Barrier Reef Marine Park' • Project 8.3 'Significance of no-take marine protected areas to regional recruitment and population persistence on the Great Barrier Reef' • Project 9.1 'Dynamic vulnerability maps and decision support tools for the Great Barrier Reef' • Project 9.2 'Design and implementation of Management Strategy Evaluation for the Great Barrier Reef inshore (MSE-GBR)' • Project 9.3 'Prioritising management actions for Great Barrier Reef islands' • Project 9.4 'Conservation planning for a changing coastal zone' 		
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding biodiversity protection	3	<ul style="list-style-type: none"> • Socio-economic issues are taken account of in permit decisions and available information was used in RAP process • Economic information for key industries but frequent lack of social information • Linkage of socio-economic data to management of biodiversity is less developed than for other issues such as tourism and fishing • The Authority has appointed a staff member to manage for socio-economic issues and current and planned projects have begun to address this area • There is a need to better develop and integrate Traditional Ecological Knowledge and stakeholder knowledge into management and conservation of biodiversity recognised in <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> 	<p>Current National Environmental Research Projects (NERP) projects of particular relevance to improved management of the GBRWHA are</p> <ul style="list-style-type: none"> • Project 10.1 'Social and Economic Long Term Monitoring Programme (SELTMP)' • Project 10.2 'Socio-economic systems and reef resilience' • Gaps and reliability issues continue to surround data on extractive use, e.g. spatial precision of log books, data on recreational extraction 	Adequate	Improving
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding biodiversity protection	2	<ul style="list-style-type: none"> • There is a need to better develop and integrate Traditional Ecological Knowledge and stakeholder knowledge into management and conservation of biodiversity recognised in the <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> • Indigenous knowledge is taken account of in permit decisions where relevance of Indigenous considerations is obvious but not routinely addressed in planning and management of biodiversity • No projects in the NERP Tropical Ecosystems Hub are addressing the application of Indigenous knowledge in management of the GBR. 	<ul style="list-style-type: none"> • <i>Draft GBR Biodiversity Conservation Strategy, 2012: see http://www.nerptropical.edu.au/research/programs?ff0=field_ref_focus_area%3A63</i> 	Limited	Improving
PR13 Relevant standards are identified and being met regarding biodiversity protection	3	<ul style="list-style-type: none"> • Implicit standards are being established as part of this strategic assessment through the identification of MNES and their relationship to the management program of the Authority • Outlook 2009 set implicit standards for management in the development of the system for assessing existing protection and management of the GBR. Performance was variable, being stronger for issues that were limited in complexity and 	<ul style="list-style-type: none"> • <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> • Outlook 2009 • FMP Review 	Adequate	Stable

		<p>geographic, social and jurisdictional scale such as research and management of defence activities</p> <ul style="list-style-type: none"> Identified deficiencies in the Field Management Program (FMP) that impact on the capacity of field management to assist in the management of impacts affecting biodiversity appear not to have been addressed as field staff numbers and effective resources decline in the absence of a significant increase to funding 			
PR14 Targets have been established to benchmark management performance	3	<ul style="list-style-type: none"> <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> establishes targets for biodiversity protection for the first time Reef Plan Targets set for 2013 and 2020 Biodiversity Conservation Strategy Vulnerability Assessments – recommending specific changes (e.g. increasing legal size for vulnerable fish species) Targets are not comprehensive across species and habitats 	<ul style="list-style-type: none"> <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> Reef Plan http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf 	Adequate	Improving
OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for biodiversity protection	3	<ul style="list-style-type: none"> It is too early to assess progress with the <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> Associated biodiversity research programs through RRRRC and Tropical Ecosystems Hub broadly in accordance with work program EPBC fisheries accreditation timelines being met RWQPP work program progressing but timeframes lagging in some areas new zoning plan in place and being enforced 		Limited	Improving
OP2 Implementation of management documents and/or programs relevant to biodiversity protection have progressed in accordance with timeframes specified in those documents	3	<ul style="list-style-type: none"> It is too early to assess progress with the <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> Significant progress with status and trend and vulnerability assessments for key species and habitats Associated biodiversity research programs through the Reef And Rainforest Research Centre (RRRC) and Tropical Ecosystems Hub broadly in accordance with work program EPBC fisheries accreditation timelines being met The Reef Water Quality Protection Plan (Reef Plan) work program progressing but timeframes are is lagging in some areas Re-zoning program driven largely by concerns for biodiversity conservation 		Limited	Improving
OP3 The results (in OP1 above) have achieved their stated management objectives	2	<ul style="list-style-type: none"> Objectives in terms of improved biodiversity status and improved resilience are yet to be seen There is evidence of positive improvements in fish communities in re-zoned and more strictly protected areas of GBR Significant progress has been made with implementing Reef Plan actions and activities but second report card providing information on progress towards targets is yet to be prepared Poor grade re managing coastal environments – see Brodie 2012 	<ul style="list-style-type: none"> http://www.reefplan.qld.gov.au/measuring-success/report-cards/assets/interim-activity-report.pdf McCook et al 2010, Adaptive management of the GBR . . . good news for rezoning - PNAS Brodie et al 2012 – review of management of the not so GBR – bad news regarding water quality Est Coast Shelf Sci 	Limited	Improving
OP4... to date, products or services have been produced in accordance with the stated management objectives for biodiversity protection	3	<ul style="list-style-type: none"> Numerous policy statements and guidelines relevant to biodiversity protection It is too early to assess progress with the <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> Significant progress with status and trend and vulnerability assessments for key species and habitats has occurred. Trawl Ecological Risk Assessments Associated biodiversity research programs through RRRRC and Tropical Ecosystems Hub broadly in accordance with work program EPBC fisheries accreditation timelines being met Reef Plan work program progressing but timeframes lagging in some areas 	<ul style="list-style-type: none"> Position statements/policies/guidelines: <ul style="list-style-type: none"> Operational Policy on Whale and Dolphin Conservation in the Great Barrier Reef Marine Park Policy on Managing Activities that include the Direct Take of a Protected Species from the Great Barrier Reef Marine Park June 2005 Managing Scientific Research in the Great Barrier Reef Marine Park Position Statement on conservation of dugongs in the Great Barrier Reef Marine Park Position Statement on the conservation and management of protected species in relation to the Queensland East Coast Inshore Finfish Fishery Position Statement on the conservation and management of sharks and rays in the Queensland East Coast Inshore Finfish Fishery Position Statement on the translocation of species in the Great Barrier Reef Marine Park 	Adequate	Improving

			<ul style="list-style-type: none"> ○ Guidelines for the Management of Artificial Reefs in the Great Barrier Reef Marine Park ○ Guidelines for Managing Visitation to Seabird Breeding Islands ○ Cairns Area Plan of Management, Whitsundays Plan of Management and the Shoalwater Bay Plan of Management 		
OUTCOMES					
OC1...the relevant managing agencies are to date effectively addressing biodiversity protection and moving towards the attainment of the desired outcomes.	3	<ul style="list-style-type: none"> • Significant increase in the Authority's attention to biodiversity protection evident in their programs leading up to and following Outlook 2009 • Revised zoning plan providing a stronger basis for biodiversity conservation in the GBR • <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> provides a basis for a more coordinated program aimed at biodiversity protection • Cumulative impacts are still not addressed well. • Water quality and coastal management is an ongoing problems – see Brodie 2012 –changes in environmental governance, especially in relation to coastal planning and development in Qld are likely to impede progress 	<ul style="list-style-type: none"> • There are a number of programs looking at the effects of zoning. Early indications are that zoning is working and preliminary research shows fish numbers and average size are increasing (e.g. James Cook University research in the Whitsunday Islands found numbers of both coral trout and stripey sea perch were more than 1.7 times higher and average fish size was larger) • Research conducted by the Australian Institute of Marine Science, on offshore reefs from Cairns to Gladstone, found coral trout is now about 50 per cent more abundant in Marine National Park (Green) Zones. 	Adequate	Improving
OC2... the outputs relating to biodiversity protection are on track to ensure the values of the Great Barrier Reef are protected (refer C01)	2	<ul style="list-style-type: none"> • Data indicate a decline in coral cover (since 2004) and more recently indicating 50% decline in coral cover and relative contribution of causal factors (cyclones, COTS and bleaching) indicative of extent of cumulative and consequential impacts • Recent report on coastal ecosystems prepared by the Authority has identified significance and extent to cumulative impacts on coastal ecosystems and the GBR Region. • Dugong numbers are declining • Green turtles at risk, but loggerhead numbers are Improving- See outlook 2009 	<ul style="list-style-type: none"> • De'ath et al. 2012 The 27-year decline of coral cover on the Great Barrier Reef and its causes <i>PNAS</i> www.pnas.org/cgi/doi/10.1073/pnas.1208909109 • Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, Great Barrier Reef Marine Park Authority, Townsville. • McCook et al 2010, Adaptive management of the GBR . . . good news for rezoning - PNAS • Brodie et al 2012 – review of management of the not so GBR – bad news regarding water quality Est Coast Shelf Sci • Bellwood et al. (2004) 	Adequate	Deteriorating
OC3... the outputs (refer OP1 & 3) for biodiversity protection are reducing the major risks and the threats to the Great Barrier Reef	3	<ul style="list-style-type: none"> • Water quality and resilience enhancement efforts should improve prospects for biodiversity conservation especially inshore and southern regions of the GBR but may take many years to assess change in condition trend of biodiversity • Other pressures from coastal development, ports and shipping climate change, are increasing so overall impact on biodiversity conservation is uncertain 		Limited	Deteriorating
OC4... use of the Great Barrier Reef relating to biodiversity protection is demonstrably environmentally sustainable	2	<ul style="list-style-type: none"> • Data show both improvements (humpback whales, fish in "green zones" but also significant declines (coral cover inshore and southern GBR, dugong, etc) • 5 of 6 species of turtles in GBR have declined • Draft status and trend assessment shows many more declines in species that stable or increasing species populations but status is uncertain for many groups because of a lack of data • Cumulative impacts, especially relating to coastal management and lack of capacity to control these impacts is of concern 	<ul style="list-style-type: none"> • Draft <i>Status of habitats and species</i> document • Outlook 2009 	Limited	Deteriorating
OC5... use of the Great Barrier Reef relating to biodiversity protection is demonstrably economically sustainable	3	<ul style="list-style-type: none"> • Tourism is major industry underpinned by biodiversity of Great Barrier Reef • Fisheries is major industry also underpinned by biodiversity • External market influences and costs of production are making some fisheries operating within the Great Barrier Reef unviable. • Recreational fishing on the other hand is an important contributor to economic sustainability of regional communities. 		Adequate	Stable
OC6... use of the Great Barrier Reef relating to biodiversity protection has demonstrably enhanced community understanding and/or enjoyment	4	<ul style="list-style-type: none"> • Surveys show 80% of Australians and 70% of Queensland visitors satisfied with their Great Barrier Reef experience • Uptake of Reef Guardian program within community is indicative of community interest in and concern for the GBR • A significant move forward since Outlook 2009 has been a stronger focus on embedding the Authority's key communication messages as part of exhibition 	Visitor satisfaction data: 93.9% of respondents to the 2012 Reef HQ Visitor Satisfaction Survey said that that believed they had an improved understanding of the issues relating to the GBR as a result of visiting Reef HQ Aquarium. Also, 88.7% said they had a better understanding of how they can protect/conserv the GBR as a result of visiting Reef HQ Aquarium.	Limited	Improving

		development in the GBR Aquarium. This provides a community engagement / education opportunity that helps to distil often quite complex and scientific based information into thematic formats that are more easily understood			
OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address biodiversity protection.	4	<ul style="list-style-type: none"> • Many examples of partnerships <ul style="list-style-type: none"> • Reef Guardian program • LMACs and RACs • Eye on the Reef program • Existing liaison arrangements and specialist staff within GBRMPOA to manage these relationships 	<ul style="list-style-type: none"> • CapReef • LMACs • Reef Guardian Schools • Lots of informal partnerships but the effectiveness of these partnerships is not easily measured (Seagrass Watch is an exception with regular performance assessment and continuous improvement) 	Adequate	Improving

Topic: Indigenous heritage

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to indigenous heritage are understood by managers.	2	<ul style="list-style-type: none"> • Good information is available on values but it is siloed within the Indigenous Partnerships group of the Authority due to inadequate resources and processes in place to handle and disseminate the information across the agency • Indigenous heritage is recognised to a limited extent in the Heritage Strategy • Reef Rescue Land and Sea Country Indigenous Partnerships Program also recognised key issues relevant to the management of Indigenous heritage • The Reef Rescue Land and Sea Country Indigenous Partnerships Program is consistent with the implementation of Article 10 of the Convention (sustainable use of biodiversity), with a focus on Article 10(c) (customary sustainable use). 	<p>There are more than 70 Aboriginal and Torres Strait Islander Traditional Owner groups that have long continuing relationships with the Great Barrier Reef region and its natural resources. The groups that express connections to the Great Barrier Reef Marine Park are situated along the Queensland coast from the eastern Torres Strait Islands in the north to near Bundaberg in the south (See REEF ED website)</p> <p>Traditional use of marine resources activities may include:</p> <ul style="list-style-type: none"> • Fishing • Collecting (for example shellfish) • Hunting • Looking after cultural and heritage sites. <p>Many Aboriginal and Torres Strait Islander people undertake traditional use of marine resources activities to:</p> <ul style="list-style-type: none"> • Educate younger generations about traditional and cultural rules, protocols, practices and activities on sea country • Practice their living maritime culture • Provide traditional food for families. 	Adequate	Improving
CO2 Direct and indirect impacts associated with indigenous heritage are understood by managers.	2	<ul style="list-style-type: none"> • Some direct impacts (such as conflicting use, disturbance to cultural sites) are known to the Authority and managed through existing planning tools. However given a general lack of knowledge of the cultural heritage values along the GBR (including a spatial understanding) some direct and indirect impacts may occur unbeknown to the Authority. • Impacts are understood by a limited number of managers due to issues with disseminating the indigenous heritage information within the Authority. 		Limited	No clear trend
CO3 Consequential and cumulative impacts associated with indigenous heritage are understood by managers.	2	<ul style="list-style-type: none"> • Little evidence to show that cumulative impacts are recognised or understood 		Limited	No clear trend
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to ... are known by managers	2	<ul style="list-style-type: none"> • Little evidence to show that condition and trend are known 		Limited	No clear trend
CO5 The stakeholders relevant to indigenous heritage are well known by managers.	4	<ul style="list-style-type: none"> • The Authority has an Indigenous Partnerships Group that has established good relationships with Aboriginal and Torres Strait Islander people. • An Indigenous Reef Advisory Committee (IRAC) and provision has been made for indigenous representation on each of the other three Reef Advisory Committees 	<ul style="list-style-type: none"> • http://www.gbrmpa.gov.au/about-us/reef-advisory-committee 	Adequate	Improving
PLANNING					
PL1 There is a planning system in place that effectively addresses indigenous heritage	2	<ul style="list-style-type: none"> • The GBRMP Act and Regulations provide the head of power for the protection of cultural values and consideration of potential impacts to cultural heritage through the permitting process (see r88Q and R of the Regulations). • As part of the permitting process under the Native Title Act, a "Notification" summarising a permit application is sent to the relevant native title holders or representative body as per the Native Title Act 1993 (see Example Notification in supporting evidence). A native title body is given 31 days in which to comment on whether the activity would affect their native title rights. The Authority occasionally receives responses, in a proforma format, which are general and non- 	<ul style="list-style-type: none"> • More information on managing traditional use of marine resources, including Traditional Hunting, can be found in the publication "A Reef-wide framework for managing traditional use of marine resources in the Great Barrier Reef Marine Park." 	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
		<p>specific to the activity proposed. The Authority considers any responses and incorporates these where appropriate. This exercise is very desktop based however complies with the requirements of the Native Title Act.</p> <ul style="list-style-type: none"> • TUMRAs provide for a voluntary agreement about levels of marine resource take. This does include Indigenous Heritage but the Authority supports Traditional Owners to maintain their heritage through on country activities. The Authority does not require condition and trend information of this maintained heritage. TUMRAs have the potential to facilitate future information sharing on IH values. • Indigenous heritage values are discussed in general in the Authority's Heritage Strategy (2006) but is not in sufficient detail to enable planning and management for this topic (consideration of indigenous heritage is needed to allow for effective planning and management). • The Authority's Corporate Plan includes heritage in the following two aims: 'To recognize the heritage values of the Great Barrier Reef Marine Park and the Authority's responsibility to identify and care for those values, consistent with current best practice' and 'To work with Aboriginal and Torres Strait Islanders in a way that takes account of traditional affiliations, culture, heritage values and rights in management of the Marine Park'. The operationalization of these aims is still not fully captured in a specific plan. 			
<p>PL2 The planning system for indigenous heritage addresses the major pressures and drivers impacting on the Great Barrier Reef's values</p>	<p>3</p>	<ul style="list-style-type: none"> • Traditional use of marine resources may include activities that are identified as part of Aboriginal and Torres Strait Islander people's customs or traditions, for the purposes of satisfying personal, domestic or communal needs. In addition to specific management strategies for the sustainable use of species, other TUMRA activities may include cultural heritage mapping/surveys; protection, research and monitoring sea country; compliance, leadership, knowledge management; education, information exchange; language mapping on sea country. • Six formal Traditional Owner management agreements (5 TUMRA/1 Indigenous Land Use Agreement (ILUA)) now cover 42,860 square kilometres of GBR sea country and involve 14 Traditional Owner groups. The TUMRAs and ILUA cover approximately 21.55% of the Queensland coastline that is within the GBR Marine Park. • Since the implementation of the Reef Rescue Program, the Authority has expanded its engagement on TUMRAs from four groups (Girringun, Woppaburra, Mamu & Wuthathi) to eleven groups (Yuku-Baja- Muliku, Lama Lama, Umpila, Port Curtis-Coral Coast, Yirrganydji, Pul Pul – including Kuuku Ya'u ILUA). 		<p>Limited</p>	<p>Improving</p>
<p>PL3 Actions for implementation regarding indigenous heritage are clearly identified within the plan</p>	<p>3</p>	<ul style="list-style-type: none"> • Sea Country Plans have been developed by Traditional Owners (see Kuku Yalanji example) for their own country (and identify values, planning needs management treatments) – these types of plans are funded by the Authority and SEWPaC. Currently these plans are not implemented into the EIM assessment processes • Plans of Management in high use areas clearly articulate and manage conflicting uses which may affect cultural heritage in Cairns, Whitsundays and Hinchinbrook. • The Authority's Corporate Plan includes heritage in the following two aims: 'To recognize the heritage values of the Great Barrier Reef Marine Park and the Authority's responsibility to identify and care for those values, consistent with current best practice' and 'To work with Aboriginal and Torres Strait Islanders in a way that takes account of traditional affiliations, culture, heritage values and rights in management of the Marine Park'. • Actions for implementation regarding indigenous heritage are also included in the Reef Rescue Land and Sea Country Indigenous Partnerships Program 	<ul style="list-style-type: none"> • Managing Traditional Use • Corporate Plan • Plans of Management: <ul style="list-style-type: none"> ○ Cairns PoM (see Div 3) ○ Whitsunday PoM (see Div 3) ○ Hinchinbrook PoM (see Div 2) 	<p>Adequate</p>	<p>Improving</p>

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
PL4 Clear, measurable and appropriate objectives for management of indigenous heritage have been documented	3	<ul style="list-style-type: none"> Objectives for management of indigenous Heritage are clearly articulated in Plans of Management by supporting cultural use of the Marine Park and limiting uses in areas of known cultural significance (e.g. no pontoons or moorings etc). Reef Rescue Land and Sea Country Indigenous Partnerships Program also includes measurable objective The Indigenous Partnerships Group has clear, measurable and appropriate objectives within their Annual Operating Plan. 	<ul style="list-style-type: none"> Plans of Management: <ul style="list-style-type: none"> Cairns PoM (see Div 3) Whitsunday PoM (see Div 3) Hinchinbrook PoM (see Div 2) Corporate Plan 	Adequate	Improving
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address indigenous heritage...	3	<ul style="list-style-type: none"> The 2011-12 Sea Country Partnerships Grants Program includes successful projects which include things like engaging Traditional Owners in seagrass watch, community awareness of impacts, turtle tagging etc. The Position Statement on Indigenous Participation in Tourism and its Management identifies Indigenous groups as key partners. The Vision is "As joint partners, Tourism Queensland, the Queensland Parks and Wildlife Service and the Authority are working with Indigenous groups plus other government agencies and tourism operators to enhance Indigenous participation in tourism and its management in the Great Barrier Reef. However it is unclear if this work has been implemented. The Reef Rescue Program has strengthened communications across the community to build a better understanding of Traditional Owner issues on the management of the Great Barrier Reef Marine Park (<i>see Attachment A</i>): Over \$1m provided to Traditional Owners of the Great Barrier Reef under the small grants program (capped at \$50k); representing twenty-three projects focused on the management of natural and cultural values across all four marine park management areas. A specific Women's Gathering to better understand the female role in land and sea management was held in August this year. An open community Sea Country Partnerships Photographic Competition Traditional Knowledge and Western Science: marine monitoring projects 	<p>Position Statement on Indigenous Participation in Tourism</p> <ul style="list-style-type: none"> http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/tourism-on-the-great-barrier-reef/indigenous-participation-in-tourism http://www.gbrmpa.gov.au/_data/assets/pdf_file/0008/3986/gbrmpa-IndigenousParticipationPositionStatement_2005.pdf <p>Sea Country Partnerships projects:</p> <ul style="list-style-type: none"> 2010-2011: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0004/4882/Summary-of-successful-2010-2011-Sea-Country-Partnerships-Grants-projects.pdf 2011-2012: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0007/17881/2011-12-Successful-Grants-projects.PDF 	Adequate	Improving
PL6 Sufficient policy currently exists to effectively address indigenous heritage...	3	<ul style="list-style-type: none"> Currently there is no overarching Indigenous Strategic Framework across the agency as a major policy driver but it is understood that this was approved in September 2012 for development. A specific cultural heritage policy for indigenous heritage does not exist. The Authority has no established offsets policy or cultural heritage strategy to guide the assessment process which also contributes to the jurisdictional inconsistency. Position Statement on Indigenous Participation in Tourism and its Management. The Vision is "As joint partners, Tourism Queensland, the Queensland Parks and Wildlife Service and the Authority are working with Indigenous groups plus other government agencies and tourism operators to enhance Indigenous participation in tourism and its management in the Great Barrier Reef" Dugongs have high cultural, social and spiritual significance for Indigenous Australians and feature in Indigenous stories and art. This is recognised in the Position Statement on conservation of dugongs in the Great Barrier Reef. In addition a management approach suggested in the position statement includes: A national partnership approach to assist Indigenous communities to achieve sustainable harvests of turtles and dugongs being developed by the Marine And Coastal Committee Taskforce 	<p>Position Statement on Indigenous Participation in Tourism</p> <ul style="list-style-type: none"> http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/tourism-on-the-great-barrier-reef/indigenous-participation-in-tourism http://www.gbrmpa.gov.au/_data/assets/pdf_file/0008/3986/gbrmpa-IndigenousParticipationPositionStatement_2005.pdf <p>Dugong Position Statement (see background section: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0005/3893/gbrmpa_DugongPositionStatement_2007.pdf</p>	Limited	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
PL7 There is consistency across jurisdictions when planning for indigenous heritage...	3	<p>TUMRA Accreditation Process</p> <ul style="list-style-type: none"> The Authority undertakes the majority negotiations with Traditional Owners for the TUMRA process. The Authority also leads the assessment/accreditation of the TUMRAs. Queensland instigate their delegations and co-accredit TUMRAs with the Authority. For example, on 30 August 2011, the Port Curtis Coral Coast regional TUMRA was jointly accredited by the Queensland and Australian governments following a lengthy assessment process. <p>PERMIT ASSESSMENT PROCESSES</p> <ul style="list-style-type: none"> The permit assessment process for large development applications that require an Australian and Queensland permit are often inconsistent with regard to protection of Indigenous & Cultural Heritage. 		Adequate	Stable
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	3	<ul style="list-style-type: none"> Plans regarding access to resources and extractive activities (e.g. Traditional use) are clear and provide certainty Zoning Plan Permits, Plans of Management, Site Planning arrangements, Policy TUMRAs 	<ul style="list-style-type: none"> Plans of Management: <ul style="list-style-type: none"> Cairns PoM (see Div 3) Whitsunday PoM (see Div 3) Hinchinbrook PoM (see Div 2) 	Adequate	Improving
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address ...indigenous heritage	3	<ul style="list-style-type: none"> In December 2008, the Australian Government under the Caring for our Country initiative, committed \$10 million over five years towards the Reef Rescue Land and Sea Country Indigenous Partnerships Program. The program actively engages Aboriginal and Torres Strait Islander communities in the management and protection of the reef's marine resources and cultural diversity through: <ul style="list-style-type: none"> The expansion of Traditional Use of Marine Resources Agreements (TUMRAs) across the Great Barrier Reef Catchment Strengthening communications and knowledge sharing Enhancing compliance Engaging with communities Building community capacity through Grants and sponsorship opportunities. It should be noted this funding will cease on 30 June 2013. While the Authority is bidding for ongoing funding, it is not certain and the future of these programs and partnerships is in jeopardy. The Reef Rescue Land and Sea Country Indigenous Partnerships Program is closely coordinated with other Caring for our Country Indigenous Partnership initiatives which provide opportunities for longer term funding and employment such as Working on Country, while also contributing to broader Australian Government goals including Closing the Gap for Indigenous Australians. The relationships built with Traditional Owners to date have taken many years and a lot of investment. Staff turnover within this area will not be readily fixed with different staff and will need to be built back up again if these programs are not continued and Reef Rescue staff leave in 2013. 	<p>http://www.gbrmpa.gov.au/our-partners/traditional-owners/reef-rescue</p> <p>See link for 2010-2011 successful grants project and their purpose:</p> <ul style="list-style-type: none"> http://www.gbrmpa.gov.au/our-partners/traditional-owners/reef-rescue/sea-country-partnerships-grants-program-2011-2012 http://www.gbrmpa.gov.au/_data/assets/pdf_file/0007/17881/2011-12-Successful-Grants-projects.PDF 	Adequate	Deteriorating
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address indigenous heritage	2	<ul style="list-style-type: none"> The Authority's Indigenous Partnerships group contains 5 FTE and 7 non-ongoing staff as part of the Reef Rescue funding. The experience of these staff encompasses a wide range of skill sets relevant to management of Indigenous Heritage. Expert advice is also available on heritage matters through the Conservation, Heritage and Indigenous Reef Advisory Committee. 		Adequate	Stable

IN3 The right skill sets and expertise are currently available to the managing organisations to address indigenous heritage	3	<ul style="list-style-type: none"> The Authority's Indigenous Partnerships group encompasses a wide range of skill sets and experiences relevant to management of Indigenous partnerships. Expert advice is also available on heritage matters through the Conservation, Heritage and Indigenous Reef Advisory Committee (IRAC) However within the Authority skills to address Indigenous Heritage are concentrated within IPG and to some extent compliance and species conservation. There is no overarching training or skill sets across the agency to ensure Indigenous Heritage is addressed consistently and adequately. It is a management topic that should be understood by all staff members. 		Adequate	Stable
IN4 The necessary biophysical information is currently available to address indigenous heritage	3	<ul style="list-style-type: none"> Information on physical location and values of cultural heritage sites are poorly documented. The draft Great Barrier Reef Biodiversity Conservation Strategy 2012 provides a framework for improving biodiversity conservation in the Great Barrier Reef Region. The strategy's approach includes continuing to foster industry and community stewardship of the Reef, building ecosystem resilience in a changing climate and improving our knowledge to make more informed decisions. This strategy establishes a process for determining and documenting the habitats, species and groups of species that are potentially 'at-risk'. Vulnerability assessments are being completed to identify actions to reduce the threats and pressures facing at-risk biodiversity. Identifying priority habitats and species is vital when managing such a large, complex ecosystem as it allows resources to be directed where help is most needed 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0020/21728/gbrmpa-BioStrategy-DRAFT-Aug-2012.pdf http://www.gbrmpa.gov.au/about-the-reef/biodiversity/draft-biodiversity-conservation-strategy/vulnerability-assessments	Adequate	Improving
IN5 The necessary socio-economic information is currently available to address indigenous heritage	2	<ul style="list-style-type: none"> There is little data available to address 		Limited	No clear trend
IN6 The necessary traditional (Indigenous) knowledge is currently available to address Indigenous heritage	3	<ul style="list-style-type: none"> Good information is available but it is siloed within the Indigenous Partnership group due to inadequate processes in place to handle and disseminate the information across the agency (see processes section). The Reef Rescue Program has strengthened communications across the community to build a better understanding of Traditional Owner issues on the management of the GBR Marine Park: <ul style="list-style-type: none"> Over \$1m provided to Traditional Owners of the GBR under the small grants program (capped at \$50K); representing twenty three projects focused on the management of natural and cultural values across all four marine park management areas. Six traditional owner groups from Cairns to Cape York received grants of between \$30,000 and \$50,000 for environmental projects along the GBR. The grants allow traditional owner groups to "monitor seagrass, receive training in sea country management and become Junior Reef Ambassadors". Grant recipients will complete their projects over the next 12 months. The Sponsorship Program has provided support to approximately 75 Traditional Owners to share and increase their knowledge and skills base in sea country management. Sense Activity (Leadership) Project - the SAP pilot project in Rockhampton has focused on Indigenous male students and is based on sensory activities where the student group can learn holistically from Traditional Owners, the Authority and Queensland Parks and Wildlife Service (QPWS) about the protection and conservation of land and sea country. A successful GBR Sea Country Photographic Competition in 2012 provided an important visual avenue for the community to communicate Indigenous sea country management initiatives such as TUMRAs, Reef Rescue Grants and Compliance Projects. Another aim of the competition was to foster awareness about Aboriginal and Torres Strait Islander Traditional Owners, their Sea 		Limited	Improving

		<p>Country areas and the ways they contribute to the management of the GBR. The Authority now has access to an additional 80 sea country images.</p> <ul style="list-style-type: none"> An update of the 2005 GBR Heritage Strategy is underway; this will recommend a much greater focus on Indigenous Heritage given the greater recognition now provided by the 2009 amendments to the GBRMP Act and the recently approved Statement of OUV for the GBRWHA. 			
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address indigenous heritage	3	<ul style="list-style-type: none"> Voluntary participation in Eyes and Ears compliance networks contributes to protect matters that underpin Indigenous Heritage. 		Adequate	Improving
PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of Indigenous heritage	3	<p>TUMRA/ILUA process</p> <ul style="list-style-type: none"> The Authority established the Indigenous Reef Advisory Committee (IRAC) to: <ul style="list-style-type: none"> Provide strategic guidance on Indigenous Partnerships matters Provide advice on the application of world's best practice principles to sea country planning and implementation Recommend ways to facilitate partnerships, build capacity and engage with Traditional Owner groups in the management of marine resources in the Great Barrier Reef. Together, the IRAC members bring expertise and experience in Indigenous partnership initiatives and sea country management from within the Great Barrier Reef and from elsewhere around Australia. The IRAC recommend the following priority areas for the Reef Rescue Land and Sea Country Indigenous Partnerships Program: <ul style="list-style-type: none"> Sea country planning including Traditional Use of Marine Resources Agreements (TUMRAs) Partnerships and communications strategy Leadership development including youth forums and young hunters forums Knowledge management including support for knowledge and information exchange, recording and people exchange Evaluation and monitoring frameworks, including reviews and co-investment Compliance activities required to support Traditional Owners in management of their Sea Country. Saltwater Women's Gathering: The Authority hosted a unique two day gathering of regional Aboriginal and Torres Strait Islander Great Barrier Reef Traditional Owner women on Yunbenun (Magnetic Island) from 27-29 August 2012. The gathering provided an opportunity for Aboriginal and Torres Strait Islander women to express themselves as owners of their sea country about their cultural responsibilities, while also broadening community and management perspectives. Public consultation on Applications/Plans: the Authority consults with the public on a range of matters that concern the Marine Park, including permit applications and proposed developments. People interested in the management of the Great Barrier Reef and World Heritage Area, including proposed developments, have valuable knowledge that contributes to the assessment process. A list of current plans, applications and assessments for public consultation are available online, along with details on the process (see Public Comments website on GBRMPA web); <ul style="list-style-type: none"> Established committees - Local Marine Advisory Committees, Reef Advisory Committees Regional Offices (Rockhampton, Mackay, Cairns) and outreach officers Joint management arrangements with Queensland (IGA) Regulatory Impact Statements are required for all changes to policy and regulation taking into account any implications to affected members of the community (noting that this process is geared more to income indicators as 	<p>http://www.gbrmpa.gov.au/our-partners/traditional-owners/traditional-use-of-marine-resources-agreements</p> <p>http://www.gbrmpa.gov.au/our-partners/traditional-owners/traditional-owners-activities</p> <p>http://www.gbrmpa.gov.au/our-partners/traditional-owners/saltwater-womens-gathering</p>	Adequate	Improving

		<p>opposed to connections and relationships).</p> <ul style="list-style-type: none"> • Reef Guardians Program: The Reef Guardian program is a successful stewardship program that began with schools in 2003 to encourage the community to take action for a healthier Reef. The program has since expanded to include councils, fishers, farmers and graziers. • Zoning Plan Review Stakeholder Engagement • Strategic Assessment Indigenous Stakeholder engagement meetings 			
PR2 The local community is effectively engaged in the ongoing management of Indigenous heritage.	3	<ul style="list-style-type: none"> • A successful GBR Sea Country Photographic Competition in 2012 provided an important visual avenue for the community to communicate Indigenous sea country management initiatives such as TUMRAs, Reef Rescue Grants and Compliance Projects. Another aim of the competition was to foster awareness about Aboriginal and Torres Strait Islander Traditional Owners, their Sea Country areas and the ways they contribute to the management of the GBR. • TUMRA Accreditation <ul style="list-style-type: none"> • In 2011-2012 the Authority facilitated accreditation of the Port Curtis Coral Coast regional Traditional Use of Marine Resources Agreement — the fifth and largest agreement of its kind. The new agreement brings to six the number of TUMRAs and Indigenous Land Use Agreements (ILUAs) that have been facilitated by the agency. The five TUMRAs and one ILUA cover 42,860 square kilometres of sea country within the Great Barrier Reef Marine Park (see Figure 10). This represents more than 20 per cent of the Queensland coastline within the Marine Park and sees the agency actively partnering with 14 Traditional Owner groups. • The Reef Rescue Program has strengthened communications across the community to build a better understanding of Traditional Owner issues on the management of the GBR Marine Park: <ul style="list-style-type: none"> • Over \$1m provided to Traditional Owners of the GBR under the small grants program (capped at \$50K); representing twenty three projects focused on the management of natural and cultural values across all four marine park management areas. Six traditional owner groups from Cairns to Cape York received grants of between \$30,000 and \$50,000 for environmental projects along the GBR. The grants allow traditional owner groups to "monitor seagrass, receive training in sea country management and become Junior Reef Ambassadors". Grant recipients will complete their projects over the next 12 months. • The Sponsorship Program has provided support to approximately 75 Traditional Owners to share and increase their knowledge and skills base in sea country management. • Pamphlet –Working Together for green turtle management aims: <ul style="list-style-type: none"> • Increase awareness about impacts on green turtles • Education on how to assist in the protection and rescue green turtles 	http://www.gbrmpa.gov.au/our-partners/traditional-owners/reef-rescue http://www.gbrmpa.gov.au/our-partners/traditional-owners/traditional-use-of-marine-resources-agreements	Adequate	Improving
PR3 There is a sound governance system in place to address indigenous heritage	3	<ul style="list-style-type: none"> • MPA Board has an indigenous member • Indigenous Reef Advisory Committee and Local Marine Advisory Committee attendance is funded through Reef Rescue • TUMRAs – support indigenous governance of sea country • Management of Indigenous heritage in the GBR is complex and involves numerous State and Commonwealth pieces of legislation and policy. The GBRMP Act provides the head of power for consideration and protection of cultural values. The Regulations allow consideration of potential impacts on cultural values through the permitting process (see r88Q and R of the Regulations) and provide for the accreditation of TUMRA's (part 2B). Plans of Management and site 		Adequate	Improving

		<p>planning arrangements provide some consideration for cultural heritage and aim to minimise conflicting use – but mostly with recreational users and tourism NOT major developments.</p> <ul style="list-style-type: none"> • There is no specific cultural heritage strategy or policy solely for indigenous heritage. • The Authority has no systems in place (i.e. a cultural heritage management database) to capture, manage and spatially represent cultural heritage values. • The Authority has no cultural protocols policy to enable culturally appropriate collection, access, use and rights to cultural heritage information. 			
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	3	<ul style="list-style-type: none"> • The performance planning protocols within the Authority internally evaluate how effective the Authority staff have been at achieving their work programs against the Strategic Plan and Annual Operating Plans. • All projects supported under Reef Rescue follow performance monitoring protocols to gauge progress towards the project plan objectives. • The draft assessment of the Heritage Strategy identifies that actions in relation to Indigenous Heritage are either complete or underway with satisfactory progress. 		Adequate	Improving
PR5 Appropriate training is available to the managing agencies to address indigenous heritage issues	2	<ul style="list-style-type: none"> • Authority TRAINING <ul style="list-style-type: none"> • There is no formal training offered to Authority staff (including the Indigenous Partnership group staff) on cultural heritage/awareness. • In the past the Authority supported annual cultural awareness training on country (at Gould Island and at the Laura Festival). This training is no longer available to staff due to inadequate funding. • The Authority's IPG staff are required to have core competencies to meet the required standards for effective communication with, and knowledge of Aboriginal and Torres Strait Islander people. The Authority does not train them in this. • The Authority does not have a reconciliation action plan • TRAINING OFFERED TO ABORIGINAL AND TORRES STRAIT ISLANDERS <ul style="list-style-type: none"> • Eyes and Ears Compliance Training – funded through Reef Rescue funding (to end in 2013). These positions coordinate delivery of 'Eye's and Ear's Compliance Training'. This training assists Traditional Owners' understand: <ul style="list-style-type: none"> • Zoning - how different users can utilise the Marine Park and what the zoning means for them • How Native Title works with the Zoning and other marine legislation • How to identify local issues/risks • How to identify stakeholders/knowning who to contact if they suspect illegal activity • To assist participants obtain high standard surveillance and evidence collection, such as photographs, notes, location evidence and sufficient details to identify potential suspects. 		Adequate	Improving

PR6 Management of indigenous heritage is consistently implemented across the relevant jurisdictions	3	<ul style="list-style-type: none"> • Consideration of potential impacts to cultural heritage is consistently considered for joint Marine Park permits under the Inter-governmental Agreement (IGA) – however this only covers Marine Parks and not Queensland Islands where there is a myriad of indigenous heritage. It should be noted that there is no consideration beyond the desk-top based Native Title referral. As the assessment depends on cultural heritage information for different areas, which does not exist and/or is not in a searchable system • Joint permit arrangements provide some consideration for cultural heritage and aim to minimise conflicting use – but mostly with recreational users and tourism and to a lesser extent major developments (as per Regulation 88R(a) – as there are no minimum standards for engagement and CIA of values. This also relies on the consideration of cultural heritage information, which is not well understood by the Authority’s managers). <p>STRONG management (partnership approaches)</p> <ul style="list-style-type: none"> • Consistency with TUMRAs and MOUs with Traditional Owners between the Authority and QLD Govt. Cover 18% of the Marine Park or 21% of the coastline. • Sea Country Plans are being developed by Traditional Owners and they also provide decision support tools for the Authority. • Compliance Program (ICLO) is a strong management tool enabling consistency 		Adequate	Stable
PR7 There are effective processes applied to resolve differing views/ conflicts regarding Indigenous heritage	2	<ul style="list-style-type: none"> • Joint permit arrangements provide some consideration for cultural heritage and aim to minimise conflicting use – but mostly with recreational users and tourism and to a lesser extent major developments. • Given the rate of coastal development and limited access to cultural heritage knowledge the ability for the Authority to consider and resolve conflicts regarding permit applications and indigenous heritage values is low. Unless a cultural heritage strategy and mapping exercise is undertaken, and made available through a cultural heritage management system, the Authority’s ability to resolve conflicts is limited. 		Adequate	Stable
PR8 Direct and indirect impacts of activities associated with indigenous heritage are appropriately considered.	2	<ul style="list-style-type: none"> • Due to lack of detailed information or an Indigenous heritage strategy, the Authority struggles to manage the impacts on cultural heritage appropriately. • Traditional use, mainly through hunting, fishing and collecting, involves a range of marine species but overall levels of take are thought to be low. The Authority works with Traditional Owners and scientists to access the best information available on culturally-important species such as dugong and green turtles. Scientists can estimate the total losses these populations can withstand and still maintain population recovery or increases. Traditional Owners use these estimates as the basis for determining ecologically sustainable levels of take for these animals. • Green turtles and dugong are vulnerable to a range of impacts including boat strike, habitat degradation, by-catch, pollutants, marine debris and disease. Current responsible hunting by Traditional Owners is considered to be sustainable, provided other threats are addressed. • Illegal hunting of threatened species by people who are not Traditional Owners (known as poaching) is a concern of Traditional Owners and managing agencies 	Impacts of Traditional Hunting: http://www.gbrmpa.gov.au/outlook-for-the-reef/Managing-multiple-uses/traditional-use	Adequate	Improving
PR9. Consequential and cumulative impacts of activities associated with indigenous heritage are appropriately considered.	2	<ul style="list-style-type: none"> • Little knowledge about the cumulative impacts of activities associated with indigenous heritage is known 		Limited	No clear trend

PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding indigenous heritage	2	<ul style="list-style-type: none"> While there is significant knowledge about biophysical research and monitoring, due to lack of information on Indigenous heritage the Authority struggles to appropriately apply biophysical information when making decisions about cultural heritage. The Dugong and Turtle Forum November 2011: At the forum turtle and dugong experts involved in Marine Park management, conservation and research will discuss the impacts currently facing these species and how best to manage these to aid their recovery Northern Great Barrier Reef green turtle population model: A population model for northern Great Barrier Reef green turtles was developed in 2011–12 to assess the impact of management scenarios. 			
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding indigenous heritage	2	<ul style="list-style-type: none"> Little information is available TUMRAs/ILUA process takes socio-economic information into account, but it is not necessarily detailed. 		Limited	No clear trend
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding indigenous heritage	2	<ul style="list-style-type: none"> Due to lack of detailed information or an Indigenous heritage strategy, the Authority struggles to make appropriate management decisions on cultural heritage appropriately. Information gathered from TUMRA/ILUA process used however no one within the Authority, outside of the Indigenous Partnerships Group has access to it. Story Place - Information on traditional connections to sea – is a reference database that shares information and knowledge about Traditional Owners and their relationship with land and sea country in the Great Barrier Reef Region. The Authority hosted a unique two day gathering of regional Aboriginal and Torres Strait Islander Great Barrier Reef Traditional Owner women on Yunbenun (Magnetic Island) from 27-29 August 2012. The gathering provided an opportunity for Aboriginal and Torres Strait Islander women to express themselves as owners of their sea country about their cultural responsibilities, while also broadening community and management perspectives. To date however, the Authority does not have the systems nor resources to apply any of this valuable information. 		Adequate	Improving
PR13 Relevant standards are identified and being met regarding indigenous heritage	2	<ul style="list-style-type: none"> The Authority has no documented standards for the capture and handling of culturally sensitive material (exception with regard to photographs and permission to use these). The Authority is bound by legislation concerning Native Title 		Limited	No clear trend
PR14 Targets have been established to benchmark management performance	3	<ul style="list-style-type: none"> Clear targets for Reef Rescue projects have been established to benchmark performance (see Project Plan). However the Authority has no specific targets to manage performance of Indigenous heritage 	http://www.gbrmpa.gov.au/our-partners/traditional-owners/reef-rescue	Adequate	Improving
OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for indigenous heritage	3	<ul style="list-style-type: none"> Reef Rescue Projects: The Authority is now in the fifth and final year of program implementation with 100 percent completion against all milestone requirements to date, under the MoU with the Department of Sustainability, Environment, Water, Population and Communities. 	http://www.gbrmpa.gov.au/our-partners/traditional-owners/reef-rescue	Adequate	Improving
OP2 Implementation of management documents and/or programs relevant to Indigenous heritage have progressed in accordance with timeframes specified in those	3	<ul style="list-style-type: none"> Reef Rescue Projects: The Authority is now in the fifth and final year of program implementation with 100 percent completion against all milestone requirements to date, under the MoU with the Department of Sustainability, Environment, Water, Population and Communities. 	http://www.gbrmpa.gov.au/our-partners/traditional-owners/reef-rescue	Adequate	Improving

documents						
OP3 The results (in OP1 above) have achieved their stated management objectives	3	<ul style="list-style-type: none"> Since the implementation of the Reef Rescue Program the Authority has expanded its engagement on the TUMRA from four groups (Girringun, Woppaburra, Mamu & Wuthathi) to 11 (YBM, Lama Lama, Umpila, PCCC, Yirrganydji, Pul Pul – including Kuuku Ya'u ILUA). In addition to the formal TUMRA pathway, a further four Traditional Owner groups Yirrganydji, Gimuy Yidinji, Gunggandji and EKY (representative of multiple Traditional Owner groups) are now involved in either a TUMRA development or sea country planning process (supported by the small grants program). <p>ENHANCED COMPLIANCE</p> <ul style="list-style-type: none"> Two Indigenous Community Compliance Liaison Officers continue to work closely with Elders, Indigenous rangers, Indigenous Shire Councils and other members of the Indigenous communities to address poaching and other illegal activities that are of concern to Traditional Owners. These positions coordinate delivery of 'Eye's and Ear's Compliance Training'. This training assists Traditional Owners' understand: <ul style="list-style-type: none"> Zoning - how different users can utilise the Marine Park and what the zoning means for them How Native Title works with the Zoning and other marine legislation How to identify local issues/risks How to identify stakeholders/knowning who to contact if they suspect illegal activity To assist participants obtain high standard surveillance and evidence collection, such as photographs, notes, location evidence and sufficient details to identify potential suspects. The Authority's Compliance Area has increased positive and meaningful communications with community ranger groups on potential incidents in the park, demonstrating the effectiveness of engagement. 		Adequate	Improving	
OP4... to date, products or services have been produced in accordance with the stated management objectives for indigenous heritage	4	<ul style="list-style-type: none"> Reef Rescue Program Projects have all been produced in accordance with the objectives for Indigenous Heritage. 	Reef Rescue Indigenous Land and Sea Country Partnerships Program. Strategic plan Reef Rescue (in particular pages 3-6)		Adequate	Improving
OUTCOMES						
OC1...the relevant managing agencies are to date effectively addressing and moving towards the attainment of the desired outcomes.	3	<ul style="list-style-type: none"> Outcomes from the Reef Rescue program, and TUMRAS/IULAs address many of the outcomes 	Reef Rescue Indigenous Land and Sea Country Partnerships Program.		Adequate	Improving
OC2... the outputs relating to indigenous heritage are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	3	<ul style="list-style-type: none"> Outputs associated with Reef Rescue and TUMRAS protect the values of the GBR 	Reef Rescue Indigenous Land and Sea Country Partnerships Program.		Adequate	Improving
OC3... the outputs (refer OP1 & 3) for indigenous heritage are reducing the major risks and the threats to the Great Barrier Reef	3	<ul style="list-style-type: none"> Several outcomes from the Reef Rescue projects are reducing risks from illegal hunting, killing of vulnerable species, biodiversity protection etc. TUMRAS also reduce risk of illegal hunting, and inappropriate levels of take 	Reef Rescue Indigenous Land and Sea Country Partnerships Program.		Adequate	Improving
OC4... use of the Great Barrier Reef relating to indigenous heritage is demonstrably environmentally sustainable	3	<ul style="list-style-type: none"> Aboriginal people and Torres Strait Islander people have a right to continue their cultural practices within their own sea countries in the Marine Park. This includes traditional use of marine resources through activities such as collecting, hunting and fishing. Indigenous and cultural connections with the GBR are important to the understanding of the environment and its sustainability for the long term. 			Adequate	Improving

		<ul style="list-style-type: none"> Development of TUMRAs/ILUAs that define allowable take, and associated compliance programs improve the environmental sustainability Moratorium on hunting (voluntary) has occurred at a number of sites. For example, there is no take at Mon Repos (PCCC), don't take dugong. Three of the six saltwater groups in Girrigun have a "no take" policy. The remaining three manage numbers through the TUMRA but have applied a moratorium since cyclone Yasi. 			
OC5... use of the Great Barrier Reef relating to indigenous heritage is demonstrably economically sustainable	NA				
OC6... use of the Great Barrier Reef relating to indigenous heritage has demonstrably enhanced community understanding and/or enjoyment	3	<ul style="list-style-type: none"> Under the reef Rescue Program, specific communications tools will be developed to support Traditional Owners in their efforts to establish co-management arrangements and increase wider community support and Indigenous endorsement of the program. 	Reef Rescue Indigenous Land and Sea Country Partnerships Program.	Adequate	Improving
OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address indigenous heritage.	3	<ul style="list-style-type: none"> Further expansion of the TUMRA program is progressing through partnerships with over ten other Traditional Owner groups, investigating the development of 6 additional TUMRAs throughout the Great Barrier Reef. Some Traditional Owner groups have also successfully accessed a Sea Country Partnership grant in 2010-11. Collectively, the Authority is working with approximately 40 of the 70 Traditional Owner Groups within the GBR. Strengthened communications between local communities, managers and reef stakeholders to build a better understanding of Traditional Owner issues about the management of the Great Barrier Reef Marine Park is a key outcome of the Reef Rescue program LMAC attendance increases community awareness and education of Indigenous heritage through the TUMRA and Reef Rescue Grants programs. 	Reef Rescue Indigenous Land and Sea Country Partnerships Program.	Adequate	Improving

Topic: Historic Heritage

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to heritage... are understood by managers.	3	<ul style="list-style-type: none"> The Authority is developing a Heritage Register which captures the values that underpin MNES relevant to all heritage in the GBR. All Commonwealth agencies must produce a register, available to the public, that sets out, for each place it owns or controls, the heritage values (if any) of that place. The Register will be kept electronically on the GBRMPA Intranet and will be publicly released for comments once further developed (aim is mid 2013). 	<i>Great Barrier Reef Marine Park Heritage Strategy 2005</i> <i>Justification for Heritage Register development for the GBRMPA.</i>	Limited	No clear trend
CO2 Direct and indirect impacts associated with heritage are understood by managers.	2	<ul style="list-style-type: none"> The risks and threats include unsustainable activities in the GBR, coastal development/adjacent land uses, shipping and pollution, tourism, natural events (e.g. cyclones, etc). These impacts are known, but the impacts on historic heritage values are not known 	<i>Great Barrier Reef Marine Park Heritage Strategy 2005</i>	Limited	No clear trend
CO3 Consequential and cumulative impacts associated with heritage... are understood by managers. AL	2	<ul style="list-style-type: none"> As the cumulative impacts of the many threats to heritage are not well understood, their impact on heritage is also not well understood. 		Limited	No clear trend
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to heritage are known by managers	2	<ul style="list-style-type: none"> During 2010-11, the Authority undertook building audits on Commonwealth islands. These audits were necessary to identify any measures required to be taken to ensure the buildings' heritage values are maintained. The audits also identified any safety issues and necessary mitigation measures. The islands audited included Low Isle, and Dent and Lady Elliot islands. The Authority's managers know little about the condition of the majority of shipwrecks, WWII sites or other heritage places like Endeavour Reef or Green Island Underwater observatory Current condition of most GBR lighthouses is known, however, many of the lighthouses are not in good condition. 	See page 54 of 2010-2011 Annual Report: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0016/11950/Annual-Report201011.pdf	Limited	No clear trend
CO5 The stakeholders relevant to heritage are well known by managers.	3	<ul style="list-style-type: none"> Good understanding of specific stakeholders relevant to cultural and historic heritage Other stakeholders are engaged through LMACS and RACs 		Adequate	Improving

PLANNING					
PL1 There is a planning system in place that effectively addresses heritage	2	<ul style="list-style-type: none"> Heritage Strategy, Heritage Management Plans, and the Corporate plan consider historic heritage. However the Heritage Strategy is considered out of date and requires review. Only one Heritage Plan exists (Lady Elliott Island), although two others are underway. No planning documents consider World War II sites 	<ul style="list-style-type: none"> S2A of the Great Barrier Reef Marine Park Act 1975 R88Q and r88R of the Great Barrier Reef Marine Park Regulations 1983. GBRMP Act (C'wlth) Plans of Management: <ul style="list-style-type: none"> Cairns PoM (see part 1.25) Annual Report 2011-2012 Page 97 Case study on Lady Elliot Island Light House: <ul style="list-style-type: none"> http://www.gbrmpa.gov.au/_data/assets/pdf_file/0020/28406/GBRMP-A-Annual-Report-2011-12.pdf Lady Elliot Island Heritage Management Plan: <ul style="list-style-type: none"> http://www.gbrmpa.gov.au/about-the-reef/heritage/lady-elliott-island-heritage-values 	Adequate	Improving
PL2 The planning system for heritage addresses the major pressures and drivers impacting on the Great Barrier Reef's values	2	<ul style="list-style-type: none"> The Heritage Strategy and Management Plans consider the major pressures and drivers, however the strategy is considered out of date and requires review 	<i>Great Barrier Reef Marine Park Heritage Strategy 2005</i> Lady Elliot Island Heritage Management Plan: <ul style="list-style-type: none"> http://www.gbrmpa.gov.au/about-the-reef/heritage/lady-elliott-island-heritage-values 	Adequate	Improving
PL3 Actions for implementation regarding heritage are clearly identified within the plan	2	<ul style="list-style-type: none"> Actions for implementation are identified in documents such as the Heritage Strategy, however the strategy is out of date and requires review Heritage issues must be considered when assessing permits and approvals 	<i>Great Barrier Reef Marine Park Heritage Strategy 2005</i>	Adequate	Stable
PL4 Clear, measurable and appropriate objectives for management of heritage have been documented	2	<ul style="list-style-type: none"> Objectives for management of historic heritage are articulated in the Heritage Strategy and Plans of Management but these are not time specific and require review (see Appendix 12 of Heritage Strategy). Objectives in the Lady Elliott Island Heritage Management Plan are appropriate The Planning, Heritage and Sustainable Funding (PHSF) Group has clear, measurable and appropriate objectives within their Annual Operating Plan. 	<i>Great Barrier Reef Marine Park Heritage Strategy 2005</i> Lady Elliot Island Heritage Management Plan: <ul style="list-style-type: none"> http://www.gbrmpa.gov.au/about-the-reef/heritage/lady-elliott-island-heritage-values 	Adequate	Stable
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address heritage	2	<ul style="list-style-type: none"> There are low levels of community engagement in planning processes that include historic heritage (site plans, Heritage Management Plans, Heritage Strategy, policy development). 	<i>Great Barrier Reef Marine Park Heritage Strategy 2005</i> Lady Elliot Island Heritage Management Plan: <ul style="list-style-type: none"> http://www.gbrmpa.gov.au/about-the-reef/heritage/lady-elliott-island-heritage-values Low Isles Preservation Society - conservation group http://www.lips.org.au/ 	Adequate	Stable
PL6 Sufficient policy currently exists to effectively address heritage	2	<ul style="list-style-type: none"> Heritage strategy is out of date and requires review Insufficient policy currently exists to effectively address historic heritage 	<i>Great Barrier Reef Marine Park Heritage Strategy 2005</i>	Adequate	Improving
PL7 There is consistency across jurisdictions when planning for heritage	3	<ul style="list-style-type: none"> Intergovernmental agreement (IGA) There is agreement between Commonwealth and Queensland Government about managing shipwrecks There is agreement between AMSA and the Authority cooperation concerning lighthouses. 		Adequate	Improving
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	2	<ul style="list-style-type: none"> Zoning plans, plans of management address this issue to some degree, however permits are considered a case by case 		Adequate	Stable

INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address heritage	1	<ul style="list-style-type: none"> Current financial resources are minimal and often do not meet management objectives (for example for maintenance works) to address historic heritage. 		Adequate	Stable
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address heritage	2	<ul style="list-style-type: none"> There are limited financial and human resources to manage historic heritage matters. The resourcing for the FMP program is also decreasing in real terms 		Adequate	Deteriorating
IN3 The right skill sets and expertise are currently available to the managing organisations to address heritage	2	<ul style="list-style-type: none"> Minimal skill sets and expertise within the Authority to deal with historic heritage. with only one planner dealing with Commonwealth Islands- little expertise in dealing with shipwrecks, WWII sites or other historic heritage matters. Expert advice is available on heritage matters through the Conservation, Heritage and Indigenous Reef Advisory Committees 		Limited	Stable
IN4 The necessary biophysical information is currently available to address heritage	3	<ul style="list-style-type: none"> Information on physical location and values of historic heritage sites are poorly documented. 		Limited	No clear trend
IN5 The necessary socio-economic information is currently available to address heritage	2	<ul style="list-style-type: none"> Little information is available 		Limited	No clear trend
IN6 The necessary traditional (Indigenous) knowledge is currently available to address heritage	N/A				
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address heritage	2	<ul style="list-style-type: none"> Low Isles Preservation Society (LIPS) play a role in the management of the Low Isles Lighthouse. Experts exist on Light stations Some of the WWII site information is compiled by volunteers. For most historic heritage issues there are very few volunteer programs contributing to management. 	<ul style="list-style-type: none"> Low Isles Preservation Society - conservation group http://www.lips.org.au/ 	Limited	No clear trend

PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of	4	<ul style="list-style-type: none"> Expert advice is provided on some historic heritage matters through the Ecosystem RAC (ERAC) and Indigenous Partnerships Reef Advisory Committee. Formal advice is sought from the Australian Heritage Council for the over-arching GBRMP Heritage Strategy and heritage management plans. Industries (largely the tourism industry) are engaged in planning processes for various management issues throughout the GBR. This needs to be extended to historic heritage issues. Local communities have the potential to be involved in historic heritage management generally through the Local Marine Advisory Committees and through planning processes for specific places. 		Adequate	Stable
PR2 The local community is effectively engaged in the ongoing management of heritage.	2	<ul style="list-style-type: none"> The local community has little engagement with historic heritage due to its low profile within the Authority. Volunteers are involved in some specific sites, such as the Low Isles and some World War II sites. 	Low Isles Preservation Society - conservation group http://www.lips.org.au/	Adequate	Stable
PR3 There is a sound governance system in place to address historic heritage	2	<ul style="list-style-type: none"> Governance is through legislation and international (IUCN) intervention 	Great Barrier Reef Marine Park Act 1975 (s2A – protection of cultural values) Great Barrier Reef Marine Park Regulations (part 2B TUMRA's and r 88Q and 88R)	Adequate	Improving
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	3	<ul style="list-style-type: none"> The performance planning protocols within the Authority internally evaluate how effective the Authority's staff have been at achieving their work programs against the Strategic Plan and Annual Operating Plans. Heritage Strategy monitoring: An assessment of the 2005 Heritage Strategy in 2011 showed: <ul style="list-style-type: none"> 10 out of the total of 58 strategies were completed or good progress occurring (i.e. 17% of strategies in overall heritage Strategy) 28 out of the total of 58 strategies were underway with satisfactory progress or ongoing (i.e. 48%) 20 out of the total of 58 strategies either not commenced or yet to be considered (i.e. 35%) However the Heritage Strategy requires review and better focus on protecting the values of the historic heritage 	Great Barrier Reef Marine Park Heritage Strategy 2005 Lady Elliot Island Heritage Management Plan: http://www.gbrmpa.gov.au/about-the-reef/heritage/lady-elliott-island-heritage-values 2005 Heritage Strategy for GBR-Implementation Status April 2012	Adequate	Improving
PR5 Appropriate training is available to the managing agencies to address heritage	2	<ul style="list-style-type: none"> Limited training opportunities. Articulated in the heritage strategy but not implemented 	Great Barrier Reef Marine Park Heritage Strategy 2005	Limited	Stable
PR6 Management of heritage is consistently implemented across the relevant jurisdictions	3	<ul style="list-style-type: none"> Consideration of potential impacts to historic heritage is consistently considered for joint Marine Park permits under the Inter-governmental Agreement (IGA) 		Adequate	Stable
PR7 There are effective processes applied to resolve differing views/ conflicts regarding heritage	3	<ul style="list-style-type: none"> A conflict resolution process is articulated in the Heritage Strategy, however there are concerns this process is not implemented. 	Great Barrier Reef Marine Park Heritage Strategy 2005	Adequate	Stable
PR8 Direct and indirect impacts of activities associated with heritage are appropriately considered.	3	<ul style="list-style-type: none"> Consideration of potential impacts to historic heritage is consistently considered for joint Marine Park permits under the Inter-governmental Agreement (IGA) – Joint permit arrangements provide some consideration for historic heritage and aim to minimise direct and indirect impacts. Very few if any non-direct or cumulative impacts are considered 		Adequate	Improving
PR9. Consequential and cumulative impacts of activities associated with heritage are appropriately considered.	2	<ul style="list-style-type: none"> The consequential and cumulative impacts of activities associated with historic heritage are not optimally understood. 		Limited	No clear trend

PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding heritage	2	<ul style="list-style-type: none"> Audit of lighthouses provides data on biophysical condition of lighthouses There is little documented evidence about the impacts of biophysical information on historic heritage 	See page 54 of 2010-2011 Annual Report: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0016/11950/Annual-Report201011.pdf	Limited	Improving
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding heritage	NA				
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding heritage	NA				
PR13 Relevant standards are identified and being met regarding heritage	2	<ul style="list-style-type: none"> The Authority is developing a Heritage Register as per the Commonwealth government requirements, however it will not be completed until mid-2013. 		Adequate	Improving
PR14 Targets have been established to benchmark management performance	2	<ul style="list-style-type: none"> Clear targets for the protection and maintenance of historic heritage places that are on Commonwealth Islands are clearly articulated in Deeds of Agreements and permits with the lease holders. Targets are not included in the heritage strategy 		Adequate	Improving
OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for heritage	3	<ul style="list-style-type: none"> An assessment of the 2005 Heritage Strategy in 2011 showed: <ul style="list-style-type: none"> 10 out of the total of 58 strategies were completed or good progress occurring (i.e. 17% of strategies in overall heritage Strategy) 28 out of the total of 58 strategies were underway with satisfactory progress or ongoing (i.e. 48%) 20 out of the total of 58 strategies either not commenced or yet to be considered (i.e. 35%) However the strategy requires review and updating to deliver on historic heritage protection 	<i>Great Barrier Reef Marine Park Heritage Strategy 2005</i> <i>2005 Heritage Strategy for GBR-Implementation Status April 2012</i>	Adequate	Improving
OP2 Implementation of management documents and/or programs relevant to heritage have progressed in accordance with timeframes specified in those documents	3	<ul style="list-style-type: none"> 65% of strategies have been completed or are progressing satisfactorily), however the strategy does not have timeframes for actions. However, the Heritage strategy has not been reviewed in accordance with the statutory timeframe Heritage Management Plans have not been completed for all Commonwealth listed heritage places in the timeframes recommended 	<i>2005 Heritage Strategy for GBR-Implementation Status April 2012</i>	Adequate	Improving
OP3 The results (in OP1 above) have achieved their stated management objectives	3	<ul style="list-style-type: none"> The implementation of management objectives for the heritage strategy are considered to be progressing satisfactorily, however the strategy requires review and updating 	<i>Great Barrier Reef Marine Park Heritage Strategy 2005</i> <i>2005 Heritage Strategy for GBR-Implementation Status April 2012</i>	Adequate	Improving
OP4... to date, products or services have been produced in accordance with the stated management objectives for heritage	3	<ul style="list-style-type: none"> Specific policy documents on shipwrecks, Commonwealth Islands and shipping and navigation heritage have been completed. Products such as the "social atlas" and the heritage data base have not been completed. 		Adequate	Improving

OUTCOMES					
OC1...the relevant managing agencies are to date effectively addressing and moving towards the attainment of the desired outcomes.	2	<ul style="list-style-type: none"> The assessment of the Heritage Strategy indicates that the Authority is moving towards effectively addressing and moving towards the attainment of outcomes. However the heritage strategy requires review and clearer focus on addressing historic heritage outcomes 	<i>Great Barrier Reef Marine Park Heritage Strategy 2005</i> <i>2005 Heritage Strategy for GBR-Implementation Status April 2012</i>	Adequate	Improving
OC2... the outcomes relating to heritage are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	2	<ul style="list-style-type: none"> Assessment of the heritage strategy identifies that 65% on the strategies are on track However the Heritage Strategy requires review and clearer focus on addressing historic heritage outcomes 	<i>Great Barrier Reef Marine Park Heritage Strategy 2005</i> <i>2005 Heritage Strategy for GBR-Implementation Status April 2012</i>	Adequate	Improving
OC3... the outcomes (refer OP1 & 3) for heritage are reducing the major risks and the threats to the Great Barrier Reef	2	<ul style="list-style-type: none"> The outcomes from the Heritage Strategy, permits site plans, Plans of Management are reducing the risks and threats to a minor level. 	<i>Great Barrier Reef Marine Park Heritage Strategy 2005</i> <i>2005 Heritage Strategy for GBR-Implementation Status April 2012</i>	Adequate	Improving
OC4... use of the Great Barrier Reef relating to heritage is demonstrably environmentally sustainable	3	<ul style="list-style-type: none"> Use/access of heritage sites such as Lighthouses, shipwrecks, Lowe Isles, Endeavour Reef and the tourism ventures at Low Isles and Lady Elliot Island are considered environmentally sustainable 		Limited	No clear trend
OC5... use of the Great Barrier Reef relating to heritage is demonstrably economically sustainable	NA				
OC6... use of the Great Barrier Reef relating to heritage has demonstrably enhanced community understanding and/or enjoyment	3	<ul style="list-style-type: none"> Information provided on heritage through web site, and fact sheets Community understand/enjoyment of historic heritage is demonstrated through numbers of people accessing heritage sites. 		Adequate	Improving
OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address heritage	2	<ul style="list-style-type: none"> LMACs, CReef Advisory Committee. The engagement with these groups has good progress in a number of areas, but has had little engagement with historic heritage issues. Volunteers are involved in some specific sites, such as the Low Isles and some World War II sites. 	The GBRMPA heritage website http://www.gbrmpa.gov.au/corp_site/key_issues/conservation/heritage <ul style="list-style-type: none"> Low Isles Preservation Society - conservation group http://www.lips.org.au/ http://www.gbrmpa.gov.au/about-us/local-marine-advisory-committees	Adequate	Improving

Topic: Community Benefits

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to community benefit are understood by managers.	3	<ul style="list-style-type: none"> The Authority has a good understanding of the values that underpin MNES relevant to community benefits. The multiple use marine park through Zoning Plan and Plans of Management segregates conflicting uses to ensure access to resources, support enjoyment and encourage personal attachment to the Reef Access Economic Study has determined the value of the reef (income, employment etc) to various reef users. 	<ul style="list-style-type: none"> GBRMPA, 2011, Great Barrier Reef Strategic Assessment Stakeholder Workshops: General Report and individual workshop reports Rolfe, J., Daniel, G. and G. Tucker (2011) Valuing local recreation in the Great Barrier Reef, Australia, Research Report No. 102, Environmental Economics Research Hub Research Reports Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft) ,Great Barrier Reef Marine Park Authority 	Adequate	Improving
CO2 Direct and indirect impacts associated with community benefit are understood by managers.	3	<ul style="list-style-type: none"> Direct and indirect community benefits associated with income, employment and access to reef resources are reasonably well understood. Benefits associated with enjoyment, understanding and appreciation, social relationships and health are not well understood, but they are recognised as being important contributors New industrial developments in the reef area are likely to detract from the current community benefits associated with enjoyment of the reef Extreme weather events have many negative impacts on community benefits, and climate change impacts are also likely to be severe (see climate change section) A social and economic long-term monitoring program was initiated in collaboration with CSIRO (National Environmental Research Program Project 10.1). This is aimed at creating greater understanding of how people use and benefit from the Great Barrier Reef World Heritage Area, including coastal and catchment communities, marine tourism, commercial and recreational fishing, Traditional Owners and the shipping sector. 	<ul style="list-style-type: none"> Marshall, N.A. and Tobin, R.C. "More Than Meets the Eye": The Social and Economic Impacts of Recent Extreme Weather Events on Reef-Dependent Industries of the Great Barrier Reef Region, Report for GBRMPA, CSIRO, Ecosystem Sciences, Fish and Fisheries Centre, James Cook University Assessment of the ecological vulnerability of the East Coast Otter Trawl Fishery to climate change: a brief synthesis of information and results of an expert workshop (http://hdl.handle.net/11017/522) Rachel Pear's work on Adaptation planning in the Otter Trawl Industry Moon, K. and Gooch, M., 2011, Rapid social and economic impact assessment of Great Barrier Reef commercial fishing and tourism sectors affected by floods and cyclones during 2010/11, GBRMA Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft) ,Great Barrier Reef Marine Park Authority 	Adequate	Stable
CO3 Consequential and cumulative impacts associated with community benefit are understood by managers.	2	<ul style="list-style-type: none"> Consequential and cumulative community benefits associated with income, employment and access to reef resources are moderately understood. Benefits associated with enjoyment, understanding and appreciation, social relationships and health are not well understood Potential impacts on community benefits from future changes such industrial development, increased shipping, climate change and demographic changes are poorly understood 		Limited	Improving
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to community benefit are known by managers	2	<ul style="list-style-type: none"> The condition of MNES relating to community benefits of the GBR is not consistently understood. Condition and trend of some values of relevance are understood at a level sufficient to inform management actions (e.g. some habitats such as mangroves, seagrass, coral reefs; iconic, migratory and threatened species, some physical and chemical processes related to water quality) Condition and trend in other values are less well understood (e.g. natural beauty and aesthetics, some ecological processes such as ecosystem linkages, coastal ecosystems, heritage values, soft-bottom communities, deep water and pelagic habitats) 		Limited	Stable
CO5 The stakeholders relevant to community benefit are well known by managers.	3	<ul style="list-style-type: none"> Educating the community about the key risks to the Great Barrier Reef and ways to improve its resilience has long been recognised as an important part of the GBRMPA's work (see annual report). The agency uses a suite of communication tools to understand the community and to encourage stakeholders to become stewards of the Reef. Communication and Education officers liaise with stakeholders via all means, including face to face, phone, social media and public workshops 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0020/28406/GBRMPA-Annual-Report-2011-12.pdf	Adequate	Stable

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
PLANNING					
PL1 There is a planning system in place that effectively addresses community benefit	3	<ul style="list-style-type: none"> Zone plans, Recreation Management Strategy and Plans of Management, as well as protected area management plans (undertaken by QPWS) segregate conflicting uses to ensure access to resources, support enjoyment and encourage personal attachment to the Reef The vision for the Recreation Management Strategy includes “visitors can appreciate its values and enjoy recreational experiences, now and into the future” Less tangible benefits are less well considered in planning Social, cultural and heritage values of the GBR are considered when assessing permits Community benefits are recognised in legislation and strategy documents. 	<ul style="list-style-type: none"> GBRMP Act: http://www.comlaw.gov.au/Details/C2011C00149 Zoning Plan: http://www.gbrmpa.gov.au/zoning-permits-and-plans/zoning Managing Multiple Uses: http://www.gbrmpa.gov.au/about-the-reef/Managing-multiple-uses Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park 	Adequate	Stable
PL2 The planning system for community benefit addresses the major pressures and drivers impacting on the Great Barrier Reef's values	3	<ul style="list-style-type: none"> The planning system for community benefits does not address all major pressures and drivers impacting on the GBR's values because many of these (economic growth and slowdown, population changes, climate change) are outside the Authority's direct jurisdiction and are global drivers. The Zoning Plan addresses extractive use Permits help to manage tourism pressures and some scientific research pressures, but do not address cumulative take and localised depletion or harvest fisheries Site Planning, Plans of Management and site infrastructure attempt to address pressures and major conflicts of use (for example by creating 'no anchoring' areas in places with high coral cover that have community benefits to tourism, recreation use). 	: http://www.gbrmpa.gov.au/zoning-permits-and-plans/zoning	Adequate	Improving
PL3 Actions for implementation regarding community benefit are clearly identified within the plan	2	<ul style="list-style-type: none"> Only some of the planning systems related to community benefits have clear implementation actions. 		Limited	Stable
PL4 Clear, measurable and appropriate objectives for management of community benefit have been documented	3	<ul style="list-style-type: none"> Reef Guardians Programs, Reef HQ programs, Communications and Public Information Unit, Climate Change Stakeholder Programs all have clear objectives for management associated with community benefit Annual Operating plans have performance indicators The Authority has a communications plan (internal document) Climate Change Action Plan & Delivery Program 2007-2012 includes a Monitoring, Evaluation, Reporting & Improvement Framework For access to GBR resources, permit requirements are clearly articulated under the Zoning Plan, POMs, the Authority's Strategic Plan Recreation Management Strategy does not include specific objectives 	<ul style="list-style-type: none"> Zoning Plan: http://www.gbrmpa.gov.au/zoning-permits-and-plans/zoning Managing Multiple Uses: http://www.gbrmpa.gov.au/about-the-reef/Managing-multiple-uses Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park 	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address community benefit	3	<ul style="list-style-type: none"> The Authority consults with the public on a range of matters that concern the Marine Park, including permit applications and policy. People interested in the management of the Great Barrier Reef and World Heritage Area, including proposed developments, have valuable knowledge that contributes to the assessment process. A list of current plans, applications and assessments for public consultation are available online, along with details on the process (see Public Comments website on GBRMPA web): <ul style="list-style-type: none"> Established committees include Local Marine Advisory Committees, Reef Advisory Committees and research partnerships Cooperation with the Queensland Government in planning for community benefits includes each party reviewing and discussing strategic plans, park management plans and specific topic plans. Regulatory Impact Statements are required for all changes to policy and regulation, taking into account any implications to affected members of the community (noting that this process is geared more to income <i>indicators as opposed to connections and relationships</i>). Reef Guardians Program: The Reef Guardian program is a successful stewardship program that began with schools in 2003 to encourage the community to take action for a healthier Reef. The program has since expanded to include councils, fishers, farmers and graziers. The High Standard Tourism Program, the Eye on the Reef Program and the Tourism Climate Change Action Strategy encourage tourism operators to take action for a healthier Reef Stakeholder Engagement is an important component of Zoning Plan Review 	<p>Public Comments website on GBRMPA web: http://www.gbrmpa.gov.au/about-us/consultation</p> <p>Annual Report pg. 77 Reef Guardians Program: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0020/28406/GBRMPA-Annual-Report-2011-12.pdf</p> <p>Our Partners list on website: http://www.gbrmpa.gov.au/our-partners</p>	Adequate	Improving
PL6 Sufficient policy currently exists to effectively address community benefit	3	<ul style="list-style-type: none"> The Authority's policies which contain aspects to effectively address community benefits include: <ul style="list-style-type: none"> Recreation Management Strategy (more broadly covers enjoyment and appreciation, access, personal connections, income) Responsible Reef Practices Policy on Managing Tourism Permissions to Operate in the Great Barrier Reef Marine Park (including Allocation, Latency & Tenure) (Cruise Shipping Policy for the Great Barrier Reef Marine Park Policy on Moorings in the Great Barrier Reef Marine Park Policy on Managing Bareboat Operations in the Great Barrier Reef Marine Park Position Statement - Management of tourist flights in the vicinity of Magnetic Island Position Statement on Indigenous Participation in Tourism and its Management Position Statement on Management of Commercial Jet Ski Operations around Magnetic Island 	<ul style="list-style-type: none"> Responsible Reef Practices: http://www.gbrmpa.gov.au/visit-the-reef/responsible-reef-practices GBRMPA Policies: http://www.gbrmpa.gov.au/about-us Recreation Management Strategy: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0005/16835/gbrmpa-RecreationManagementStrategy-2012.pdf 	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
PL7 There is consistency across jurisdictions when planning for community benefit	3	<ul style="list-style-type: none"> The GBRMP Act is not explicit about community benefits or well-being. It refers to enjoyment, appreciation and understanding of the Reef, but is not concerned with aspects of wellbeing that relate to employment or income of Reef-dependent industries. The IGA for the Great Barrier Reef provides the 'head of power' for aspects of community benefits through the joint permitting system between the Authority and QPWS. This joint system allows for consistent consideration and management of access to resources through permits, Zoning Plans and Plans of Management. GBRMP Regulations 1983 provide for consistency across international, national and QLD jurisdictions when assessing permits see specific regulations below. Whether this complementarily is reflected in other jurisdictions is another matter. <ul style="list-style-type: none"> (g) any <u>international Convention</u> to which Australia is a signatory, or any agreement between the Commonwealth and a State or Territory, that is relevant to the application; (h) any <u>relevant law of the Commonwealth, or a relevant law of Queensland</u> as in force from time to time, or a relevant plan made under such a law, relating to the management of the environment, or an area in the Marine Park 		Adequate	Improving
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	3	<ul style="list-style-type: none"> Plans regarding access to resources and extractive activities are clear and provide certainty for tourism, fishing and recreation. The Authority and QPWS have a joint-permit working group (JPWG) to streamline plans and improve certainty and consistent management. This process works extremely well. Zoning Plan Permits, POM's, Site Planning arrangements, Policy. 		Adequate	Stable
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address community benefit	2	<ul style="list-style-type: none"> The Authority allocates financial resources to address aspects of community benefits through the Strategic Plan and Annual Operating Plans. However, this area is not adequately resourced 		Limited	Stable
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address community benefit	2	<ul style="list-style-type: none"> The Authority employs one dedicated Social Scientist 		Limited	Stable
IN3 The right skill sets and expertise are currently available to the managing organisations to address community benefits	2	<ul style="list-style-type: none"> The Authority employs one dedicated Social Scientist 		Limited	Stable

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
IN4 The necessary biophysical information is currently available to address community benefit	3	<ul style="list-style-type: none"> Outlook 2009, vulnerability assessments, Draft Status of habitats and species document, Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, Great Barrier Reef Marine Park Authority, Townsville have all compiled latest information and made it accessible to managers 	<ul style="list-style-type: none"> Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments Draft <i>Status of habitats and species</i> document Values and attributes table underpinning MNES Outlook Report 2009 Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, Great Barrier Reef Marine Park Authority, Townsville. 	Adequate	Improving
IN5 The necessary socio-economic information is currently available to address community benefits	2	<ul style="list-style-type: none"> Some information is available relating to economic benefits and important user groups A social and economic long-term monitoring program was initiated in collaboration with CSIRO (National Environmental Research Program Project 10.1). This is aimed at creating greater understanding of how people use and benefit from the Great Barrier Reef World Heritage Area, including coastal and catchment communities, marine tourism, commercial and recreational fishing, Traditional Owners and the shipping sector. Long-term monitoring helps reef managers, industries and communities to assess how each industry and community will be affected by climate change, environmental degradation, regulatory change, cultural change and short-term impacts. It also has the potential to evaluate the effectiveness of management interventions within the region. Closely aligned with this research is another National Environmental Research Program-funded project (National Environmental Research Program Project 10.2) which explores visitor satisfaction levels and their willingness to pay for particular experiences. The Authority is working closely with James Cook University researchers to deliver this project. 	<ul style="list-style-type: none"> Marshall, N.A. and Tobin, R.C. "More Than Meets the Eye": The Social and Economic Impacts of Recent Extreme Weather Events on Reef-Dependent Industries of the Great Barrier Reef Region, Report for GBRMPA, CSIRO, Ecosystem Sciences, Fish and Fisheries Centre, James Cook University Assessment of the ecological vulnerability of the East Coast Otter Trawl Fishery to climate change: a brief synthesis of information and results of an expert workshop (http://hdl.handle.net/11017/522) Rachel Pear's work on Adaptation planning in the Otter Trawl Industry Moon, K. and Gooch, M., 2011, Rapid social and economic impact assessment of Great Barrier Reef commercial fishing and tourism sectors affected by floods and cyclones during 2010/11, GBRMA Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft), Great Barrier Reef Marine Park Authority Sutton, S.G. 2006, An assessment of the social characteristics of Queensland's recreational fishers. Technical Report 65, CRC Reef Research Centre, Townsville, Australia. 	Adequate	Improving
IN6 The necessary traditional (Indigenous) knowledge is currently available to address community benefits	2	<ul style="list-style-type: none"> The Indigenous Partnerships Group at the Authority has good connections and relationships with Traditional Owners through Caring for our Country projects, Story Place, Indigenous Reef Advisory committee and liaison and consultation. However the ability to apply detailed understanding of indigenous knowledge and cultural heritage to management is lacking across most of the region. This requires very close work with the relevant communities, as traditional knowledge can only be used by people with the appropriate rights. 	<ul style="list-style-type: none"> Reef Rescue programs: See link for 2010-2011 successful grants project and their purpose: <ul style="list-style-type: none"> http://www.gbrmpa.gov.au/our-partners/traditional-owners/reef-rescue/sea-country-partnerships-grants-program-2011-2012 http://www.gbrmpa.gov.au/_data/assets/pdf_file/0007/17881/2011-12-Successful-Grants-projects.PDF 	Limited	Improving
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address community benefits	3	<ul style="list-style-type: none"> The Authority has a well-established volunteer program through Reef HQ, Integrated Eye on the Reef, Reef Guardians and Local Marine Advisory Committees which all contribute to community benefits associated with the GBRR. 		Adequate	Stable

PROCESSES					
PR1 The main stakeholders &/or industries are effectively engaged in the ongoing management of community benefits	3	<ul style="list-style-type: none"> The Authority consults with the public on a range of matters that concern the Marine Park, including permit applications and policy. People interested in the management of the Great Barrier Reef and World Heritage Area, including proposed developments, provide valuable knowledge that contributes to the assessment process. A list of current plans, applications and assessments for public consultation are available online, along with details on the process (see Public Comments website on GBRMPA web) Initiatives to work with stakeholders include: <ul style="list-style-type: none"> Established committees :Local Marine Advisory Committees, Reef Advisory Committees Regional Offices (Rockhampton, Mackay, Cairns) and outreach officers Joint management arrangements with Queensland The Reef Guardian program, the High Standard Tourism Program, the Eye on the Reef Program and the Tourism Climate Change Action Strategy encourage tourism operators to take action for a healthier Reef. 	<p>Public Comments website on GBRMPA web: http://www.gbrmpa.gov.au/about-us/consultation</p> <p>See Annual Report p. 77 Reef Guardians Program: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0020/28406/GBRMPA-Annual-Report-2011-12.pdf</p> <p>http://www.gbrmpa.gov.au/our-partners</p>	Adequate	Stable
PR2 The local community is effectively engaged in the ongoing management of community benefit	3	<ul style="list-style-type: none"> Launched the Reef Guardian Grazing pilot program in 2011 and finalised pilot programs in Reef Guardian Farmers in the cane, banana and grazing sectors; Desirable Assessment Standards and evaluation processes for Reef Guardian Farmers and Reef Guardian Fishers Reef Guardian Fishers - finalised pilot programs in the reef line and marine aquarium fish and coral collection sectors; also trialling electronic data collection devices with Reef Guardian Fishers in the inshore gillnet fishery Reef Guardian Councils - Action plans received from all 13 Councils in the program which included over 920 projects in the areas of land management, waste management, water management, climate change, community education and capacity building. Reef Guardian Schools - More than 285 schools and over 113,000 students are helping build the resilience of the GBR through our Reef Guardians Schools program. Reef Guardian School students are currently undertaking over 1600 projects in their schools and local communities in the areas of waste management, water management, biodiversity/land management and climate change mitigation and adaptation. Thirty-five Future Leaders Eco Challenges (FLECs) involving over 1500 students were held in the GBR Catchment, enabling students and teachers to participate in local environmental projects within their school or community. Students had an opportunity to take part in activities that are aimed at improving catchments, water quality, sustainability and Reef health. Improvements in public reporting capacity for shipping and pollution incidents, and marine wildlife strandings, via mobile phone applications. 	<ul style="list-style-type: none"> 	Adequate	Stable
PR3 There is a sound governance system in place to address community benefit	3	<ul style="list-style-type: none"> Governance to address community benefits includes the multiple-use nature of the legislation and planning system under which the GBR is managed. However, there is no overarching community benefits study within the Authority, though a number of projects such as Climate Change Action Plan & Delivery Program 2007-2012 Monitoring Evaluation Reporting & Improvement Framework, SELTMP, Access Economics – Economic Contribution of the Great Barrier Reef, contribute 		Adequate	Stable

PR4 There is effective performance monitoring to gauge progress towards the objective(s)	3	<ul style="list-style-type: none"> Performance monitoring includes: <ul style="list-style-type: none"> Reef Guardian Program Evaluation: The purpose of this project was to evaluate the effectiveness of a public education campaign designed to provide information to residents living in the Great Barrier Reef Catchment Area Annual Operating Plans require evaluation of performance throughout the year. The Authority has surveyed stakeholders involved in the Strategic Assessment workshops to determine lessons learned and where improvements can be made Repeat studies into the economic values of the Reef can be interpreted as performance monitoring for this aspect. 	Evaluation Report Reef Guardians See Stakeholder Workshop Reports – Strategic Assessment	Limited	Stable
PR5 Appropriate training is available to the managing agencies to address community benefits	2	<ul style="list-style-type: none"> Training for managers is adhoc and not according to clear objectives. 		Adequate	Deteriorating
PR6 Management of community benefit is consistently implemented across the relevant jurisdictions	2	<ul style="list-style-type: none"> There is no clear inter-governmental agreement or arrangements when planning for community benefits There are some inconsistencies in management of the coastal zone and developments on Islands under the jurisdiction of Queensland where the head of power to consider impacts on community benefits and social and heritage matters is not as clear. 		Adequate	Stable
PR7 There are effective processes applied to resolve differing views/ conflicts regarding community benefit	3	<ul style="list-style-type: none"> Planning systems are designed to address conflicting interests at an early stage, however there are few processes to resolve differing views where one activity e.g. coastal development conflicts with a community benefit e.g. public enjoyment 		Limited	Stable
PR8 Direct and indirect impacts of activities associated with community benefits are appropriately considered.	3	<ul style="list-style-type: none"> A detailed risk assessment of recreational activities is contained in the Recreation Management Plan R88Q and 88R of the GBRMP Regulations 1983 require assessment officers to consider the following when assessing a permit application <ul style="list-style-type: none"> the potential impacts of the conduct proposed to be permitted by the permission (the proposed conduct) on the environment and on the social, cultural and heritage values of the Marine Park or a part of the Marine Park; b) the effect that the grant of the permission will have on <u>public appreciation, understanding and enjoyment</u> of the Marine Park; Consultation and engagement opportunities required under the GRRMP Act, and the EPBC 	Recreation Management Strategy: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0005/16835/gbrmpa-RecreationManagementStrategy-2012.pdf	Adequate	Improving
PR9. Consequential and cumulative impacts of activities associated with community benefits are appropriately considered.	3	<ul style="list-style-type: none"> The changing requirements of the community for access to the reef as a consequence of the resources boom and an increase in money for bigger boats (for example) is recognised, but the Authority are currently unable to respond fast enough to take this into consideration (planning, policy, compliance). The current infrastructure (public moorings and reef protection markers) is inadequate for the growth. Conflicting uses between different sectors of the community are recognised, particularly in high use areas. 		Limited	No clear trend
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding community benefit	3	<ul style="list-style-type: none"> Biophysical knowledge and monitoring are used when making decisions about community benefit – see biodiversity section 		Adequate	Stable

PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding community benefit	2	<ul style="list-style-type: none"> Where the Authority has the information, it is used to make relevant management decisions. The Authority's consideration of stakeholder input as part of the re-zoning was a good example of this. Any information regarding community benefits arising from public consultation is considered in all permit assessments, planning and policy development. Social assessment and monitoring is in early stage – see IN5 	<ul style="list-style-type: none"> Marshall, N.A. and Tobin, R.C. "More Than Meets the Eye": The Social and Economic Impacts of Recent Extreme Weather Events on Reef-Dependent Industries of the Great Barrier Reef Region, Report for GBRMPA, CSIRO, Ecosystem Sciences, Fish and Fisheries Centre, James Cook University Assessment of the ecological vulnerability of the East Coast Otter Trawl Fishery to climate change: a brief synthesis of information and results of an expert workshop (http://hdl.handle.net/11017/522Rachel Pear's work on Adaptation planning in the Otter Trawl Industry Moon, K. and Gooch, M., 2011, Rapid social and economic impact assessment of Great Barrier Reef commercial fishing and tourism sectors affected by floods and cyclones during 2010/11, GBRMA Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft) ,Great Barrier Reef Marine Park Authority Sutton, S.G. 2006, An assessment of the social characteristics of Queensland's recreational fishers. Technical Report 65, CRC Reef Research Centre, Townsville, Australia. 	Limited	Improving
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding community benefit	2	<ul style="list-style-type: none"> Sea Country Partnerships Grants Program includes successful projects which include things like engaging Traditional Owners in seagrass watch, community awareness of impacts, turtle tagging etc. The Authority is working with Indigenous groups, other government agencies and tourism operators to enhance Indigenous participation in tourism and its management in the Great Barrier Reef The Reef Rescue Program has strengthened communications across the community to build a better understanding of Traditional Owner issues on the management of the Great Barrier Reef Marine Park 		Limited	Improving
PR13 Relevant standards are identified and being met regarding community benefit	2	<ul style="list-style-type: none"> Responsible Reef Practices: Voluntary standards for reef use and interactions Reef Guardians High Standard Tourism Program The Authority is beginning to identify which elements of community benefits can be monitored over time through the Social and Economic Long Term Monitoring Program which is in its design phase. If this program is funded beyond the design phase standards will be developed against which to benchmark key community benefits. 		Limited	No clear trend
PR14 Targets have been established to benchmark management performance	2	<ul style="list-style-type: none"> Targets are in place for Reef Guardian Programs, but are not comprehensive across all the issues The Portfolio Budget Statement has a target for the High Standard Tourism Program based on number of Reef visitors carried by a high standard operation. The Tourism Climate Change Action Strategy set targets, but this is related to only one user group. 		Limited	No clear trend

OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for community benefits	3	<ul style="list-style-type: none"> Reef HQ Aquarium : The aquarium surpassed a 20-year visitation record in 2011-12, with 145,129 domestic and international visitors walking through its doors to come face to face with the wonders of the Reef. The figure exceeded the year's target of 116,000 by 25 per cent. Reef HQ Solar Program: used also to educate public about the benefits of solar etc. Reef Guardians Program: The Reef Guardian program is a successful stewardship program that began with schools in 2003 to encourage the community to take action for a healthier Reef. The program has since expanded to include councils, fishers, farmers and graziers. High Standard Tourism Program: More than 60 per cent of visitors to the Reef were carried by high standard operators in 2012. Although the Authority does a lot of work that has direct and obvious Community benefits, there is no one overarching program of work to tie all of the individual efforts together. This is an emerging area for the Authority, 	(annual report pg. 93)	Adequate	Improving
OP2 Implementation of management documents and/or programs relevant to community benefit have progressed in accordance with timeframes specified in those documents	3	<ul style="list-style-type: none"> For established programs above, yes 	See annual report	Adequate	Improving
OP3 The results (in OP1 above) have achieved their stated management objectives	3	<ul style="list-style-type: none"> For established programs above, yes 	See annual report	Adequate	Improving
OP4 To date, products or services have been produced in accordance with the stated management objectives for community benefit	3	<ul style="list-style-type: none"> For established programs above, yes 	See annual report	Adequate	Improving
OUTCOMES					
OC1 The relevant managing agencies are to date effectively addressing community benefits and are moving towards the attainment of the desired outcomes.	3	<ul style="list-style-type: none"> The Authority's recognition of the range of community benefits is shown through the Recreational Management Strategy, the Reef Guardian programs, Reef HQ, High Standard Tourism program, and support for the tourism industry. The implementation of these programs will move towards attaining the desired outcomes 		Adequate	Improving
OC2 The outputs relating to community benefits are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	3	<ul style="list-style-type: none"> Programs such as the Reef HQ aquarium, the Reef Guardians and High Standard Tourism program engender positive community attitudes to protect the values of the reef 		Limited	Stable
OC3 The outputs (refer OP1 & 3) for community benefit are reducing the major risks and the threats to the Great Barrier Reef	3	<ul style="list-style-type: none"> Positive community attitudes gained through the community engagement programs can reduce risks of negative decisions being made. This assists in reducing the major risks and threats to the GBR 		Limited	Stable

OC4 Use of the Great Barrier Reef relating to community benefits is demonstrably environmentally sustainable	3	<ul style="list-style-type: none"> • Enjoyment, understanding and appreciation, relationships health are environmentally sustainable • Maintenance of environmentally sustainable recreation/tourism/shipping use is critical to maintain community benefits 		Adequate	Improving
OC5 Use of the Great Barrier Reef relating to community benefits is demonstrably economically sustainable	4	<ul style="list-style-type: none"> • Economic sustainability is shown through reports such as Deloitte Access Economics and the East coast Otter Trawl Fishery work 	<ul style="list-style-type: none"> • Deloitte Access Economics 2012, <i>Economic Contribution of the Great Barrier Reef 2011-2012</i>, • Assessment of the ecological vulnerability of the East Coast Otter Trawl Fishery to climate change: a brief synthesis of information and results of an expert workshop (http://hdl.handle.net/11017/522Rachel) 	Limited	No clear trend
OC6... use of the Great Barrier Reef relating to community benefit has demonstrably enhanced community understanding and/or enjoyment	4	<ul style="list-style-type: none"> • Surveys show 80% of Australians and 70% of Queensland visitors satisfied with their Great Barrier Reef experience • Uptake of Reef Guardian program within community is indicative of community interest in and concern for the GBR • A significant move forward since Outlook 2009 has been a stronger focus on embedding the Authority's key communication messages as part of exhibition development in the GBR Aquarium. This provides a community engagement / education opportunity that helps to distil often quite complex and scientific based information into thematic formats that are more easily understood • The following show contributions to personal connection, enjoyment and understanding: <ul style="list-style-type: none"> • Spotlight on the Great Barrier Reef: Thousands of people have seen the Great Barrier Reef from a boat, from the air or by diving and snorkelling, but a recent television documentary showed this natural wonder in a way that no-one has seen before. • Reef HQ • Reef Videoconferencing Outreach: Reef Video conferencing is breaking down geographical barriers to the latest in reef education. • Volunteer Program • Interpretive services • ReefED Website • Visiting the Reef website: information and tips on access and enhancing the reef experience 	<ul style="list-style-type: none"> • Visitor satisfaction data: 93.9% of respondents to the 2012 Reef HQ Visitor Satisfaction Survey said that they believed they had an improved understanding of the issues relating to the GBR as a result of visiting Reef HQ Aquarium. Also, 88.7% said they had a better understanding of how they can protect/conservate the GBR as a result of visiting Reef HQ Aquarium. 	Adequate	Improving
OC7 The relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address community benefit	3	<ul style="list-style-type: none"> • The Authority's has very strong partnerships, but few are focused specifically on community benefits, especially less tangible benefits such as health benefits, aesthetic appreciation and personal connection to the Reef. • See PL5 and PR 1. For list of programs • In general, stakeholder engagement is one of the strongest aspects of the Authority's management. The agency uses a suite of communication tools to reach the community and encourage stakeholders to become stewards of the Reef. Communication and Education officers liaise with stakeholders via all means (face to face, phone, social media, public workshops, etc) 		Adequate	Improving

Topic: Water Quality Protection

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to water quality are understood by managers.	4	<ul style="list-style-type: none"> The Reef Plan builds on the original RWQPP in that it reinforces that water discharged from rivers into the Reef continues to be of poor quality and that current management actions are not addressing the problem effectively. This updated Reef Plan helps redirect focus to ensure that reef water quality is improved and that the Reef has the resilience to cope with the stresses of a changing climate. It includes the continuation and expansion of incentive schemes and extension work but also incorporates a regulatory safety net to accelerate uptake of better management practice. It also establishes an integrated monitoring and evaluation strategy so that we can measure our progress more effectively. 	<p>Science consensus statement, QLD Chief Scientist (Jo Baker) report (2003) http://www.environment.gov.au/coasts/pollution/reef/science/index.html (Doc 2)</p> <p>Productivity Commission's report on Industry, Land Use and Water Quality in the Great Barrier Reef Catchment http://www.pc.gov.au/projects/study/gbr/docs/finalreport (Doc 3)</p> <p>http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf</p>	Adequate	Improving
CO2 Direct and indirect impacts associated with water quality are understood by managers.	4	<ul style="list-style-type: none"> Impacts of poor water quality are well understood, hence the development of the Reef Plan and other documents 	<p>http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf</p>	Adequate	Improving
CO3 Consequential and cumulative impacts associated with water quality are understood by managers.	3	<ul style="list-style-type: none"> Synergistic impacts of water quality and other factors well understood by reef managers There is emerging evidence that poor water quality resulting from floods and extreme weather events in the summers of 2009 to 2011 have created conditions which has resulted in COTS numbers increasing at some locations in the GBR A comprehensive assessment of the coastal ecosystems which play such a fundamental role in the water quality impacting on the GBR has been undertaken see report 'Informing the Outlook for Great Barrier Reef Coastal Ecosystems'. The report identifies that the footprint of urban expansion in the GBR catchment, while small, has generally doubled in areas south of Cooktown in the last decade 	<p>'Informing the Outlook for Great Barrier Reef Coastal Ecosystems: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0006/28257/Informing-the-Outlook-for-Great-Barrier-Reef-coastal-ecosystems.pdf</p> <p>Vulnerability Assessments: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments</p>	Limited	Improving
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to water quality are known by managers	3	<ul style="list-style-type: none"> Condition and trend of some values underpinning OUV and MNES understood as level sufficient to inform management actions (e.g. some physical and chemical processes related to water quality) Examples include poor water quality following the floods effecting sea grass meadows and impacting on the number of standings of turtles and dugong The first Reef Plan report card indicates that the GBR is in moderate condition overall, however there are regional differences e.g. the Mackay Whitsunday region has poor seagrass, and the Burdekin has poor coral results 	<p>'Informing the Outlook for Great Barrier Reef Coastal Ecosystems: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0006/28257/Informing-the-Outlook-for-Great-Barrier-Reef-coastal-ecosystems.pdf</p>	Adequate	Improving
CO5 The stakeholders relevant to water quality are well known by managers.	4	<ul style="list-style-type: none"> The Authority has four Reef Advisory Committees (RACs): Catchment and Coastal; Ecosystem; Indigenous; and Tourism and Recreation. A key role for the RACs is to advise the Authority in relation to actions that can be taken to address the risks to the Great Barrier Reef Marine Park identified in the Great Barrier Reef Outlook Report 2009. Major advances in stewardship and Reef Guardian programs since 2009. The Reef Guardian Schools initiative now has over 285 schools and over 113,000 students involved in building the Reef's resilience. In 2007 the initiative was expanded to include local government councils along the Great Barrier Reef coast through the Reef Guardian Councils program. The Reef Guardian Fishers and Reef Guardian Farmers and Graziers programs were launched in 2011 to engage with industries connected to the Reef. Local Marine Advisory Committees provide contact with stakeholder groups at regional level 		Adequate	Stable

		<ul style="list-style-type: none"> • Considerable coordination between governments (e.g. Reef Plan joint program) • Extensive ongoing engagement with industry (fisheries, defence, tourism, etc) • Reef Guardian Schools • Reef Check • Seagrass watch • Regional Offices (GBRMPA CPG) • GBR Ministerial Council 				
PLANNING						
PL1 There is a planning system in place that effectively addresses water quality	4	<ul style="list-style-type: none"> • The Reef Water Quality Protection Plan (Reef Plan) is a collaborative program of coordinated projects and partnerships designed to improve the quality of water in the Great Barrier Reef through improved land management in reef catchments. <ul style="list-style-type: none"> • joint Australian and Queensland Government initiative that specifically focuses on non-point-source pollution. • sets ambitious but achievable targets for water quality and land management improvement, and identifies actions to improve the quality of water entering the reef. • was updated in 2009 and details specific actions and deliverables to be completed by 2013 when Reef Plan will be reviewed. • Coastal Ecosystems Assessment Framework: allows for a detective type approach, identifying the natural state, current modified state and the pressures and threats through current land use for a specific defined area. To ensure the methodology provides a robust and relevant framework for assessment, it was developed in partnership with the Queensland Department of Environment and Heritage Protection (DEHP) and the Queensland Wetlands Program. • Water quality guidelines for the Great Barrier Reef marine ecosystems The Authority has prepared Water Quality Guidelines for the Great Barrier Reef Marine Park (2010) with trigger levels for specific pollutants. If levels are outside the guidelines it is a prompt for managers to take action. • Permitting system for marine outfalls/sewage treatment plants is in place. Water Quality must follow the Guidelines above and is assessed in accordance with the Great Barrier Reef Marine Park Regulations 1983 (r88Q & 88R). 	<p>Queensland Wetland Program, Wetland Info website http://www.epa.qld.gov.au/wetlandinfo/site/index.html</p> <p>http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf</p> <p>Coastal Ecosystems Assessment Framework http://www.gbrmpa.gov.au/_data/assets/pdf_file/0003/28254/Coastal-Ecosystems-Assessment-Framework.pdf</p> <p>Water quality guidelines for the Great Barrier Reef Marine ecosystems: http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/water-quality-in-the-great-barrier-reef/water-quality-guidelines-for-the-great-barrier-reef</p> <p>GBRMP Act and Regulations – prohibit discharge of waste (s38DD) and pollution (s38DE).</p>	Adequate	Improving	
PL2 The planning system for water quality addresses the major pressures and drivers impacting on the Great Barrier Reef's values	3	<ul style="list-style-type: none"> • The Reef Plan addresses the major pressures affecting non-point source pollutants. • In response to the findings of the Outlook report, and to enable the assessment and prioritisation of issues for better management of coastal ecosystems, the Authority developed the Coastal Ecosystems Assessment Framework. The aim of this framework is to assess the ecological functions, the risks to these functions and the cumulative impacts at work across the catchment that are affecting the long-term health of the Great Barrier Reef in a holistic way. 	<p>http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf</p> <p>Coastal Ecosystems Assessment Framework http://www.gbrmpa.gov.au/_data/assets/pdf_file/0003/28254/Coastal-Ecosystems-Assessment-Framework.pdf</p>	Adequate	Improving	
PL3 Actions for implementation regarding water quality are clearly identified within the plan	3	<ul style="list-style-type: none"> • Reef Plan sets ambitious but achievable targets for water quality and land management improvement, and identifies actions to improve the quality of water entering the reef. 	<p>http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf</p>	Adequate	Improving	
PL4 Clear, measurable and appropriate objectives for management of water quality have been documented	3	<ul style="list-style-type: none"> • The scheduling (putting into regulation) of Environmental Values and Water Quality Objectives (and thus QLD and GBR water quality guideline trigger values) has been completed for the Townsville area and the Mackay Whitsunday region • The Reef Water Quality Guidelines set clear measurable and appropriate objectives for water quality. 	<p>Coastal Ecosystems Assessment Framework http://www.gbrmpa.gov.au/_data/assets/pdf_file/0003/28254/Coastal-Ecosystems-Assessment-Framework.pdf</p> <p>Water quality guidelines for the Great Barrier Reef Marine ecosystems: http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/water-quality-in-the-great-barrier-reef/water-quality-guidelines-for-the-great-barrier-reef</p>	Adequate	Improving	

PL5 The main stakeholders &/or the local community are effectively engaged in planning to address water quality	4	<ul style="list-style-type: none"> The Reef Guardian Schools initiative now has over 285 schools and over 113,000 students involved in building the Reef's resilience. In 2007 the initiative was expanded to include local government councils along the Great Barrier Reef coast through the Reef Guardian Councils program. The Reef Guardian Fishers and Reef Guardian Farmers and Graziers programs were launched in 2011 to engage with industries connected to the Reef. There are many actions taking place to protect areas identified as matters of national significance and high ecological significance and to help restore their function: <ul style="list-style-type: none"> Caring for our Country supports communities, farmers and other land managers with funding to protect Australia's natural environment and sustainability. The goal of the joint Australian and Queensland governments' Reef Water Quality Protection Plan is to ensure that by 2020 the quality of water entering the Great Barrier Reef has no detrimental impact on its health and resilience. The Queensland Wetlands program (which the Authority is associated with), established by the Australian and Queensland governments, aims to better protect and manage wetlands throughout the state. 	Reef Plan Annual Report 2006 – 2007 http://www.reefplan.qld.gov.au/publications/reports0607.shtm Report to the Prime Minister and Premier of Queensland (2005) http://www.reefplan.qld.gov.au/publications/reports_p_pm.shtm http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf Queensland Wetland Program, Wetland Info website http://www.epa.qld.gov.au/wetlandinfo/site/index.html http://www.gbrmpa.gov.au/our-partners	Adequate	Improving
PL6 Sufficient policy currently exists to effectively address water quality	4	<ul style="list-style-type: none"> The Authority has the following policy: <ul style="list-style-type: none"> Sewage discharges Reef water quality guidelines Reef Plan Position Statement on Aquaculture within the Great Barrier Reef Marine Park (which includes water quality aspects) 	See Authority policies: http://www.gbrmpa.gov.au/about-us/legislation-regulations-and-policies/policies-and-position-statements	Adequate	Improving
PL7 There is consistency across jurisdictions when planning for water quality	2	<ul style="list-style-type: none"> There are still inconsistencies in the planning systems when it comes to waste/pollution that is generated outside the GBRR (e.g. in creeks or from mainland) and washes into the Marine Park. Especially for industrial waste. Reef Plan provides an integrated approach to water quality improvement. The impact of changes to Queensland's Coastal Plan on downstream effects from land based water quality are not known at this stage 	http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf	Adequate	Stable
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	2	<ul style="list-style-type: none"> There is no integrated policy/strategy to provide certainty about what uses may occur along the GBR coast. Within the GBRR the Zoning Plan provides some guidance on what activities can occur where – some of these activities have associated water quality aspects to them e.g. structures with an allowance for the discharge of waste with a permit. This is allowed in all zones except Preservation Zones Situations where cumulative impacts are likely to be unacceptable are not well managed. For example individual outfalls may be required to report on their discharge quality, but cumulative water quality impacts are not measured. 		Adequate	Stable
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address water quality	4	<ul style="list-style-type: none"> There are major programs dedicated to improving water quality entering the Great Barrier Reef, including the Reef Rescue package and the Reef Water Quality Protection Plan. However, it is likely to be decades before the full benefits of these initiatives are seen. 	See Reef Rescue Package Projects: http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/water-quality-in-the-great-barrier-reef http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf	Adequate	Stable
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address water quality	2	<ul style="list-style-type: none"> Given the significant increase in coastal development, the resources aimed at policy / planning / regulation implementation and enforcement of water quality have not changed significantly since Outlook 2009. There has been some addition of limited extension staff available for achieving water quality outcomes through Reef Rescue funding, but this is short term funding. 		Adequate	Stable

IN3 The right skill sets and expertise are currently available to the managing organisations to address water quality	3	<ul style="list-style-type: none"> Skill set is appropriate 		Adequate	Stable
IN4 The necessary biophysical information is currently available to address ...	3	<ul style="list-style-type: none"> Part of the Authority's commitment to Reef Plan is the management of the Reef Rescue Marine Monitoring Program which monitors the long-term health of key marine ecosystems and the condition of water quality in the inshore Reef lagoon. The annual integration workshop of the Marine Monitoring Program (MMP) held in August 2012 established a framework for integrating related monitoring activities within the MMP and showcased the achievements of the MMP to a broad range of stakeholders. Good data from the coastal ecosystems work 	http://www.gbrmpa.gov.au/resources-and-publications/publications/annual-reef-rescue-marine-monitoring-program-report	Adequate	Improving
IN5 The necessary socio-economic information is currently available to address water quality	3	<ul style="list-style-type: none"> Some socio-economic mapping has been carried out with respect to the ecosystem services provided by coastal ecosystems which includes water quality 	'Informing the Outlook for Great Barrier Reef Coastal Ecosystems: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0006/28257/Informing-the-Outlook-for-Great-Barrier-Reef-coastal-ecosystems.pdf	Limited	Improving
IN6 The necessary traditional (Indigenous) knowledge is currently available to address water quality	3	<ul style="list-style-type: none"> Indigenous interest in water quality well understood, knowledge not the major issue 		Limited	Improving
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address water quality	4	<ul style="list-style-type: none"> The Reef Guardian Schools initiative has over 285 schools and over 113,000 students involved in building the Reef's resilience. In 2007 the initiative was expanded to include local government councils along the Great Barrier Reef coast through the Reef Guardian Councils program. The Reef Guardian Fishers and Reef Guardian Farmers and Graziers programs were launched in 2011 to engage with industries connected to the Reef. 	http://www.gbrmpa.gov.au/our-partners/reef-guardians	Adequate	Improving
PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of water quality	3	<ul style="list-style-type: none"> Industry engagement is good Landholders engagement is variable Non Government Organisation (NGO) engagement is strong in the conservation sector Scientific sector is engaged. 	http://www.gbrmpa.gov.au/our-partners/reef-guardians	Adequate	Improving
PR2 The local community is effectively engaged in the ongoing management of water quality	3	<ul style="list-style-type: none"> The Reef Guardian Schools initiative now has over 285 schools and over 113,000 students involved in building the Reef's resilience. In 2007 the initiative was expanded to include local government councils along the Great Barrier Reef coast through the Reef Guardian Councils program. The Reef Guardian Fishers and Reef Guardian Farmers and Graziers programs were launched in 2011 to engage with industries connected to the Reef. 	http://www.gbrmpa.gov.au/our-partners/reef-guardians	Adequate	Improving
PR3 There is a sound governance system in place to address water quality	3	<ul style="list-style-type: none"> Complex arrangements have delivered real progress in terms of a coordinated government effort There are still inconsistencies in the governance systems when it comes to waste/pollution that is generated outside the GBRR (e.g. in creeks or from mainland) and washes into the Marine Park. Especially for industrial waste. Reef Plan provides an integrated approach to water quality improvement. The impact of changes to Queensland's Coastal Plan on downstream effects from land based water quality are not known at this stage 	http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf	Adequate	Stable/Deteriorating
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	3	<ul style="list-style-type: none"> Reef Plan has significantly improved the performance monitoring aspects, however there are no resources for post-permit compliance and enforcement. Reef Plan monitoring and evaluation strategy has been developed that includes outcome based targets and timeframes. The first Reef Plan report card was completed in 2011. 	http://www.gbrmpa.gov.au/resources-and-publications/publications/annual-reef-rescue-marine-monitoring-program-report	Adequate	Improving

PR5 Appropriate training is available to the managing agencies to address water quality	2	<ul style="list-style-type: none"> Staff are expected to have an understanding of water quality issues 			
PR6 Management of water quality is consistently implemented across the relevant jurisdictions	2	<ul style="list-style-type: none"> As per PL7 there continues to be inconsistencies with waste/pollution from point sources. The Reef Plan provides an integrated approach to non-point source management. 	http://www.gbrmpa.gov.au/resources-and-publications/publications/annual-reef-rescue-marine-monitoring-program-report	Adequate	Stable
PR7 There are effective processes applied to resolve differing views/ conflicts regarding water quality	3	<ul style="list-style-type: none"> Review rights exist for all permit applications, and there are public comment periods for applications and policy. LMACs and RACs have been involved in Reef Plan development and implementation 	http://www.gbrmpa.gov.au/resources-and-publications/publications/annual-reef-rescue-marine-monitoring-program-report	Adequate	Stable
PR8 Direct and indirect impacts of activities associated with water quality are appropriately considered.	3	<ul style="list-style-type: none"> Direct and indirect impacts of agriculture are considered, however there is no process for coastal development, or chemical impacts from point source pollutants. 	http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf	Adequate	Improving
PR9. Consequential and cumulative impacts of activities associated with water quality are appropriately considered.	2	<ul style="list-style-type: none"> Cumulative impacts are recognised as being of high priority, however, there is insufficient knowledge available to consider cumulative impacts appropriately. Monitoring has been greatly improved however with implementation of the Reef Rescue Marine Monitoring Program – which concentrates on inshore areas. 	http://www.gbrmpa.gov.au/resources-and-publications/publications/annual-reef-rescue-marine-monitoring-program-report	Limited	Improving
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding water quality	4	<ul style="list-style-type: none"> Coastal assessment framework is improving the delivery of science to decision making 	<ul style="list-style-type: none"> 'Informing the Outlook for Great Barrier Reef Coastal Ecosystems: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0006/28257/Informing-the-Outlook-for-Great-Barrier-Reef-coastal-ecosystems.pdf 	Adequate	Improving
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding water quality	3	<ul style="list-style-type: none"> Water Quality Improvement Plans (WQIP) look at socio-economic drivers 	Water quality guidelines for the Great Barrier Reef Marine ecosystems: http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/water-quality-in-the-great-barrier-reef/water-quality-guidelines-for-the-great-barrier-reef	Limited	Improving
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding water quality	3	<ul style="list-style-type: none"> Traditional knowledge is applied where available, particularly with WQIP 	Water quality guidelines for the Great Barrier Reef Marine ecosystems: http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/water-quality-in-the-great-barrier-reef/water-quality-guidelines-for-the-great-barrier-reef	Limited	Improving
PR13 Relevant standards are identified and being met regarding water quality	3	<ul style="list-style-type: none"> The Authority has prepared Water Quality Guidelines for the Great Barrier Reef Marine Park (2010) with trigger levels for specific pollutants. If levels are outside the guidelines it is a prompt for managers to take action. The guidelines focus on sediments, nutrients and pesticides – the main catchment run-off pollutants that affect water quality reaching the Great Barrier Reef. The current condition of the Great Barrier Reef waters show that it meets the guidelines much of the time in most areas. 	Water quality guidelines for the Great Barrier Reef Marine ecosystems: http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/water-quality-in-the-great-barrier-reef/water-quality-guidelines-for-the-great-barrier-reef	Adequate	Improving

PR14 Targets have been established to benchmark management performance	4	<ul style="list-style-type: none"> Reef Plan aims to: <ul style="list-style-type: none"> To halt and reverse the decline in water quality entering the reef by 2013. To ensure that by 2020 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 has developed a monitoring and evaluation strategy, However there are no benchmarks for performance for industrial development outflows except performance against permits 	Reef Plan: (http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf) WATER QUALITY TARGETS: <ul style="list-style-type: none"> By 2013, there will be a minimum 50 per cent reduction in nitrogen and phosphorus loads at the end-of-catchments. By 2013, there will be a minimum of 50 per cent reduction in pesticides at the end-of-catchments. By 2013, there will be a minimum of 50 per cent late dry season groundcover on dry tropical grazing land. By 2020, there will be a minimum 20 per cent reduction in sediment load at the end-of-catchments. 	Adequate	Improving
OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for water quality	3	<ul style="list-style-type: none"> Review of Reef Plan has occurred, and the first reef Plan report card has been published, and the interim activity report and performance outlook published, Monitoring and evaluation strategy published 	http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf	Adequate	Improving
OP2 Implementation of management documents and/or programs relevant to water quality have progressed in accordance with timeframes specified in those documents	3	<ul style="list-style-type: none"> Work in progress to implement Reef Plan objectives and targets 	http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf	Adequate	Improving
OP3 The results (in OP1 above) have achieved their stated management objectives	2	<ul style="list-style-type: none"> Work in progress in line with timeframes, but results are not evident as yet 	http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf http://www.reefplan.qld.gov.au/measuring-success/report-cards/first-report-card.aspx	Adequate	Improving
OP4... to date, products or services have been produced in accordance with the stated management objectives for water quality	3	<ul style="list-style-type: none"> Reef Plan update and Reef Plan Report Card Coastal Ecosystems Assessment Framework completed 'Informing the Outlook for Great Barrier Reef Coastal Ecosystems finalised RSP Project – Further basin assessments as part of the coastal ecosystem assessment framework – delivery in May 2013. 	http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf http://www.reefplan.qld.gov.au/measuring-success/report-cards/first-report-card.aspx 'Informing the Outlook for Great Barrier Reef Coastal Ecosystems: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0006/28257/Informing-the-Outlook-for-Great-Barrier-Reef-coastal-ecosystems.pdf	Adequate	Improving
OUTCOMES					
OC1...the relevant managing agencies are to date effectively addressing water quality and moving towards the attainment of the desired outcomes.	3	<ul style="list-style-type: none"> The Authority is making good progress in achieving the desired outcomes 	http://www.reefplan.qld.gov.au/measuring-success/report-cards/first-report-card.aspx	Adequate	Improving
OC2... the outputs relating to water quality are on track to ensure the values of the Great Barrier Reef are protected (refer C01)	2	<ul style="list-style-type: none"> Unlikely, given the cumulative impacts and multiple coastal development applications 		Adequate	Improving

OC3... the outputs (refer OP1 & 3) for water quality are reducing the major risks and the threats to the Great Barrier Reef	3	<ul style="list-style-type: none"> This will not be fully known for some time. In the meantime risks from other sources of water quality issues need to be addressed (e.g. industrial development, re-suspension of dredge) Report card coming out showing Reef Plan is on track to meet targets 	<ul style="list-style-type: none"> De'ath et al 2012 The 27-year decline of coral cover on the Great Barrier Reef and its causes <i>PNAS</i> www.pnas.org/cgi/doi/10.1073/pnas.1208909109 Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, Great Barrier Reef Marine Park Authority, Townsville. http://www.reefplan.qld.gov.au/measuring-success/report-cards/first-report-card.aspx 	Adequate	Improving
OC4... use of the Great Barrier Reef relating to water quality is demonstrably environmentally sustainable	2	<ul style="list-style-type: none"> Water quality is seen as a major issues in the protection of the reef and there is no evidence to confirm that current conditions are sustainable 	http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf	Adequate	Improving
OC5... use of the Great Barrier Reef relating to water quality is demonstrably economically sustainable	2	<ul style="list-style-type: none"> James Cook University (JCU) work shows that water quality (clarity) is an issue for tourism 		Limited	Stable
OC6... use of the Great Barrier Reef relating to water quality has demonstrably enhanced community understanding and/or enjoyment	3	<ul style="list-style-type: none"> High level of volunteer activity and community understanding of monitoring and education activities through Reef Guardian programs and the Authority's education and communication products Community enjoyment may have decreased due to decline in water quality 	http://www.gbrmpa.gov.au/our-partners/reef-guardians http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf	Adequate	Improving
OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address water quality	3	<ul style="list-style-type: none"> Effective partnerships have been developed with NRM bodies, and through them rural industries 	http://www.gbrmpa.gov.au/our-partners/reef-guardians http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf	Adequate	Improving

Topic: Climate Change and Extreme Weather

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to climate change and extreme weather are understood by managers.	4	<ul style="list-style-type: none"> The Authority has implemented the Great Barrier Reef Climate Change Action Plan 2007 – 2012 and is now implementing the Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017. Both activities involve working with a range of partners to build the resilience of the GBR so it can better withstand the impacts of climate change. Managers are aware that the GBR ecosystem is very vulnerable to most changes climate change will bring. Mass coral bleaching events, caused by sustained high water temperatures, have begun to increase in frequency and severity. Corals and other calcifying organisms also expected to be seriously affected by ocean acidification driven by increased levels of CO2 entering the oceans from the atmosphere. Managers understand that all elements of the Reef ecosystem are exposed to, and at risk from, the impacts of climate change, the effects of which are already being seen. Flow-on impacts for communities and industries are expected. Managers understand that the future of many key species is under threat (e.g. the sex ratio of turtle hatchlings is temperature dependent, and warming conditions could see a significant bias toward females in future populations). Managers know that human communities and GBR-dependent industries are affected by the impacts of climate change on the Reef (e.g. commercially important species, such as many fish and prawns, rely on corals, seagrasses or mangroves which are projected to decline under climate change, for some part of their life cycle). Managers have documented that average coral cover for the whole GBR is declining; decline in seagrass cover is causing nutritional stress for many turtles and dugong (this is in the aftermath of extreme weather (cyclones and floods) 2010-2011) Managers are aware that as GBR remains one of the healthiest coral reef ecosystems in the world it will probably cope better than most with climate change; but the outlook remains 'poor'. 	<ul style="list-style-type: none"> Great Barrier Reef Climate Change Action Plan 2007 – 2012 (http://hdl.handle.net/11017/198) Climate Change Adaptation: Outcomes from the Great Barrier Reef Climate Change Action Plan 2007-2012 not yet publically released) Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017 (not yet publically released) draft Biodiversity Conservation Strategy: (http://www.gbrmpa.gov.au/about-the-reef/biodiversity/draft-biodiversity-conservation-strategy) Informing the Outlook for Great Barrier Reef Coastal Ecosystems (http://hdl.handle.net/11017/822) Assessment of the ecological vulnerability of the East Coast Otter Trawl Fishery to climate change: a brief synthesis of information and results of an expert workshop (http://hdl.handle.net/11017/522) http://www.pnas.org/content/109/44/17995 (coral decline paper) GBRMP Act Amendment 26 Nov 2008 – Changing Object of the Act to incorporate heritage and recognise definition of environment includes social, economic and cultural (as per EPBC Act 1999) Queensland Climate Smart Adaptation 2007-2012 Climate Smart 2050 (also being reviewed) Climate change and World Heritage Properties Defence climate change Memorandum of Understanding USA climate change and Protected Areas report UNEP 2008 “In Dead Water” and FAO reports (06 and 07) on adaptation of fisheries to climate change [5] QLD Local Government Climate Change Strategy National Biodiversity and Climate Change Action Plan [6] Managers Guide to Coral Bleaching [7] Coral Bleaching Response Plan [8] Biophysical Assessment of the Keppel Bay Region [9] “Reef Temp”- SST monitoring [10] 	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CO2 Direct and indirect impacts associated with climate change and extreme weather are understood by managers.	4	<ul style="list-style-type: none"> • 12th International Coral Reef Symposium, was sponsored by the Queensland and Australian Governments, held in Cairns Queensland from 9 – 13 July 2012. Participants included the world's leading natural scientists, resource managers, conservationists, economists, educators and graduate students to progress coral reef science, management and conservation. <ul style="list-style-type: none"> • A consensus statement on Climate Change and Coral Reefs highlighted the grave threat that climate change poses to all coral reefs and called for government action to address the causes of climate change and improve local protection of coral reefs. • The Authority chaired a mini-symposium titled 'Managing coral reef ecosystems under a changing climate'. Presenters shared insights from work in the Great Barrier Reef, Florida, the Caribbean and other places. • Climate change recognised as one of the greatest threats to the long-term health of the Great Barrier Reef. Climate change impacts may include: <ul style="list-style-type: none"> • increased frequency and intensity of severe weather events such as storms and cyclones • ocean acidification • rising sea temperature • sea level rise • changing ocean currents • In association with development of the draft Biodiversity Conservation Strategy a range of vulnerability assessments are being conducted, with climate change one of the pressures explicitly evaluated. • A number of projects being undertaken in connection with the Queensland Wetlands Program are utilising the methodologies and outcomes of the work that produced of the Informing the Outlook for GBR Coastal Ecosystems report and are applying it more broadly in Queensland, including a Wetlands Connectivity Project, development of a Stressor Climate Change model and a Basin Assessment Framework. • Managers understand that a growing body of evidence suggests that warmer ocean temperatures promote the prevalence of some infectious coral diseases. • An Authority led project around the trawl industry has assessed a range of prawns and other target species as having a high level of ecological vulnerability to one or more climate change variables. The biology and habitat associations of each species influences which climate variables are most important. The level of certainty in the assessments ranges from low to high. • Although climate change is a global and national issue, the GBR is recognised as vulnerable at a local and regional level. • Mass coral bleaching in the summer of 1998 was recognised as the first impacts of climate change, as distinct from signs of limited bleaching in coral cores dating back to the 1970s. • Reef-wide mass coral bleaching events in 1998 and 2002 affected 50 to 60% of GBR reefs respectively, with up to 5% of reefs suffering serious damage in both events. • Managers accept the scientific consensus (>98% certainty) that observed and projected climate change is due to human activities (IPCC 4th Assessment Report). • Knowledge gaps about direct and indirect impacts remain in many areas of climate change science (e.g. for ocean acidification), however considerable research investment is being made and the knowledge base is improving rapidly. • Information on climate change projections and potential impacts is more limited at regional scales, and may rely on broad scale projections and modelling. 	<ul style="list-style-type: none"> • "Australia's oceans generate considerable economic wealth through fisheries, aquaculture, tourism and mining. Marine ecosystems provide irreplaceable services including coastal defence, oxygen production, nutrient recycling and climate regulation. Unless we adapt and mitigate, climate change will threaten our economic prosperity and social well-being." Marine CC Report Card 2012 • "Severe cyclones and increased sea surface temperature anomalies are predicted to occur more frequently as the climate warms, bringing a future where the recovery potential of coral reefs and seagrass meadows becomes increasingly important. Chronic stresses from reduced water quality can hinder recovery of damaged seabed communities. Therefore, the combined effect of increased flooding, increased temperatures and more severe storms means efforts to restore the natural resilience of important habitats such as coral reefs and seagrass meadows are more important than ever before." Informing the Outlook for GBR Coastal Ecosystems • ICRS consensus statement: http://www.icrs2012.com/Default.htm • Vulnerability Assessments (associated with Climate Change and the Great Barrier Reef: A vulnerability Assessment) • Marine operators (GBRMPA) <i>Marine Tourism climate change Action Group & Strategy</i>. • Outcomes from QCCC & TQ workshop on climate change risks and adaptation • ICRS Mini symposium 18b: Managing coral reef ecosystems under a changing climate (http://www.icrs2012.com/MiniSymposia.htm#18) • Marine Climate Change in Australia: Impacts and Adaptation Responses: 2012 REPORT CARD (http://www.oceanclimatechange.org.au) • Reef Rescue Marine Monitoring Program 2004-2010 (and subsequent years) • Informing the Outlook for Great Barrier Reef Coastal Ecosystems (http://hdl.handle.net/11017/822) • Great Barrier Reef Climate Change Action Plan 2007 – 2012 (http://hdl.handle.net/11017/198) • Climate Change Adaptation: Outcomes from the Great Barrier Reef Climate Change Action Plan 2007-2012 (<i>supplied – not yet publically released</i>) • Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017 (<i>supplied – not yet publically released</i>) • draft Biodiversity Conservation Strategy: (http://www.gbrmpa.gov.au/about-the-reef/biodiversity/draft-biodiversity-conservation-strategy) • Vulnerability Assessments (http://www.gbrmpa.gov.au/about-the-reef/biodiversity/draft-biodiversity-conservation-strategy/vulnerability-assessments) • An early warning system for coral bleaching on the Great Barrier Reef (information bulletin) (http://hdl.handle.net/11017/142) • Coral Disease Response Plan: predicting, assessing and responding to outbreaks of coral disease on the Great Barrier Reef (project bulletin) (http://hdl.handle.net/11017/490) • Assessment of the ecological vulnerability of the East Coast Otter Trawl Fishery to climate change: a brief synthesis of information and results of an expert workshop (http://hdl.handle.net/11017/522) 	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CO3 Consequential and cumulative impacts associated with climate change and extreme weather are understood by managers.	3	<ul style="list-style-type: none"> The cumulative impacts of extreme weather, increased sea temperatures, flooding and intense storms are recognised by managers as having caused significant damage over the last decade. Four category 5 cyclones have affected the GBR since 2000 (compared to none of this category in 20th century). Consequential and cumulative impacts of climate change are not well understood and therefore cannot be meaningfully considered and mitigated by managers. Managers recognise that there are likely to be important interactions among pressures like increased ocean temperature and ocean acidification and this has implications for the overall effect on species and systems within the GBR. As science progresses more information is becoming available. The Authority is closely connected with researchers working in this area, e.g. at AIMS, UQ and JCU. The Authority uses its Scientific Information Needs document to encourage researchers to focus on providing information that will help Reef managers make informed decisions for management of the marine park. Its guidance includes consideration of cumulative as well as other impacts. Regional impacts from climate change recognised and monitored include near-complete nesting failure at key seabird nesting cays during 2002 and 2005; and the 2006 bleaching confined to the southern GBR, with 40% coral mortality at some locations. Many components of the GBR ecosystem are recognised as being vulnerable to climate change, such as marine turtles, fish, seagrass, mangroves and plankton. The former QCCCoE worked with graziers to explore risks and adaptation – important from the perspective of maintaining viable agriculture industry to continue to address WQ issues & avoiding perverse responses (risk matrix). This work was expanded under the previous QLD government program to other primary industry sectors including fishing (trawl in collaboration with the Authority and others – see below), but the program has recently been discontinued. Tourism operators have work shopped risks and adaptation options to address threats including increasing sea temperatures, sea level rise, ocean acidification, increasing storm intensity, and changes to freshwater inputs, currents and connectivity. MoU with SEWPaC provides for cumulative impact assessment if action is triggered under the EPBC Act Climate Change vulnerability and adaptation options explored for East Coast Trawl Fishery, by trawl industry, QSIA, DAFFQ and the Authority. Also Marine Aquarium Fishers and coral collectors explored supply chain analysis and the vulnerability of fishing. This work has improved understanding of consequential and cumulative impacts associated with climate change, and considered these in light of other pressures facing the fishing industry. Ecological, social and economic aspects have been considered. 	<ul style="list-style-type: none"> “Coastal ecosystems and inshore biodiversity are sensitive to changes caused by modification to the natural environment, in particular land clearing and/or development. Despite considerable management efforts, several Great Barrier Reef inshore species are at risk or their numbers are declining due to pressure from human use of the environment, and these risks are compounded by the impacts of climate change “Informing the Outlook for GBR Coastal Ecosystems Vulnerability Assessments (associated with Climate Change and the Great Barrier Reef: A vulnerability Assessment) Scientific Information Needs for Management of the Great Barrier Reef Marine Park 2011-2014. (http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/science-and-research/scientific-information-needs). Great Barrier Reef Climate Change Action Plan 2007 – 2012 (http://hdl.handle.net/11017/198) Climate Change Adaptation: Outcomes from the Great Barrier Reef Climate Change Action Plan 2007-2012 (supplied – not yet publically released) Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017 (supplied – not yet publically released) Informing the Outlook for Great Barrier Reef Coastal Ecosystems (http://hdl.handle.net/11017/822) Assessment of the ecological vulnerability of the East Coast Otter Trawl Fishery to climate change: a brief synthesis of information and results of an expert workshop (http://hdl.handle.net/11017/522) http://www.pnas.org/content/109/44/17995 (coral decline paper) Marine Climate Change in Australia: Impacts and Adaptation Responses: 2012 REPORT CARD (http://www.oceanclimatechange.org.au) Marine operators (GBRMPA) <i>Marine Tourism climate change Action Group & Strategy</i>. Outcomes from QCCC & TQ workshop on climate change risks and adaptation MoU between GBRMPA and SEWPaC. Diaz-Pulido, G., Anthony, K. R. N., Kline, D. I., Dove, S. and Hoegh-Guldberg, O. (2012), INTERACTIONS BETWEEN OCEAN ACIDIFICATION AND WARMING ON the MORTALITY AND DISSOLUTION OF CORALLINE ALGAE. <i>Journal of Phycology</i>, 48: 32-39. doi: 10.1111/j.1529-8817.2011.01084.x Madin JS, Hughes TP, Connolly SR (2012) Calcification, Storm Damage and Population Resilience of Tabular Corals under Climate Change. <i>PLoS ONE</i> 7(10): e46637. doi:10.1371/journal.pone.0046637 	Limited	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to climate change and extreme weather are known by managers	2	<ul style="list-style-type: none"> Consequential and cumulative impacts of climate change are not well understood and therefore critical elements of current condition and trend cannot be confidently determined and monitored by managers. Regional impacts from climate change documented and monitored include near-complete nesting failure at key seabird nesting cays during 2002 and 2005; and the 2006 bleaching confined to the southern GBR, with 40% coral mortality at some locations. Many components of the GBR ecosystem are recognised as being vulnerable to climate change, such as marine turtles, fish, seagrass, mangroves and plankton and their condition is documented and trends are being monitored. Long term monitoring programs are critical to building this understanding e.g. SELTMP, LTMP, Eye on the Reef etc. 	<ul style="list-style-type: none"> Vulnerability Assessments (associated with Climate Change and the Great Barrier Reef: A vulnerability Assessment) http://www.pnas.org/content/109/44/17995 (coral decline paper) Marine Climate Change in Australia: Impacts and Adaptation Responses: 2012 REPORT CARD (http://www.oceanclimatechange.org.au) Integrated Eye on the Reef program and data contained within the platform (now able to view Reef health and Impact survey (and other) data spatially in a way that assists assessment of impacts, trends, risks, and management options. Informing the Outlook for Great Barrier Reef Coastal Ecosystems (http://hdl.handle.net/11017/822) Reef Rescue Marine Monitoring Program 2004-2010 (and subsequent years) 	Limited	Improving
CO5 The stakeholders relevant to climate change and extreme weather are well known by managers.	4	<ul style="list-style-type: none"> A range of stakeholders for whom climate change needs to be an important consideration in relation to their relationship with the GBR are being engaged in a range of planning, education and stewardship activities. Climate change mitigation and adaptation, and support to Reef resilience are strong focuses within this work. Authority community surveys show broad level of awareness of climate change issues Fishing industry stakeholders are reasonably well known by managers. A climate change partnership between the Authority and the peak seafood body QSIA has been in place for several years, and has led to better relations with fishing stakeholders. Climate change related work has also been proceeding with another fishing industry peak body, Provision Reef. A joint climate adaptation planning project with the trawl industry, QSIA, DAFFQ, scientists and the Authority was completed in 2012. This work included a series of expert and regional trawl climate workshops held in 2011 and 2012 to seek a diversity of input into the project. Tourism operators have work shopped risks and adaptation options to address threats including increasing sea temperatures, sea level rise, ocean acidification, increasing storm intensity, and changes to freshwater inputs, currents and connectivity. Local Marine Advisory Committees The Authority works to increase activities around climate change with Traditional Owners through the TUMRA process. Members of the scientific community from many disciplines and institutions work on topics relevant to climate change, and Authority managers have good working relationships and networks with relevant scientists. 	<ul style="list-style-type: none"> Vulnerability Assessment Climate Change Action Plan Marine operators (GBRMPA) <i>Marine Tourism climate change Action Group & Strategy</i>. Outcomes from QCCC & TQ workshop on climate change risks and adaptation MoU between the Authority and SEWPaC. (duplicated below)_Great Barrier Reef Climate Change Action Plan 2007 – 2012 (http://hdl.handle.net/11017/198) Climate Change Adaptation: Outcomes from the Great Barrier Reef Climate Change Action Plan 2007-2012 (supplied – not yet publically released) Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017 (supplied – not yet publically released) Reef Guardians program - fishers, farmers, graziers, schools, councils Eye on the Reef program - tourism, QPWS, public 	Adequate	Improving

PLANNING					
PL1 There is a planning system in place that effectively addresses climate change and extreme weather	4	<ul style="list-style-type: none"> The <i>Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017</i> – nearing completion- outlines the vision for ongoing efforts to help the GBR, its industries and its communities adjust to a changing climate. Intended to provide a framework for the Australian Government to commit to a program of action to improve the outlook for the GBR. The Great Barrier Reef Climate Change Action Plan 2007-2012 - through which the management agencies responsible for the Great Barrier Reef have contributed significantly to the development of international best practice for managing climate change issues as they relate to coral reefs. Great Barrier Reef Tourism Climate Change Action Strategy 2009-2012 The Authority's Greenhouse Gas Strategy Reef HQ energy efficiency plans The Authority's incident response framework now includes a: <ul style="list-style-type: none"> Coral bleaching response plan Cyclone response plan Coral disease response plan Crown-of-thorns starfish response plan (in preparation) Marine Tourism Contingency Plan (developed in partnership, guides individual operators in event of an incident - including CC related such as cyclones and bleaching - out for public comment currently) and the Marine Tourism Coordination Framework (describes how government agencies and industry associations will work together in event of incidents) 	<ul style="list-style-type: none"> Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017 Great Barrier Reef Climate Change Action Plan 2007-2012 - http://www.gbrmpa.gov.au/_data/assets/pdf_file/0020/4493/climate-change-action-plan-2007-2012.pdf Climate Change Adaptation: Outcomes from the Great Barrier Reef Climate Change Action Plan 2007-2012. Reef Health Incident Response System 2011 (http://hdl.handle.net/11017/494) An early warning system for coral bleaching on the Great Barrier Reef (information bulletin) (http://hdl.handle.net/11017/142) Coral Disease Response Plan: predicting, assessing and responding to outbreaks of coral disease on the Great Barrier Reef (project bulletin) (http://hdl.handle.net/11017/490) Tropical Cyclone Risk and Impact Assessment Plan 2011 (http://hdl.handle.net/11017/493) Coral Bleaching Response Plan 2010-2011 (http://hdl.handle.net/11017/196) Coral Bleaching Risk and Impact Assessment Plan 2011 (http://hdl.handle.net/11017/491) Marine Tourism Contingency Plan Marine Tourism Coordination Framework the Authority's Greenhouse Gas Strategy Great Barrier Reef Tourism Climate Change Action Strategy 2009-2012 Abridged (http://hdl.handle.net/11017/200) 	Adequate	Improving
PL2 The planning system for climate change and extreme weather addresses the major pressures and drivers impacting on the Great Barrier Reef's values	3	<ul style="list-style-type: none"> The Climate Change Action Plan now links with relevant sections of other planning documents in concert with information on other pressures and drivers such as coastal development and impacts of fishing. The Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017 aims to address major pressures and drivers. Planning systems have generally been better at address individual threats but there is increasing focus on how to consider and address composite or cumulative risks (this remains challenging however). An example is a new Regional Sustainability Project called the Resilience Decision Framework (collaboration between the Authority, AIMS, CSIRO, SEWPaC and others, will be completed June 2013), which is developing an operational framework for understanding threats from cumulative stressors to the inshore GBRWHA. This project is explicitly incorporating climate change scenarios, and the outputs will be considered by managers in work to address major pressures and drivers as part of the Strategic Assessment. Issues of scales and connectivity not comprehensively understood. A research case study in Keppel Bay is also informing the incorporation of resilience strategies into the planning system. 	<ul style="list-style-type: none"> Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017 (not yet publically released) Great Barrier Reef Climate Change Action Plan 2007 – 2012 (http://hdl.handle.net/11017/198) draft Biodiversity Conservation Strategy: (http://www.gbrmpa.gov.au/about-the-reef/biodiversity/draft-biodiversity-conservation-strategy) 	Adequate	Improving

<p>PL3 Actions for implementation regarding climate change and extreme weather are clearly identified within the plan</p>	<p>3</p>	<ul style="list-style-type: none"> The Authority's Strategic Plan and Annual Operating Plans specifically provide direction on implementation of actions around climate change, i.e. as guided by documents such as the Climate Change Action Plan and Biodiversity Conservation Strategy Resilience building actions underway include the Reef Water Quality Protection Plan and the Great Barrier Reef Marine Park Zoning Plan. Further actions surrounding marine park permissions and the EIA process are needed to implement resilience-based management and address cumulative impacts. Other plans, e.g. incident response plans, also identify actions regarding climate change and extreme weather. And a draft Marine Tourism Contingency Plan for the Great Barrier Reef Marine Park includes actions to support marine tourism operators impacted by a severe environmental incident. Further work is proposed with the fishing industry to work towards adaptation plans and agree on priority actions. 	<ul style="list-style-type: none"> Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017 (<i>supplied – not yet publically released</i>) Great Barrier Reef Climate Change Action Plan 2007 – 2012 (http://hdl.handle.net/11017/198) draft Biodiversity Conservation Strategy: (http://www.gbrmpa.gov.au/about-the-reef/biodiversity/draft-biodiversity-conservation-strategy) GBRMPA Strategic Plan 2012-16 and Annual Operating Plans RPS report (EBL1201601_Rev0_Climate Change in GBRMPA Policy_120413) 	<p>Limited</p>	<p>Improving</p>
<p>PL4 Clear, measurable and appropriate objectives for management of climate change and extreme weather have been documented</p>	<p>2</p>	<ul style="list-style-type: none"> The Great Barrier Reef Climate Change Action Plan 2007 – 2012 laid out clear objectives for addressing the climate change challenge for the Great Barrier Reef and its management. A mid-term review has been undertaken of progress against the plan and the implementation of the program. At the same time the program logic was reviewed and updated, and a MERI framework developed. The new Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017 contains both objectives and targets. Many objectives are at a high level. The draft Biodiversity Conservation Strategy also contains targets around actions relating to management of climate change related issues. 	<ul style="list-style-type: none"> Mid-Term Review: Great Barrier Reef Climate Change Action Plan 2007-2012 and delivery program (http://hdl.handle.net/11017/959) Building the Great Barrier Reef Climate Change Action Plan's MERI framework (project bulletin) (http://hdl.handle.net/11017/144) Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017 (<i>supplied – not yet publically released</i>) Great Barrier Reef Climate Change Action Plan 2007 – 2012 (http://hdl.handle.net/11017/198) draft Biodiversity Conservation Strategy: (http://www.gbrmpa.gov.au/about-the-reef/biodiversity/draft-biodiversity-conservation-strategy) 	<p>Limited</p>	<p>Improving</p>
<p>PL5 The main stakeholders &/or the local community are effectively engaged in planning to address climate change and extreme weather</p>	<p>3</p>	<ul style="list-style-type: none"> Key stakeholders are involved in partnerships with the Authority around climate change adaptation, e.g., commercial fishing and tourism industry, researchers, Reef managers Researchers and managers are frequently engaged during processes that explore and develop ways of approaching the challenge of climate change for the Reef, e.g. through project-based expert workshops. Climate change is not always the primary focus. In some cases industry and NGO's are also involved. Good engagement with science and tourism communities On Local Marine Advisory Committee agenda Reef Guardian Schools and Reef Guardian Councils re: education and outreach programs. The Authority has regional liaison officers to work with stakeholders. 	<ul style="list-style-type: none"> QSIA/GBRMPA climate change and fisheries partnership (http://hdl.handle.net/11017/475) Great Barrier Reef Tourism Climate Change Action Strategy 2009-2012 Abridged (http://hdl.handle.net/11017/200) 	<p>Adequate</p>	<p>Improving</p>
<p>PL6 Sufficient policy currently exists to effectively address climate change and extreme weather</p>	<p>3</p>	<ul style="list-style-type: none"> The Authority's work program is guided by the new Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017, which includes an objective to encourage action that reduces the rate and extent of climate change. However, effectively addressing climate change obviously requires global responses and action. There is no internal policy on offsetting the Authority's CO2 footprints for meetings and travel etc. (mitigation) Out-dated policy and standards exist for structures that are installed within the Marine Park (an update to the Structures Policy is essential to move with a changing environment). There is no coordinated policy on offsets, climate mitigation and net benefits for marine and coastal development. Statutory requirements for public consultation are generally met by managing agencies. 		<p>Limited</p>	<p>Improving</p>

PL7 There is consistency across jurisdictions when planning for climate change and extreme weather	2	<ul style="list-style-type: none"> • There are many examples of consistency for biodiversity protection (e.g. complementary zoning, port management plans, defence environmental planning, shipping planning) but not specifically for climate change. No coordinated policy or plan for addressing climate change exists between SEWPaC, the Authority and QLD. • Some joint projects have been completed since 2009 with Queensland involvement, such as climate adaptation planning for trawl, and work programs linked to building resilience (e.g. Raine Is). The joint approach and partnerships have improved the consistency in planning for climate change across jurisdictions; however the Queensland involvement in climate change related work into the future may be reduced. 		Limited	Stable
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	3	<ul style="list-style-type: none"> • GBR Zoning Plans are in place, and any future reviews should take account of the latest understanding of climate change and extreme weather events. 		Limited	Stable
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address climate change and extreme weather	4	<ul style="list-style-type: none"> • Significant resources being allocated through the Authority, National, climate change adaptation framework, Reef Rescue funding etc. Administered funds of \$900,000 per year are directed to implementation of activities under the Climate Change Action Plan. • Climate change has complex inter-relationships with many other areas of management concern (biodiversity, development assessments, emissions mitigation etc). • COAG National climate change Adaptation Framework has provided 5 years of financial support to minimise the impacts of climate change on the Great Barrier Reef and build resilience of the ecosystem, communities and industries. • The \$200 million Reef Rescue Plan funds local actions to address degrading water quality, and contributes to the Great Barrier Reef's resilience to climate change. • Case studies that inform larger planning and adaptive management responses, and raise awareness about adaptation options for regional communities and reef-based industries. • Widespread implementation of adaptation measures cannot be delivered under the current funding arrangements. • An Extreme Weather Response Program was implemented by the Authority and Queensland Parks and Wildlife Service to improve our understanding of the impacts and implications for the Great Barrier Reef following Queensland's floods and cyclone Yasi in the 2010-11 summer. Was supported by funding from the Australian Government's Caring for our Country initiative. 		Adequate	Improving
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address climate change and extreme weather	4	<ul style="list-style-type: none"> • A number of positions are allocated to addressing climate change and extreme weather. A range of staff in other sections have climate change related responsibilities - either in implementing projects using climate change administered funds or in building climate change awareness and information into their other activities. 		Adequate	Improving

IN3 The right skill sets and expertise are currently available to the managing organisations to address climate change and extreme weather	4	<ul style="list-style-type: none"> • Expertise exists within Authority and cooperation occurs with national and international research bodies • Authority is recognised nationally and internationally as a leader in climate change and tropical marine ecosystems. • Close collaboration with the United States (NOAA) and AIMS, CSIRO, etc • There has been close collaboration on some climate adaptation projects with some Queensland agency staff and scientists but roles for external staff and the focus of programs have changed recently. • Driving adaptation policy for government is a new field and even internationally there is limited expertise 		Adequate	Improving
IN4 The necessary biophysical information is currently available to address climate change and extreme weather	3	<ul style="list-style-type: none"> • A range of research is commissioned and relationships with the science community have been developed under the Climate Change Action Plan to help meet these needs. • Relevant information is frequently evolving as new models or better understanding and data is developed. • Vulnerability assessments • Regional projections and detailed information could be improved • Current understanding of the risks relating to climate change is available (see Vulnerability Assessment) but information to implement management tools is not always available. • Regional projections (in Great Barrier Reef) not at adequate resolution • Sea level rise mapping not adequate to meaningfully incorporate climate change into coastal planning for all areas. • Limited information on fundamentals and vulnerability of coastal and terrestrial ecosystems to climate change, therefore difficult to identify adaptation options • <i>Scientific information needs for the management of the Great Barrier Reef Marine Park</i> is a revision of science information needs based on the outcomes of the Outlook Report and is the primary tool for guiding investment in research and monitoring. This document provides a framework for integrating science into the management of the Marine Park. • Climate change projections for the Great Barrier Reef include increased frequency and severity of mass coral bleaching events. <i>ReefTemp Next Generation</i> is being developed in the Centre for Australian Weather and Climate Research under eReefs. The system is based on new high resolution IMOS satellite sea surface temperature products developed at the Bureau of Meteorology (operational release in December 2012). Continuous sea surface temperature monitoring provides tools to understand and better manage the complex interactions leading to coral bleaching. When bleaching conditions occur, these tools can be used to trigger bleaching response plans and support management decisions. • The Climate Change Program at the Authority is developing new thermal stress indices by correlating bleaching response severity to high-resolution SST data at survey sites monitored during summer bleaching periods. • Much information is available but key gaps exist (e.g. connectivity, trophic interactions, deep water, far north GBR) • Non-charismatic or taxa of no apparent economic value are poorly known • Poor knowledge of ecological processes, e.g. groundwater inflows, sink/source, implications of deepwater upwellings, planktonic/larval movements 	<ul style="list-style-type: none"> • Vulnerability assessment • Scientific Information Needs for the Management of the GBRMP: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3376/GBRMPA_Scientific_Information_Needs.pdf • Reef Temp: http://www.cmar.csiro.au/remotesensing/reeftemp/web/ReefTemp_Research.htm 	Limited	Improving

IN5 The necessary socio-economic information is currently available to address climate change and extreme weather	3	<ul style="list-style-type: none"> • Generally this has been an area lacking data, but activities are underway to reduce this deficit to some degree. There is a higher level of awareness within management agencies of the value of relevant socio-economic information. • Social research commissioned under the Great Barrier Reef Climate Change Action Plan 2007–2012 in 2010 found that 93 per cent of the people surveyed were concerned about the potential consequences of climate change for the Great Barrier Reef • During the Extreme Weather Incident Response program social and economic rapid impact assessments were carried out with the Reef based marine tourism and commercial fishing sector in areas affected by Cyclone Yasi and the floods of summer 2010/11. • The changing picture of Reef health has been expanded to include the social and economic changes in the area. In 2011, the Authority partnered with CSIRO to establish the Social and Economic Long Term Monitoring Program (SELTMP) to study social and economic conditions and trends, especially in relation to changing ecological conditions in the Marine Park (including as relevant to climate change). While the initial research is establishing baseline data, in future it will help identify both changing perceptions and the social and economic impacts of climate change on our communities and the Great Barrier Reef. Reef-dependent industries. • There is a lack of information on recreational use of the marine park and relationships to climate change and its effects on ecosystem and social and economic factors for Reef communities. • A study in the Capricorn coast area has examined marine environmental stewardship potential within the local community, with relevance to climate change and Reef resilience. 	<ul style="list-style-type: none"> • Vulnerability assessment (Chapter 23) • Extreme weather on the Great Barrier Reef (http://hdl.handle.net/11017/645). • CC perceptions survey • Access Economics Report on valuing the Reef • Climate change in the Capricorn Coast: an analysis of stewardship potential (http://hdl.handle.net/11017/483) • SELTMP: http://www.nerptropical.edu.au/project/seltmp 	Limited	Improving
IN6 The necessary traditional (Indigenous) knowledge is currently available to address climate change and extreme weather	2	<ul style="list-style-type: none"> • There is limited information • Traditional Owners were involved in: turtle tracking in wake of 2010-11 extreme weather events; Raine Island CC adaptation work; Wuthathi TUMRA climate change considerations. The extent to which 'traditional knowledge' was drawn on in this is not clear. • TUMRAs are being used as a tool to engage on climate change and how to build understanding of the impacts of climate change. • Engagement with Wuthathi on climate change has been integrated into the Wuthathi TUMRA Implementation Plan • Climate change workshops have been held on Wuthathi and Woppaburra countries to assist development of Wuthathi and Woppaburra Traditional Owner Climate Change Action Plans for Sea Country. • Engagement is underway with Raine Island Traditional Owners seeking to determine the current knowledge of Raine Island and discussing potential management options. 	<ul style="list-style-type: none"> • State of the Great Barrier Reef Report • Extreme weather on the Great Barrier Reef (http://hdl.handle.net/11017/645) 	Limited	Stable

<p>IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address climate change and extreme weather</p>	<p>4</p>	<ul style="list-style-type: none"> • Reef users and community members help to keep an eye on the reef and report back to management. The Authority uses this information to help manage the long term health of the reef, and to inform documents such as the Outlook Report. In return the Authority provides training materials, as well as regular feedback and updates to participants about the status of the Reef. • The Authority, in conjunction with the QPWS, run the Eye on the Reef Program, an umbrella project which includes several monitoring and assessment methods. This information is gathered in partnership with a range of stakeholders, such as Marine Park rangers, tourism operators, reef visitors, fishers and the broader community. The program has been especially useful in tracking climate change relevant impacts such as coral bleaching. The Eye on the Reef Program collects information through various methods including: <ul style="list-style-type: none"> • Sightings Network • Eyes and Ears Incident Reporting Network • Rapid Monitoring • Reef Health and Impact Surveys • Tourism Weekly Monitoring • The information collected is combined in a data management system to produce a Reef-wide picture of ecosystem health. The Authority uses this information to map and assess the impacts of incidents on the Marine Park such as cyclones, flood plumes, coral bleaching, and disease and crown-of-thorns starfish outbreaks under the Reef Health Incident Response System. The data improves knowledge of Reef ecosystem resilience and the risks to that resilience. A better long-term understanding of Reef impacts and ecosystem function aids the development of actions to support Reef resilience under a changing climate. • Citizen Science groups also do relevant work – the Authority is facilitating this. • Industry partners are also providing non-government input into climate change related projects, e.g. Provision Reef Stewardship Action Plan. 	<ul style="list-style-type: none"> • Pro-Vision Reef Stewardship Action Plan http://www.gbrmpa.gov.au/_data/assets/pdf_file/0015/4236/gbrmpa_StewardshipActionPlan2009.pdf • Access economics report, • Productivity Commission Report • Eye on the Reef http://www.gbrmpa.gov.au/our-partners/tourism-industry/eye-on-the-reef • Reef Guardians program - fishers, farmers, graziers, schools, councils • (Including CC elements of Best Practice Guidelines for councils document) 	<p>Adequate</p>	<p>Improving</p>
--	----------	---	---	-----------------	------------------

PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of climate change and extreme weather	4	<ul style="list-style-type: none"> The Authority is well engaged with tourism (marine tourism climate change action group), Natural Resource Management bodies, Reef Guardian Schools and Councils and fisheries. The Authority has memoranda of understanding with Ports and the Department of Defence. These memoranda incorporate climate change considerations. The Authority holds annual pre-summer workshops to bring together key researchers and stakeholders to discuss the outlook for the summer, especially around bleaching risk etc. the Authority also provides regular updates on current conditions / climatic outlook and reef health. Stakeholders and industries are well engaged with reviews of major policy documents such as Climate Change Action Plan and Biodiversity Conservation Strategy The Department of Defence is engaging with its stakeholders on climate change issues. The <i>Tourism Climate Change Action Strategy</i> is designed to assist the tourism industry in understanding, communicating and managing vulnerabilities with climate change. The Pro-Vision Reef Stewardship Action Plan was developed by the Marine Aquarium and Harvest fishery industries to articulate climate change response strategies and stewardship activities. The <i>Eye on the Reef Program</i> developed by the Authority in conjunction with the QPWS, as an umbrella project which includes several monitoring and assessment methods. The Eye on the Reef Program provides status snapshots and early warning information on water quality, the presence of protected and iconic species and the health of the Reef. This information is gathered in partnership with a range of stakeholders, such as Marine Park rangers, tourism operators, reef visitors, fishers and the broader community. The Authority-QSIA climate change partnership and climate adaptation work with the fishing industry is part of the engagement activities with stakeholders relating to climate change. 	<ul style="list-style-type: none"> Tourism climate change Action Strategy: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/3987/gbrmpa_CCActionStrategyFull_2011.pdf Pro-Vision Reef Stewardship Action Plan http://www.gbrmpa.gov.au/_data/assets/pdf_file/0015/4236/gbrmpa_StewardshipActionPlan2009.pdf Eye on the Reef: http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/our-monitoring-and-assessment-programs/eye-on-the-reefClimate change adaptation principles: bringing adaptation to life in the marine biodiversity and resources setting (http://hdl.handle.net/11017/201) Climate change vulnerability assessment: Queensland marine aquarium supply industry, 2010 (http://hdl.handle.net/11017/476) QSIA/GBRMPA climate change and fisheries partnership (http://hdl.handle.net/11017/475) Assessment of the ecological vulnerability of the East Coast Otter Trawl Fishery to climate change: a brief synthesis of information and results of an expert workshop (http://hdl.handle.net/11017/522) 	Adequate	Improving
PR2 The local community is effectively engaged in the ongoing management of climate change and extreme weather	4	<ul style="list-style-type: none"> Local communities are involved in climate change and extreme weather generally through the Local Marine Advisory Committees (LMACs) and planning processes for areas/specific places. The Authority incorporates constructive and encouraging actions into its communications materials regarding climate change and extreme weather e.g. "You can help by..." Reef HQ is a premier educational facility for the GBR and educates the public about climate change and why the Authority is concerned about incorporating this into management. The ReefED website is an education site free to teachers and the public and effectively engages to "Educate to keep it great". EPA, DPI&F and Authority have regional-based staff for engaging with local communities. The Authority has dedicated liaison staff for key issues. Authority is the focal point for all climate change matters in relation to the Great Barrier Reef and coast The community is engaged in Integrated Eye on the Reef Monitoring which includes "Bleachwatch", Sightings Network etc. SEE IN7. Authority is facilitating adaptation of industries and communities with the goal that it will be their ongoing responsibility. The broader community often feels disempowered by the global nature of the problem. 	Reef HQ: http://www.reefhq.com.au/ Reef Ed: http://www.reefed.edu.au/	Adequate	Improving

PR3 There is a sound governance system in place to address climate change and extreme weather	3	<ul style="list-style-type: none"> The Great Barrier Reef Intergovernmental Agreement 2009 provides a contemporary framework for cooperation between the governments, recognising challenges such as climate change and catchment water quality that were not foreseen at the time of the 1979 Agreement. There are many examples of good governance, (e.g. EPBC/the Authority/QLD government relationships), however, there are some exceptions (e.g. The GBR Ministerial Council has not been operating in recent times) Some of the governance arrangements are relatively inflexible and climate change may not have been considered in their development. The Climate Change Adaptation Strategy and Action Plan provides a strategic approach to identify and address key climate change related challenges facing the GBR and this work is helping to ensure the governance and planning systems consider climate change. The Resilience Decision Framework project (mentioned above) is helping to provide an operational framework for considering resilience and cumulative stressors in decision making, which is important for the future of the GBR in light of climate change. Marine Incident Investigations – GBR: multiagency toolkit 	<ul style="list-style-type: none"> Great Barrier Reef Intergovernmental Agreement http://www.environment.gov.au/coasts/gbr/agreement.html 	Limited	Stable
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	3	<ul style="list-style-type: none"> Performance monitoring is limited to: <ul style="list-style-type: none"> RAP monitoring Dugong aerial surveys (which has no long-term funding) Stranding program Mid-Term Review: Great Barrier Reef Climate Change Action Plan 2007-2012 and delivery program KPI reporting (within the Authority) for Science Information Needs - i.e. % projects delivering against high and medium management needs identified in the Authority Strategic Work Plan Finance Tracking system Annual Operation Planning There is no performance management planning for expectations and progress on developing/evolving the Authority's management systems to incorporate climate change and extreme weather Examples exist of targeted monitoring (e.g. seagrass, dugong aerial surveys, AIMS LTMP) but many aspects of biodiversity monitoring (e.g., connectivity, thresholds for change, etc) are not well understood. Some monitoring is reactive (e.g. BleachWatch) There is a need for a clear plan with action items against which to assess progress 	<ul style="list-style-type: none"> Mid-Term Review: Great Barrier Reef Climate Change Action Plan 2007-2012 and delivery program (http://hdl.handle.net/11017/959) Summary Report of the mid-term review of the Great Barrier Reef Climate Change Action Plan 2007-2012 (http://hdl.handle.net/11017/958) 	Limited	Improving
PR5 Appropriate training is available to the managing agencies to address climate change and extreme weather	3	<ul style="list-style-type: none"> The Eye on the Reef training program is in place (face to face plus online materials) Turtle and dugong necropsy and sample collection training is provided to management agency staff and veterinarians along the GBR coast in connection with strandings program and extreme weather response work. Targeted programs are in place for marine park managers (e.g. Bleachwatch, Rapid assessment, businesses) A pilot of reef resilience assessment training has been conducted on Keppel Islands. Some specific training for relevant aspects is provided as part of biodiversity training (e.g. oiled wildlife, RAMP). Tertiary curricula provide climate change adaptation training for potential new staff coming from a science background 	<p>Extreme weather on the Great Barrier Reef http://hdl.handle.net/11017/645</p>	Adequate	Improving

PR6 Management of climate change and extreme weather is consistently implemented across the relevant jurisdictions	3	<ul style="list-style-type: none"> The Authority is complementing rather than duplicating existing work of the Department of Climate Change and Energy Efficiency on national perspectives. Management actions are often reactive and event based (e.g. extreme weather) There are strong alliances around reef health surveys and the field management program. Programs have been piloted at demonstration sites, such as Keppel Islands and Raine Island to inform implementation of adaptive management across relevant jurisdictions Extensive coordination efforts seek to achieve consistency in matters such as whale watching guidelines, TUMRAs/ILUAs/MOUs Some of the formal mechanisms for coordination, such as MINCO, do not always deliver consistent outcomes, but informal mechanisms exist between the managing agencies to address on-going issues. 		Limited	Stable
PR7 There are effective processes applied to resolve differing views/ conflicts regarding climate change and extreme weather	2	<ul style="list-style-type: none"> RIS and EIA processes are designed to incorporate conflict resolution elements. Evaluation mechanisms for conflict resolution are lacking. Reef Advisory Committees, Association of Marine Park Tourism Operators, fishery workshops all have a feedback loop to bring information back to the Authority Public forums have attempted to resolve contentious issues e.g. Garnault reports. Vulnerability work has been a good example of consensus science. 		Limited	Stable
PR8 Direct and indirect impacts of activities associated with climate change and extreme weather are appropriately considered.	2	<ul style="list-style-type: none"> Direct and indirect impacts of activities associated with climate change are not yet appropriately considered. Climate change has not been included in joint terms of reference with the SEWPaC (for activities requiring an approval under the EPBC Act and permit under the GBRMP Act) <ul style="list-style-type: none"> A recent study, commissioned by the Authority has recommended made a number of recommendations to increase incorporation of climate change considerations into the environmental impact assessment framework. 	<ul style="list-style-type: none"> R 88 Great Barrier Reef Marine Park Regulations 1983 RPS report (EBL1201601_Rev0_Climate Change in GBRMPA Policy_120413) 	Low	Improving
PR9. Consequential and cumulative impacts of activities associated with climate change and extreme weather are appropriately considered.	3	<ul style="list-style-type: none"> Climate change has been a major driver in advancement of activity and understanding in relation to consideration of cumulative impacts. Climate change is a consideration in much of the Authority's work, and increasingly considered. However, there is a need for clear systems (and data on where existing use has been permitted), plans and policies to guide decision making. Cumulative impacts cannot be managed unless we understand and capture what has been previously permitted and all that is currently applied for. Cumulative impacts assessment is attempted through EIA processes, but done on a case by case basis (i.e. as applications are received) - otherwise it is not generally well considered Some risk mapping is underway and considers cumulative exposure. Evaluation of resilience indicators is included in the Keppel Islands pilot work. The Raine Island climate change risk assessment process includes consideration of species, groups, habitats vulnerability to cumulative impacts. Investment in the reef resilience atlas will be important to forecast and inform management of cumulative impacts. 		Limited	Improving

<p>PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding climate change and extreme weather</p>	<p>4</p>	<ul style="list-style-type: none"> • The Vulnerability assessments provide an important starting point. • A Reef Health Incident Response System is in place to help the Authority detect any reef health incidents such as coral bleaching events or disease outbreaks. It also provides important information to guide management actions following incidents. • The Reef Health Incident Response System is based on four main areas: <ul style="list-style-type: none"> • Early Warning System – tools to understand the risk of reef health incidents occurring • Incident Response – evaluate the nature and severity of incidents and coordinate an appropriate response • Management Actions – target implementing management strategies that minimise impacts and promote recovery • Communication – communicate to partner agencies, senior decision makers, stakeholders and the public about reef condition and pending management actions (communication is a central theme which unifies the other three Reef Health Incident Response System components). • It includes mechanisms to help the Authority and its partners predict and forecast the likelihood of an event, including its potential severity and spatial extent. • There are also individual plans that specifically address common reef health incidents: <ul style="list-style-type: none"> • Coral Bleaching Risk and Impact Assessment Plan • Coral Disease Risk and Impact Assessment Plan • Tropical Cyclone Risk and Impact Assessment Plan • These plans describe strategic approaches to responding to reef health incidents and provide managers with a dynamic and up-to-date understanding of the vulnerability of Reef habitats and users. • The Response Plans are updated annually, and the Coral Bleaching Response Plan has been in place since 2000. While the response plan provides information on coral bleaching incidents the information has not to date resulted in changed management decisions (such as permit closures, and special management areas). • Reef Advisory Committees are an important conduit to biophysical and monitoring information. • Information from monitoring programs (e.g. Marine Monitoring Program, Long Term Monitoring Program, Eye on the Reef, Seagrass Watch etc) are drawn on regularly. • Use of expert advice and networks of relevant experts have been forged and maintained to inform management decision making (e.g. with NOAA, BoM, JCU, UQ, ARC CoE in Coral Reef Studies). 	<ul style="list-style-type: none"> • Marshall and Shuttenberg 2006. A Reef Managers Guide to Coral Bleaching • Incident Response Plans: http://www.gbrmpa.gov.au/outlook-for-the-reef/climate-change/marine-park-management/building-resilience/climate-incident-response-actions 	<p>Adequate</p>	<p>Improving</p>
<p>PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding climate change and extreme weather</p>	<p>2</p>	<ul style="list-style-type: none"> • Limited data availability has been a constraint that is being addressed. • The Extreme Weather Response Program included rapid socio-economic assessments of the impacts of floods and cyclones on the tourism and fishing industries. • The newly established Social and Economic Long Term Monitoring Program (SELTMP) to study social and economic conditions and trends is expected to lead to further improvements in this area over time. 		<p>Limited</p>	<p>Improving</p>

PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding climate change and extreme weather	2	<ul style="list-style-type: none"> • There is limited information available to managers. • Traditional Owners were involved in: turtle tracking in wake of 2010-11 extreme weather events; Raine Island CC adaptation work; Wuthathi TUMRA climate change considerations. The extent to which 'traditional knowledge' was drawn on in this is not clear. • TUMRAs are being used as a tool to engage on climate change and how to build understanding of the impacts of climate change. • Engagement with Wuthathi on climate change has been integrated into the Wuthathi TUMRA Implementation Plan • Climate change workshops have been held on Wuthathi and Woppaburra countries to assist development of Wuthathi and Woppaburra Traditional Owner Climate Change Action Plans for Sea Country. • Engagement is underway with Raine Island Traditional Owners seeking to determine the current knowledge of Raine Island and discussing potential management options. 		Limited	Stable
PR13 Relevant standards are identified and being met regarding climate change and extreme weather	4	<ul style="list-style-type: none"> • Eco certification programs covering the tourism industry include climate change elements. • GBRMPA Responsible Reef Practices are available on the website but the Authority does not readily audit and update these. • Structures that are installed within the GBRMP require a permit (and relevant engineering approval to meet required standards – taking into account extreme weather). Compliance with Registered Professional Engineers Queensland standards is required. 	<ul style="list-style-type: none"> • High Standard Tourism Operators: http://www.gbrmpa.gov.au/our-partners/tourism-industry/high-standard-tourism • Responsible Reef Practices: http://www.gbrmpa.gov.au/visit-the-reef/responsible-reef-practices 	Adequate	Stable
PR14 Targets have been established to benchmark management performance	3	<ul style="list-style-type: none"> • The new Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017 contains both objectives and targets. • The Biodiversity Conservation Strategy also contains targets around actions relating to management of climate change related issues. 		Adequate	Improving
OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for climate change and extreme weather	4	<ul style="list-style-type: none"> • For climate change the management programs have progressed in accordance with the work program and planned timeframes. • The Mid-Term Review of the Great Barrier Reef Climate Change Action Plan 2007-2012 and delivery program indicates progress. (see below) 	<ul style="list-style-type: none"> • Mid-Term Review: Great Barrier Reef Climate Change Action Plan 2007-2012 and delivery program (http://hdl.handle.net/11017/959) • Summary Report of the mid-term review of the Great Barrier Reef Climate Change Action Plan 2007-2012 (http://hdl.handle.net/11017/958) • Climate Change Adaptation: Outcomes from the Great Barrier Reef Climate Change Action Plan 2007-2012 http://elibrary.gbrmpa.gov.au/jspui/handle/11017/1139 	Limited	Improving

<p>OP2 Implementation of management documents and/or programs relevant to climate change and extreme weather have progressed in accordance with timeframes specified in those documents</p>	<p>3</p>	<ul style="list-style-type: none"> • For climate change the management programs have progressed in accordance with the work program and planned timeframes. • The Mid-Term Review of the Great Barrier Reef Climate Change Action Plan 2007-2012 and delivery program indicates progress generally in accordance with specified timeframes. • A mid-term review of the Authority's 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 the Authority's 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 Authority. 	<p>Climate Change Adaptation: Outcomes from the Great Barrier Reef Climate Change Action Plan 2007-2012 http://elibrary.gbrmpa.gov.au/jspui/handle/11017/1139</p>	<p>Limited</p>	<p>Improving</p>
<p>OP3 The results (in OP1 above) have achieved their stated management objectives</p>	<p>2</p>	<ul style="list-style-type: none"> • The publication Climate Change Adaptation: Outcomes from the Great Barrier Reef Climate Change Action Plan 2007-2012 and the mid-term review of the climate change action plan and delivery program both indicate that a large number of relevant actions have been underway and are having desired outcomes in relation to influencing the way management activities consider and incorporate climate change and extreme weather considerations. Examples include the development of incident response plans, working in coordination with commercial fisheries and Queensland government to determine the most appropriate local management actions to put in place after major extreme weather events, and actively working to understand impacts on the social and economic wellbeing of commercial fishers and tourism operators. 	<ul style="list-style-type: none"> • Mid-Term Review: Great Barrier Reef Climate Change Action Plan 2007-2012 and delivery program (http://hdl.handle.net/11017/959) • Summary Report of the mid-term review of the Great Barrier Reef Climate Change Action Plan 2007-2012 (http://hdl.handle.net/11017/958) • Climate Change Adaptation: Outcomes from the Great Barrier Reef Climate Change Action Plan 2007-2012 http://elibrary.gbrmpa.gov.au/jspui/handle/11017/1139 	<p>Limited</p>	<p>Improving</p>

<p>OP4... to date, products or services have been produced in accordance with the stated management objectives for climate change and extreme weather</p>	<p>4</p>	<ul style="list-style-type: none"> • Products and Services have generally been delivered in accordance with the objectives of the GBR Climate Change Action Plan. Examples are provided under evidence. 	<ul style="list-style-type: none"> • http://elibrary.gbrmpa.gov.au/jspui/index.jsp • Mapping reef health using Google Earth: supporting management responses to climate change incidents (project bulletin) • http://hdl.handle.net/11017/156 • Raine Island adaptive management to conserve marine turtles • http://hdl.handle.net/11017/489 • A changing climate for the seabirds and shorebirds of the Great Barrier Reef (project bulletin) • http://hdl.handle.net/11017/529 • Climate change adaptation principles: bringing adaptation to life in the marine biodiversity and resources setting • http://hdl.handle.net/11017/201 • Climate change vulnerability assessment: Queensland marine aquarium supply industry, 2010 • http://hdl.handle.net/11017/476 • Assessment of the ecological vulnerability of the East Coast Otter Trawl Fishery to climate change: a brief synthesis of information and results of an expert workshop (http://hdl.handle.net/11017/522) • Great Barrier Reef tourism industry and stakeholder climate change survey 2010 (project bulletin) • http://hdl.handle.net/11017/153 • Tourism operators responding to climate change case study series (project bulletin) • http://hdl.handle.net/11017/531 • Lady Elliot Island climate change trail signage: thematic interpretation of a unique Commonwealth Island under threat (project bulletin) • http://hdl.handle.net/11017/155 • SeaRead Issue 37: 2011 • http://hdl.handle.net/11017/919 • Special Climate Change Supplement • Climate change and the Reef: children's art competition (project bulletin) • http://hdl.handle.net/11017/145 	<p>Adequate</p>	<p>Improving</p>
<p>OUTCOMES</p>					
<p>OC1...the relevant managing agencies are to date effectively addressing climate change and extreme weather and moving towards the attainment of the desired outcomes.</p>	<p>2</p>	<ul style="list-style-type: none"> • Two major factors will dictate the future health of the GBR: the rate and extent of climate change, and the resilience of the GBR ecosystem to climate change. The outlook for the GBR is poor, and addressing climate change is a local, national and global challenge. • The world-leading management regime in place for the GBR, including the explicit and active focus on climate change risks and adaptation, positions the GBR to be able to cope with climate change better than most reef systems around the world. • Great Barrier Reef Marine Park Regulations 88Qa specifies consideration of potential impacts on the environment (from activities that require a permit). This regulation would include the consideration of emissions from the activity (if permitted) however it is not explicit and therefore the ability for the Authority to effectively address climate change in permit assessments is limited (policy and guidelines may be the solution (see RPS report outcomes) • There is still a significant need for managers to develop consistent and integrated adaptive management processes that incorporate future projections into decision making. The current Resilience Decision Framework project is an example of a decision support system incorporating resilience and climate change projections. 	<p>GBRMP Regulations 1983 specifies the consideration of impacts from activities on environment, social, cultural and heritage.</p>	<p>Limited</p>	<p>Stable</p>

OC2... the outputs relating to climate change and extreme weather are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	2	<ul style="list-style-type: none"> Mitigating greenhouse gas emissions is a key response to the climate change threat; however this is a local, national and global challenge. The Authority currently has the legislative basis to avoid and mitigate the impacts of activity induced climate change impacts on the environment, social, cultural and heritage values. This may need to be more clearly specified in the regulations, policy and assessment tools to clearly articulate how climate change and greenhouse gas emissions should be measured, recorded and assessed. A formal offsets policy/regulations does not exist (only draft SEWPaC position) for the GBRWHA. 	2012 Consultancy report - Climate Change and GBRMPA Policy	Limited	Stable
OC3... the outputs (refer OP1 & 3) for climate change and extreme weather are reducing the major risks and the threats to the Great Barrier Reef	1	<ul style="list-style-type: none"> Reducing but to what extent Too early for most results to be evidence A lot of this is driving national policy changes to address climate change risks The risks to the GBR (and other coral reef ecosystems) from climate change have been highlighted in relevant national and international documents relating to climate change. The risks to the GBR have been considered in policy and scientific documents that have informed the development of Australian climate change policy and legislation introducing a carbon price, which will help limit the environmental impacts of climate change. Climate change programs have also been influencing how local reef users and stakeholders think. For example, feedback from interviews with key stakeholders on the recent trawl adaptation projects indicated that the climate workshops encouraged fishers to think about the ecosystem and the biophysical processes that underpin the resources they value. 		Limited	Stable
OC4... use of the Great Barrier Reef relating to climate change and extreme weather is demonstrably environmentally sustainable	1	<ul style="list-style-type: none"> Pressures that impact on the resilience of the reef exacerbate the impacts of climate change and extreme weather. Future predictions of climate change dominate most aspects of the Great Barrier Reef's outlook over the next few decades. The extent and persistence of the damage to the ecosystem will depend to a large degree on the amount of change in the world's climate and on the resilience of the Great Barrier Reef ecosystem in the immediate future. 		Limited	Stable
OC5... use of the Great Barrier Reef relating to climate change and extreme weather is demonstrably economically sustainable	1	<ul style="list-style-type: none"> Systems are in place to provide an environment capable of economic sustainability, however, the economic externalities will determine the final outcome. 	<ul style="list-style-type: none"> Halpern et al paper in <i>Science</i> GCRMN Status Report World Seagrass Atlas (Short & Green) Paper by Graham et al in PLoS ONE 2008 	Limited	Stable
OC6... use of the Great Barrier Reef relating to climate change and extreme weather has demonstrably enhanced community understanding and/or enjoyment	3	<ul style="list-style-type: none"> Climate change will affect the community understanding and/or enjoyment of the Great Barrier Reef. Uses of the reef do add to the impacts of climate change Understanding is higher than enjoyment (hence lower end of 3). Community awareness raising Councils and schools have been raising awareness 		Limited	Improving

<p>OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address climate change and extreme weather</p>	<p>4</p>	<ul style="list-style-type: none"> • The Authority has developed appropriate relationships with local communities and stakeholders in some instances. • Lots of informal partnerships but the effectiveness of these partnerships is not easily measured (Seagrass Watch is an exception with regular performance assessment and continuous improvement) • Successful partnership with the tourism industry to reduce their greenhouse gas emissions and build their adaptive capacity. • High level of awareness regarding known vulnerabilities and impacts of climate change on the Great Barrier Reef in local communities and stakeholders. • Improved engagement with fishing sector since 2009 (effective partnerships with QSIA focussed on climate change, work with Provision Reef,); first phase of adaptation planning work completed with trawl fishery, fisheries emissions calculator developed, and climate change and extreme weather work also undertaken with other sectors e.g. aquarium supply industry, reef line fishery. Ongoing work needed to develop strategic response to climate change. 	<ul style="list-style-type: none"> • Climate Change Adaptation: Outcomes from the Great Barrier Reef Climate Change Action Plan 2007-2012 (not yet publically released) • Mid-Term Review: Great Barrier Reef Climate Change Action Plan 2007-2012 and delivery program (http://hdl.handle.net/11017/959) 	<p>Limited</p>	<p>Improving</p>
---	----------	---	---	----------------	------------------

Topic: Coastal Development

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to coastal development are understood by managers.	3	<ul style="list-style-type: none"> Values of coastal ecosystems are clearly articulated in the <i>Informing the Outlook for Great Barrier Reef coastal ecosystems</i> document 	The <i>Informing the Outlook for Great Barrier Reef coastal ecosystems</i> is a technical report on the current status of the catchment and the threats it faces http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems	Adequate	Improving
CO2 Direct and indirect impacts associated with coastal development are understood by managers.	3	<ul style="list-style-type: none"> The <i>Informing the Outlook for Great Barrier Reef coastal ecosystems</i> is a technical report on the current status of the catchment and the threats it faces. Vulnerability Assessments (associated with Climate Change and the Great Barrier Reef: A vulnerability Assessment) 	Vulnerability Assessments: http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/coastal-ecosystems	Adequate	Improving
CO3 Consequential and cumulative impacts associated with coastal development are understood by managers.	3	<ul style="list-style-type: none"> Cumulative impacts are not well understood, but are considered in depth in the <i>Informing the Outlook for Great Barrier Reef coastal ecosystems</i> document Vulnerability assessments have also been developed for at-risk coastal ecosystems to identify priority areas and ways to reduce threats. 	<ul style="list-style-type: none"> Vulnerability Assessments (associated with Climate Change and the Great Barrier Reef: A vulnerability Assessment) The Coastal Ecosystems Assessment Framework http://www.gbrmpa.gov.au/data/assets/pdf_file/0003/28254/Coastal-Ecosystems-Assessment-Framework.pdf <p><i>Informing the Outlook for Great Barrier Reef coastal ecosystems</i> http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems</p>	Adequate	Improving
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to coastal development are known by managers	3	<ul style="list-style-type: none"> <i>Coastal Ecosystems Assessment Framework 2012</i> - This framework allows for a identifying the natural state, current modified state and the pressures and threats through current land use for a specific defined area. <i>The Informing the Outlook for Great Barrier Reef coastal ecosystems is a technical report on the current status of the catchment and the threats it faces.</i> This new three-year study reveals urgent action is needed to improve the health of coastal ecosystems to boost the health and resilience of the Great Barrier Reef. It details coastal land use changes and their impact on water quality, habitats and inshore biodiversity in the Marine Park. It shows how sensitive and complex coastal ecosystems have changed over many decades, the impact on coral cover, and priority actions needed to halt the decline. 	<i>Informing the Outlook for Great Barrier Reef coastal ecosystems</i> http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems	Adequate	Improving
CO5 The stakeholders relevant to coastal development are well known by managers.	4	<ul style="list-style-type: none"> The Authority has four Reef Advisory Committees (RACs): Catchment and Coastal; Ecosystem; Indigenous; and Tourism and Recreation. A key role for the RACs is to advise the Authority in relation to actions that can be taken to address the risks to the Great Barrier Reef Marine Park identified in the Great Barrier Reef Outlook Report 2009. Major advances in stewardship and Reef Guardian programs since 2009. Indigenous Women's Gathering was held in September 2012 to better understand female roles in land and sea management Local Marine Advisory Committees provide contact with stakeholder groups at regional level Considerable coordination between governments (e.g. FMP) Extensive ongoing engagement with industry (fisheries, defence, tourism, etc) Reef Guardian Schools Reef Check Seagrass watch Regional Offices (GBRMPA CPG) GBR Ministerial Council 	<ul style="list-style-type: none"> RAC's: http://www.gbrmpa.gov.au/about-us/reef-advisory-committee Our Partners: http://www.gbrmpa.gov.au/our-partners <p>http://www.gbrmpa.gov.au/our-partners/reef-guardians</p>	Adequate	Stable
PLANNING					

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
PL1 There is a planning system in place that effectively addresses coastal development	2	<ul style="list-style-type: none"> The Queensland Government and local councils have the primary responsibility for land and water management practices adjacent to the Great Barrier Reef Marine Park and World Heritage Area. The Authority works closely with agencies at all levels of government and key stakeholders to influence activities in a way that will support the long-term health and resilience of the Reef. Legislative changes in 2009 aim to better integrate the Great Barrier Reef Marine Park Act 1975 (GBRMP Act) and Great Barrier Reef Marine Park Regulations 1983 with the national environment law—the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), so that a single environmental impact assessment system applies to the marine park. The draft Biodiversity Conservation Strategy includes actions for addressing issues associated with coastal ecosystems The Reef Plan that looks for improved water quality from diffuse sources has significant impact on coastal ecosystems 	<ul style="list-style-type: none"> On the 8 October 2012 the Qld Coastal Plan was suspended from operation. The State Policy for Coastal Management (http://www.ehp.qld.gov.au/coastalplan/pdf/qcp-web-coastal-management.pdf) is still in effect. Draft GBR Biodiversity Conservation Strategy, 2012 http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf 	Adequate	Improving
PL2 The planning system for coastal development addresses the major pressures and drivers impacting on the Great Barrier Reef's values	2	<ul style="list-style-type: none"> The Authority is not directly involved in planning systems associated with Coastal Development unless a permit is required for an associated activity (e.g. outfall structures, dredging and spoil disposal) in the Marine Park. The Authority manages coastal ecosystems within the GBRR. Population Growth, climate change and economic growth are all major drivers impacting on the GBR's values. The current planning systems for coastal development do not address the major pressures. The Reef Plan and the "Informing the Outlook" document address many of the pressures and drivers impacting on coastal ecosystems 	<ul style="list-style-type: none"> Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf 	Adequate	Improving
PL3 Actions for implementation regarding coastal development are clearly identified within the plan	2	<ul style="list-style-type: none"> Coastal Ecosystems Assessment Framework sets out <ul style="list-style-type: none"> For each of the coastal ecosystems, a vulnerability assessment has been compiled. defines each coastal ecosystem and document the vulnerabilities to known pressures identify present management tools and appropriate and practical management actions that could be taken to mitigate risk and enhance coastal ecosystem resilience identify gaps in management effectiveness, including deficiencies in legislation and policy, and those areas where additional research is required for making informed decisions. Reef Plan – pertains to coastal ecosystem health and contains targets and actions 	<ul style="list-style-type: none"> Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems Draft GBR Biodiversity Conservation Strategy, 2012 http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf 	Adequate	Improving
PL4 Clear, measurable and appropriate objectives for management of coastal development have been documented	3	<ul style="list-style-type: none"> Objectives are included in <i>Informing the Outlook for Great Barrier Reef coastal ecosystem</i> document, and draft biodiversity conservation strategy but need to be more focussed with targets 	<ul style="list-style-type: none"> Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems Draft GBR Biodiversity Conservation Strategy, 2012 	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address coastal development	3	<ul style="list-style-type: none"> There are many actions taking place to protect areas identified as matters of national significance and high ecological significance and to help restore their function: Caring for our Country supports communities, farmers and other land managers with funding to protect Australia's natural environment and sustainability. The goal of the joint Australian and Queensland governments' Reef Water Quality Protection Plan is to ensure that by 2020 the quality of water entering the Great Barrier Reef has no detrimental impact on its health and resilience. The Queensland Wetlands program established by the Australian and Queensland governments, aims to better protect and manage wetlands throughout the state. The Authority works with local governments through our Reef Guardian Councils to effectively manage Great Barrier Reef coastal ecosystems. 	http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf Queensland Wetland Program, Wetland Info website http://www.epa.qld.gov.au/wetlandinfo/site/index.html	Adequate	Stable
PL6 Sufficient policy currently exists to effectively address coastal development	2	<ul style="list-style-type: none"> The <i>Informing the Outlook for Great Barrier Reef coastal ecosystems document</i> provides a strong foundation for addressing coastal ecosystems. However this has yet to be translated into policy. The only policy the Authority has in place to deal with Coastal Development relates to structures/outfalls within the Marine Park Jurisdiction: <ul style="list-style-type: none"> The Structures Policy Dredging and Spoil Disposal Policy Environmental Impact Management Policy Sewage Discharges From Marine Outfalls To The Great Barrier Reef Marine Park Position Statement on Aquaculture within the Great Barrier Reef Marine Park 	<ul style="list-style-type: none"> Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems http://www.gbrmpa.gov.au/about-us/legislation-regulations-and-policies/policies-and-position-statements 	Adequate	Improving
PL7 There is consistency across jurisdictions when planning for coastal development	1	<ul style="list-style-type: none"> Changes to the Queensland coastal planning schemes has the potential for some significant implications for the Great Barrier Reef However the implications of the changes are not yet known. There is a potential inadequacy of eligibility criteria to avoid and mitigate environmental impact and recognise Marine Park management processes (complimentary planning) and a potential inadequacy in the evaluation/auditing of third party certification and the use of compliance mechanisms 		Adequate	Deteriorating
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	1	<ul style="list-style-type: none"> The Authority is working with Qld on undertaking a number of basin assessments under the Regional Sustainability Program/Strategic Assessment to map high priority conservation and restoration areas along the Great Barrier Reef coast. This will bring to 12 the assessments undertaken using the Authority's Basin Assessment Framework (part of its Informing the Outlook for GBR Coastal Ecosystem Report outputs). This mapping aims to provide some certainty to where uses should and shouldn't occur. 	http://www.gbrmpa.gov.au/outlook-for-the-reef/strategic-assessment/about-the-marine-strategic-assessment http://www.gbrmpa.gov.au/_data/assets/pdf_file/0003/28254/Coastal-Ecosystems-Assessment-Framework.pdf	Adequate	Deteriorating
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address coastal development	2	<ul style="list-style-type: none"> Work on the <i>Informing the Outlook for Great Barrier Reef coastal ecosystems</i> has required resources 			

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address coastal development	2	<ul style="list-style-type: none"> Resourcing declined as the scope of work has increased, and a number of positions have short term funding e.g. Reef Guardian 		Adequate	Deteriorating
IN3 The right skill sets and expertise are currently available to the managing organisations to address coastal ecosystems	3	<ul style="list-style-type: none"> Long term competent team, but issues with breadth knowledge and issues to address/understand Research in this area has been lost from other organisations 		Adequate	Stable
IN4 The necessary biophysical information is currently available to address coastal development	3	<ul style="list-style-type: none"> Coastal ecosystems and the pressures they face are complex due to the sheer size and scale of the Great Barrier Reef catchment. The catchment consists of 35 basins – further work to assess coastal ecosystems at this basin scale has been carried out. The RSP Project titled <i>GBR Coastal Ecosystems Assessment Framework</i> has developed a framework for collecting and collating the data was developed with the help of experts and piloted in some of the Great Barrier Reef basins. Outlook 2009, vulnerability assessments, Draft <i>Status of habitats and species</i> document, Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, have all compiled latest information and made it accessible to managers. 	<ul style="list-style-type: none"> Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems Draft <i>GBR Biodiversity Conservation Strategy, 2012</i> Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments http://www.gbrmpa.gov.au/data/assets/pdf_file/0003/28254/Coastal-Ecosystems-Assessment-Framework.pdf 	Adequate	Improving
IN5 The necessary socio-economic information is currently available to address coastal development	3	<ul style="list-style-type: none"> Socio-economic data and impacts of development on the coastal ecosystems is considered in the Informing the Outlook report. 	<ul style="list-style-type: none"> Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems 	Adequate	Stable
IN6 The necessary traditional (Indigenous) knowledge is currently available to address coastal ecosystems	2	<ul style="list-style-type: none"> Coastal planning processes have included engagement with Traditional Owners 		Limited	No clear trend
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address coastal development	3	<ul style="list-style-type: none"> Regional NRM Bodies, seagrass watch, seachange taskforce contribute to addressing coastal development issues A range of pro-development bodies exist including, regional development associations, UDIA, Chambers of Commerce, Local Government Association of Qld 		Adequate	Deteriorating
PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of coastal development	3	<ul style="list-style-type: none"> There is good engagement of stakeholders through Reef Guardian Famers, Schools and Councils, Qld Wetlands Program, Reef Advisory Committees, the Authority's regional offices 		Adequate	Improving
PR2 The local community is effectively engaged in the ongoing management of coastal development	3	<ul style="list-style-type: none"> There is good engagement of stakeholders through Reef Guardian Famers, Schools and Councils, Qld Wetlands Program, Reef Advisory Committees, the Authority's regional offices 		Adequate	Deteriorating
PR3 There is a sound governance system in place to address coastal development	2	<ul style="list-style-type: none"> The Authority has little jurisdiction over the management of coastal ecosystems. The Authority has good knowledge about the processes involved with coastal ecosystems from the Informing the Outlook for Great Barrier Reef coastal ecosystems report 		Adequate	Deteriorating
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	2	<ul style="list-style-type: none"> Priority actions for improving the condition of coastal ecosystems are included in the <i>Informing the Outlook for Great Barrier Reef coastal ecosystems</i>, however these could be improved with targets and timeframes. However, many of the actions are not the responsibility of the Authority. The revised Reef Plan has performance monitoring In terms of coastal development, there is no performance monitoring. 	http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf <ul style="list-style-type: none"> Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems 	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
PR5 Appropriate training is available to the managing agencies to address coastal development	2	<ul style="list-style-type: none"> • Training for coastal plan role out occurred, but expert input is used. • Permit assessment staff use the coastal ecosystem group/internal seminars. 			
PR6 Management of coastal ecosystems is consistently implemented across the relevant jurisdictions	2	<ul style="list-style-type: none"> • There is good cooperation between jurisdictions with the Reef Plan, however changes to the Qld Coastal plan is of concern 		Adequate	Deteriorating
PR7 There are effective processes applied to resolve differing views/ conflicts regarding coastal development	2	<ul style="list-style-type: none"> • All policies have to go through a Regulatory Impact Statement where appropriate • Administrative Appeal Tribunal open to applicants wanting to request review of a the Authority's permit decision 		Adequate	Deteriorating
PR8 Direct and indirect impacts of activities associated with coastal development are appropriately considered.	3	<ul style="list-style-type: none"> • The Informing the Outlook for Great Barrier Reef coastal ecosystems and the Vulnerability Assessments (associated with Climate Change and the Great Barrier Reef: A vulnerability Assessment) can assist in the following: <ul style="list-style-type: none"> • GBRMP Regulations 88Q and 88R (assessment criteria for identifying and analysing impacts • EIM Policy, Structures Policy, Dredging and Spoil Disposal Policy • Guidelines for Hydrodynamic Modelling (of Dredge Spoil) • National Assessment Guidelines for Dredging 2009 • EIM Risk assessment framework 2009 • If an action triggers EPBC for the GBRMP or WHA, the Authority will undertake an assessment with SEWPaC under the MOU (put in place in 27 Nov 2009). 	<ul style="list-style-type: none"> • Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems • Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments 	Adequate	Improving
PR9. Consequential and cumulative impacts of activities associated with coastal development are appropriately considered.	2	<ul style="list-style-type: none"> • GBRMP Regulations 88Q and 88R (assessment criteria for identifying and analysing impacts) provides the head of power to assess all potential impacts which would include cumulative. • Cumulative impacts assessment is attempted through EIA processes, but is still done on a case by case basis (i.e. as applications are received) - otherwise are not generally well considered • Cumulative impacts of many coastal developments poorly or not addressed as shown in Coastal Ecosystems Outlook Report 		Adequate	Improving
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding coastal development	2	<ul style="list-style-type: none"> • Excellent information is contained in the <i>Informing the Outlook for Great Barrier Reef coastal ecosystems</i> Report, but it is too early to assess if the information is used in making decisions 	<ul style="list-style-type: none"> • Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems 	Adequate	Improving
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding coastal development	3	<ul style="list-style-type: none"> • Socio-economic issues are taken account of in permit decisions and available information was used in RAP process • Economic information for key industries but frequent lack of social information • Linkage to socio-economic data to management of coastal ecosystems is less developed then for issues such as tourism and fishing • The Authority has appointed manager for socio-economic issues and current and planned projects have begun to address this area 		Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding coastal development	2	<ul style="list-style-type: none"> There is a need to better develop and integrate Traditional ecological knowledge and stakeholder knowledge into management of coastal ecosystems. Indigenous knowledge is taken account of in permit decisions where relevance is obvious but not routinely addressed in planning and management of coastal ecosystems 		Limited	Improving
PR13 Relevant standards are identified and being met regarding coastal development	1	<ul style="list-style-type: none"> No standards have been set and many of the issues are not within the Authority jurisdiction. 		Adequate	Deteriorating
PR14 Targets have been established to benchmark management performance	2	<ul style="list-style-type: none"> Draft Biodiversity Conservation Strategy, 2012 establishes targets for an assessment that <ul style="list-style-type: none"> identifies the coastal ecosystems that are most critical to the Great Barrier Reef ecosystem, to assist with future coastal management. completed vulnerability assessments on identified at-risk habitats, species and groups of species. Dates included implemented and reviewed priority key actions to reduce threats to at-risk habitats, species and groups of species. Reef Plan Targets set for 2013 and 2020 to improve non-point source water quality 	<ul style="list-style-type: none"> <i>Draft Biodiversity Conservation Strategy, 2012</i> http://www.reefplan.qld.gov.au/resources/ssets/reef-plan-2009.pdf Vulnerability Assessments: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments 	Adequate	Improving
OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for coastal development	3	<ul style="list-style-type: none"> The Informing the Outlook for Great Barrier Reef coastal ecosystems and the Vulnerability Assessments (associated with Climate Change and the Great Barrier Reef: A vulnerability Assessment) and the Coastal Ecosystem Assessment Framework have been completed 		Adequate	Improving
OP2 Implementation of management documents and/or programs relevant to coastal development have progressed in accordance with timeframes specified in those documents	2	<ul style="list-style-type: none"> The Informing the <i>Outlook for Great Barrier Reef coastal ecosystems Report</i> has been developed to provide further detail necessary to inform the future management of the World Heritage Area, catchment and the inshore species reliant on a healthy environment and in particular the management of Great Barrier Reef. It is too early to assess the progress with the implementation. 	<ul style="list-style-type: none"> Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems 	Adequate	Deteriorating
OP3 The results (in OP1 above) have achieved their stated management objectives	2	<ul style="list-style-type: none"> Objectives of improved management of coastal ecosystem is yet to be seen 		Adequate	Deteriorating
OP4... to date, products or services have been produced in accordance with the stated management objectives for coastal development	3	<ul style="list-style-type: none"> Outputs such as the Informing the Outlook for Great Barrier Reef coastal ecosystems report 		Adequate	Deteriorating
OUTCOMES					
OC1...the relevant managing agencies are to date effectively addressing coastal development and moving towards the attainment of the desired outcomes.	2	<ul style="list-style-type: none"> Significant attention by the Authority to address gaps in information and knowledge for coastal ecosystems is evident following Outlook 2009. The Authority does not have jurisdiction over most elements that would improve outcomes 	<ul style="list-style-type: none"> Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems 	Adequate	Deteriorating
OC2... the outputs relating to coastal development are on track to ensure the values of the Great Barrier Reef are protected (refer C01)	2	<ul style="list-style-type: none"> Past land use practices has led to degradation of coastal ecosystems and water quality, and very marked declines in inshore biodiversity. The impact of changes to the Queensland policy is yet to be understood 	http://www.reefplan.qld.gov.au/resources/assets/reef-plan-2009.pdf	Adequate	Deteriorating

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
OC3... the outputs (refer OP1 & 3) for coastal development are reducing the major risks and the threats to the Great Barrier Reef	2	<ul style="list-style-type: none"> Coastal ecosystems are still in decline and at significant risk The impact of changes to the Queensland policy is yet to be understood 	<ul style="list-style-type: none"> Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems 	Adequate	Deteriorating
OC4... use of the Great Barrier Reef relating to coastal development is demonstrably environmentally sustainable	1	<ul style="list-style-type: none"> Land use practices have led to degradation of coastal ecosystems and water quality, and very marked declines in inshore biodiversity. 	<ul style="list-style-type: none"> Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-coastal-ecosystems 	Adequate	Deteriorating
OC5... use of the Great Barrier Reef relating to coastal development is demonstrably economically sustainable	3	<ul style="list-style-type: none"> There has been a history of failed developments along the coast, however much of the economic drivers for Queensland occur along the coastal strip with increasing population growth 		Adequate	Stable
OC6... use of the Great Barrier Reef relating to coastal development has demonstrably enhanced community understanding and/or enjoyment	3	<ul style="list-style-type: none"> Increasing numbers of people are accessing the reef for recreational and personal enjoyment. Some of the coastal development are detracting from the personal enjoyment, but are proving additional income to other sectors. 		Adequate	Improving
OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address coastal development.	3	<ul style="list-style-type: none"> Many examples of partnerships <ul style="list-style-type: none"> Reef Guardian program LMACs and RACs Eye on the Reef program Existing liaison arrangements and specialist staff within the Authority to manage these relationships 	http://www.gbrmpa.gov.au/our-partners	Adequate	Improving

Topic: Ports

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to ports are understood by managers.	3	<ul style="list-style-type: none"> Understanding of economic (sustainable use) values of Ports is clear Availability of information on natural values in GBR in vicinity of ports that could be impacted by port development and on-going management is not clear Dredge spoil disposal policy and environmental impact policies of the GBR should ensure that values underpinning MNES are considered at the time of any development approval and that values would be documented as part of this process 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3844/gbrmpa_DredgingandSpoilDisposalPolicy_2004.pdf http://www.gbrmpa.gov.au/_data/assets/pdf_file/0004/3847/gbrmpa_EnvironmentalImpactManagementPolicy_2004.pdf	Adequate	Improving
CO2 Direct and indirect impacts associated with ports... are understood by managers.	3	<ul style="list-style-type: none"> Dredge spoil disposal policy and environmental impact policies of the GBR should ensure that direct and indirect impacts are considered at the time of any development approval and that values would be documented as part of this process The impacts of dredge spoil are not well understood for all habitats or species. 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3844/gbrmpa_DredgingandSpoilDisposalPolicy_2004.pdf http://www.gbrmpa.gov.au/_data/assets/pdf_file/0004/3847/gbrmpa_EnvironmentalImpactManagementPolicy_2004.pdf	Adequate	Improving
CO3 Consequential and cumulative impacts associated with ports are understood by managers.	2	<ul style="list-style-type: none"> Dredge spoil disposal policy and environmental impact policies of the GBR should ensure that consequential and cumulative impacts are considered at the time of any development approval and that values would be documented as part of this process, however there is a lack information on cumulative impacts of dredge spoil disposal The cumulative impacts of shipping accidents such as discharges and loading re-fuelling accident in ports are unknown. 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3844/gbrmpa_DredgingandSpoilDisposalPolicy_2004.pdf http://www.gbrmpa.gov.au/_data/assets/pdf_file/0004/3847/gbrmpa_EnvironmentalImpactManagementPolicy_2004.pdf	Limited	Improving
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to ports are known by managers	3	<ul style="list-style-type: none"> Condition and trend of MNES are articulated in documents such as the draft biodiversity strategy and outlook report Scientific understanding of greatest risks to the reef from AIMS However limited understanding of impacts of port development on soft bottom communities 	<ul style="list-style-type: none"> Draft GBR Biodiversity Conservation Strategy, 2012 Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments Great Barrier Reef Marine Park Authority 2012, Informing the outlook for Great Barrier Reef coastal ecosystems, Great Barrier Reef Marine Park Authority, Townsville. 	Adequate	Improving
CO5 The stakeholders relevant to ports are well known by managers.	4	<ul style="list-style-type: none"> Annual meetings with key stakeholders such as LMACs and RACs Regular meetings with Ports Qld 	http://www.gbrmpa.gov.au/about-us/local-marine-advisory-committees http://www.gbrmpa.gov.au/about-us/reef-advisory-committee	Adequate	Stable
PLANNING					
PL1 There is a planning system in place that effectively addresses ports...	2	<ul style="list-style-type: none"> There is no overarching strategy for port development in QLD, however this is not the Authority's jurisdiction. A draft position paper has been developed by Queensland 		Adequate	Improving
PL2 The planning system for port addresses the major pressures and drivers impacting on the Great Barrier Reef's values	2	<ul style="list-style-type: none"> The MOU with SEWPaC, while aiming to improve interoperability between the GBRMP Act and the EPBC Act regarding environmental assessments is not adequately integrated There are no port biosecurity plans in place. 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3844/gbrmpa_DredgingandSpoilDisposalPolicy_2004.pdf	Adequate	Improving
PL3 Actions for implementation regarding port are clearly identified within the plan	2	<ul style="list-style-type: none"> There is no plan in place to address Ports Actions for implementation are still in draft form e.g. draft biodiversity strategy Actions for water quality are articulated 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf <ul style="list-style-type: none"> Draft GBR Biodiversity Conservation Strategy, 2012 http://www.gbrmpa.gov.au/_data/assets/pdf_file/0017/4526/GBRMPA_WQualityGuidelinesGBRMP_RevEdition_2010.pdf	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
PL4 Clear, measurable and appropriate objectives for management of ports... have been documented	2	<ul style="list-style-type: none"> Dredging and spoil disposal must meet water quality guidelines that prescribe concentrations of sediment, nutrients and pesticides to protect marine species and health of GBR. Environmental Impact Management policy also applies 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0017/4526/GBRMPA_WQualityGuidelinesGBRMP_RevEdition_2010.pdf	Adequate	Improving
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address ports	4	<ul style="list-style-type: none"> LMACs and RACs are engaged in the development of key policy papers and strategies, Stakeholders are engaged through permit assessment processes 	http://www.gbrmpa.gov.au/about-us/local-marine-advisory-committees http://www.gbrmpa.gov.au/about-us/reef-advisory-committee GBRMPA regulations (r88D) EPBC Act (s98 and 103)	Adequate	Stable
PL6 Sufficient policy currently exists to effectively address ports...	1	<ul style="list-style-type: none"> Dredge and spoil disposal policy and EIMP in place and the ports position paper is being developed. However, there is a lack of policy concerning port development areas in Queensland 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3844/gbrmpa_DredgingandSpoilDisposalPolicy_2004.pdf	Adequate	Improving
PL7 There is consistency across jurisdictions when planning for ports...	1	<ul style="list-style-type: none"> There is an MOU between the Authority and SEWPaC for assessments under the EPBC Act and GBRMP Act There is concern about jurisdictional consistency with port development as the Authority has no direct management responsibilities. 		Adequate	Deteriorating
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	1	<ul style="list-style-type: none"> Assessment is undertaken on a case by case basis, with all applications to be considered on its merits Zoning Plans, Site Plans and Plans of Management do not make it clear where ports could/could not be developed, nor where dredge spoil may/may not be disposed – this is assessed on a case by case basis if the activity falls within the Marine Park There is currently no certainty where new ports will be proposed/permitted. 		Adequate	Improving
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address ports	2	<ul style="list-style-type: none"> Increase in number of applications has not resulted in a concomitant increase in funding for managing these issues Expected growth in shipping (and therefore increased use of ports) is very high. 		Adequate	Improving
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address ports	2	<ul style="list-style-type: none"> Ports and Shipping unit established in 2006 and doubled in number. However, there are still inadequate staff to manage these issues in a strategic manner 		Adequate	Improving
IN3 The right skill sets and expertise are currently available to the managing organisations to address ports	2	<ul style="list-style-type: none"> There are difficulties in attracting suitably qualified staff because of competition with Ports and consulting agencies 		Adequate	Stable
IN4 The necessary biophysical information is currently available to address ports	3	<ul style="list-style-type: none"> Baseline biophysical data is primarily collected by consultants, and the quality of this work varies. The only guidelines the Authority have had the resources to produce related to Hydrodynamic modelling. There is a lack of consistency in survey design and techniques for data collection Good data is provided through in the vulnerability assessment, though this information needs to be considered 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0018/26532/Guidelines-on-Hydrodynamics-Modelling-15-Aug-2012.pdf	Adequate	Improving
IN5 The necessary socio-economic information is currently available to address ports	3	<ul style="list-style-type: none"> Socio-Economic benefits are considered in the EIS process 		Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
IN6 The necessary traditional (Indigenous) knowledge is currently available to address ports	2	<ul style="list-style-type: none"> Some information in specific port developments and EISs but not in broad context 		Limited	Improving
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address ...	N/A				
PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of	4	<ul style="list-style-type: none"> Engagement of the Authority key stakeholders Relationship between SEWPAC, QLD Government and the Authority 	http://www.gbrmpa.gov.au/about-us/local-marine-advisory-committees http://www.gbrmpa.gov.au/about-us/reef-advisory-committee	Adequate	Stable
PR2 The local community is effectively engaged in the ongoing management of ports	3	<ul style="list-style-type: none"> Process for community input through EIS process, but not for general applications for dredge and spoil 		Adequate	Stable
PR3 There is a sound governance system in place to address ports	3	<ul style="list-style-type: none"> Annual meetings between the Authority, Ports Q and SEWPAC 		Adequate	Improving
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	2	<ul style="list-style-type: none"> Little evidence of performance monitoring 		Limited	Stable
PR5 Appropriate training is available to the managing agencies to address ports	3	<ul style="list-style-type: none"> Training provided as needed 		Adequate	Stable
PR6 Management of ports is consistently implemented across the relevant jurisdictions	3	<ul style="list-style-type: none"> Joint applications as necessary between the Authority, SEWPAC and Qld 		Adequate	Stable/Deteriorating
PR7 There are effective processes applied to resolve differing views/ conflicts regarding ports	3	<ul style="list-style-type: none"> Regular meetings between the Authority, Ports and stakeholders provide opportunity to resolve issues 		Adequate	Stable
PR8 Direct and indirect impacts of activities associated with ports are appropriately considered.	3	<ul style="list-style-type: none"> Improving through the development of a ports position paper, the dredge and spoil policy and EIM processes 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3844/gbrmpa_DredgingandSpoilDisposalPolicy_2004.pdf http://www.gbrmpa.gov.au/_data/assets/pdf_file/0004/3847/gbrmpa_EnvironmentalImpactManagementPolicy_2004.pdf	Adequate	Improving
PR9. Consequential and cumulative impacts of activities associated with..... are appropriately considered.	2	<ul style="list-style-type: none"> Improving through the development of ports position paper, the dredge and spoil policy and EIMA processes 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3844/gbrmpa_DredgingandSpoilDisposalPolicy_2004.pdf http://www.gbrmpa.gov.au/_data/assets/pdf_file/0004/3847/gbrmpa_EnvironmentalImpactManagementPolicy_2004.pdf	Limited	Improving
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding ...	2	<ul style="list-style-type: none"> Lack of knowledge about long term impacts 		Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding ports	3	<ul style="list-style-type: none"> Commercial decisions made using sound economic data Long term social impacts not well understood 		Adequate	Improving
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding ports	2	<ul style="list-style-type: none"> Many ports have cultural values documented and assessed with input from Traditional Owners however, ports see accessing TO knowledge as difficult 		Limited	Improving
PR13 Relevant standards are identified and being met regarding ports	3	<ul style="list-style-type: none"> Guidelines have been developed for dredging and spoil disposal and are applied at national and State level 		Adequate	Improving
PR14 Targets have been established to benchmark management performance	1	<ul style="list-style-type: none"> While guidelines have been established, no targets have been set. 		Limited	No clear trend
OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for ports	3	<ul style="list-style-type: none"> Development of position papers and policy documents are underway 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3844/gbrmpa_DredgingandSpoilDisposalPolicy_2004.pdf	Adequate	Improving
OP2 Implementation of management documents and/or programs relevant to ports have progressed in accordance with timeframes specified in those documents	N/A				
OP3 The results (in OP1 above) have achieved their stated management objectives	2	<ul style="list-style-type: none"> In progress/too early to assess 		Limited	Improving
OP4... to date, products or services have been produced in accordance with the stated management objectives for ports	2	<ul style="list-style-type: none"> Some products such as the dredge and spoil policy, EIM Policy. 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3844/gbrmpa_DredgingandSpoilDisposalPolicy_2004.pdf	Limited	Improving
OUTCOMES					
OC1...the relevant managing agencies are to date effectively addressing and moving towards the attainment of the desired outcomes.	2	<ul style="list-style-type: none"> Development of guidelines and policies have occurred Assessment processes in place but are primarily case by case. 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3844/gbrmpa_DredgingandSpoilDisposalPolicy_2004.pdf	Adequate	Improving
OC2... the outputs relating to ports are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	2	<ul style="list-style-type: none"> There is no overarching strategy to manage ports adjacent to the GBRWHA. Current Qld and Authority plans provide no certainty as to where expansion and new ports should and shouldn't occur. 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3844/gbrmpa_DredgingandSpoilDisposalPolicy_2004.pdf	Adequate	Improving
OC3... the outputs (refer OP1 & 3) for ports are reducing the major risks and the threats to the Great Barrier Reef	2	<ul style="list-style-type: none"> Current outputs are not significantly reducing the threats, and the risks are increasing. 		Limited	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
OC4... use of the Great Barrier Reef relating to ports is demonstrably environmentally sustainable	2	<ul style="list-style-type: none"> No evidence to show environmental sustainability at present Regional Sustainability Planning Project which has modelled the dispersive nature of all ports has found that dispersal is greater than expected. 		Adequate	Deteriorating
OC5... use of the Great Barrier Reef relating to ports is demonstrably economically sustainable	4	<ul style="list-style-type: none"> Economic sustainability can be demonstrated The GBR Major ports are economically sustainable as can be seen from their annual reports 		Adequate	Stable
OC6... use of the Great Barrier Reef relating to ports has demonstrably enhanced community understanding and/or enjoyment	3	<ul style="list-style-type: none"> Communities are reliant on the ports for goods and services, and employment, but significant negative impact from an "enjoyment" perspective 		Adequate	Deteriorating
OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address ports	3	<ul style="list-style-type: none"> MOU with Ports Q and the Authority Annual meetings between the Authority, Ports Q and SEWPAC LMAC and RACs 	http://www.gbrmpa.gov.au/about-us/local-marine-advisory-committees	Adequate	Improving

Topic: Shipping

Component of management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to shipping are understood by managers.	4	<ul style="list-style-type: none"> • Good understanding of issues associated with shipping as shown by policy papers 	<ul style="list-style-type: none"> • http://www.gbrmpa.gov.au/resources-and-publications/publications/shen-neng-1-grounding-impact-assessment • Great Barrier Reef Shipping Review Steering Committee 2001. Review of Ship Safety and Pollution Prevention measures in the Great Barrier Reef. • Australian Maritime Safety Authority 2008. Particularly Sensitive Sea Areas: Fact Sheet. • Australian Maritime Safety Authority 2010. Improving Safe Navigation in the Great Barrier Reef. http://www.amsa.gov.au/shipping_safety/Great_Barrier_Reef_and_Torres_Strait/documents/AMSA%20report%20of%20safe%20navigation%20in%20the%20GBR.pdf • Australian Maritime Safety Authority 2011. Strengthening the protection of the Great Barrier Reef. • Great Barrier Reef Marine Park Authority 2011. DRAFT: Emerging Risk from Shipping in the Great Barrier Reef Marine Park. • State Party Report on Shipping 	Adequate	Improving
CO2 Direct and indirect impacts associated with shipping are understood by managers.	3	<ul style="list-style-type: none"> • The two most significant shipping activity risks that threaten the Marine Park are major oil or chemical spill and the introduction of invasive marine species. Both have the potential to cause extensive, long-term damage to the environment, economic activity and socio-cultural activities in the region. • As a consequence of the dynamic nature of shipping, constant changes to the levels and type of traffic at many ports has also lead to a greater range of new Noxious and Hazardous Substances (such as Liquid Natural Gas) that will be transported in bulk and in packaged form through the Marine Park. There are many unknown effects and impacts of these new substances and training and preparation for a chemical spill has to date been limited. 	<ul style="list-style-type: none"> • Shen Neng Grounding Impact Assessment http://www.gbrmpa.gov.au/resources-and-publications/publications/shen-neng-1-grounding-impact-assessment • Great Barrier Reef Shipping Review Steering Committee 2001. Review of Ship Safety and Pollution Prevention measures in the Great Barrier Reef. • Australian Maritime Safety Authority 2008. Particularly Sensitive Sea Areas: Fact Sheet. • Australian Maritime Safety Authority 2010. Improving Safe Navigation in the Great Barrier Reef. http://www.amsa.gov.au/shipping_safety/Great_Barrier_Reef_and_Torres_Strait/documents/AMSA%20report%20of%20safe%20navigation%20in%20the%20GBR.pdf • Australian Maritime Safety Authority 2011. Strengthening the protection of the Great Barrier Reef. • Great Barrier Reef Marine Park Authority 2011. DRAFT: Emerging Risk from Shipping in the Great Barrier Reef Marine Park. • <i>Draft GBR Biodiversity Conservation Strategy, 2012;</i> 	Adequate	Improving
CO3 Consequential and cumulative impacts associated with shipping are understood by managers.	2	<ul style="list-style-type: none"> • Consequential impacts of shipping are associated with ports • Cumulative impacts associated with increased numbers and likelihood of incidents at sea • Shipping risk assessments are based on individual impacts not holistic cumulative impacts. 	http://abbotpointworkinggroup.com.au/files/Technical%20Studies/Great%20Barrier%20Reef%20Shipping%20Study.pdf	Adequate	Improving
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to shipping are known by managers	3	<ul style="list-style-type: none"> • Over the last ten years there has been an increase in the number of ship voyages undertaken through the Great Barrier Reef Marine Park (Marine Park). In 2010, over 5000 ships transited through the Marine Park and arrived at Queensland Ports. • Over the next five years it is anticipated that there will be a significant increase in shipping traffic within the Marine Park, primarily driven by bulk commodity exports, focused around existing and future expansions in the Queensland resources ports. 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf	Adequate	Improving

CO5 The stakeholders relevant to shipping are well known by managers.	4	<ul style="list-style-type: none"> Annual meetings with key stakeholders such as LMACs and RACs Regular meetings with Ports Q The Australian Maritime Safety Authority (AMSA), the Authority and Maritime Safety Queensland (MSQ) work closely together to protect the marine environment from adverse consequences of shipping operations and providing for the safety of life of ships' crew, passengers and other users of the Great Barrier Reef.. 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-	Adequate	Improving
PLANNING					
PL1 There is a planning system in place that effectively addresses shipping	3	<ul style="list-style-type: none"> The Great Barrier Reef Marine Park is one of the world's most regulated shipping areas. Existing comprehensive management arrangements for shipping mean that there have been few incidents threatening the Reef values relative to the large number of shipping movements in and through the Marine Park. Automatic Identification System (AIS) is to be carried on board vessels. In 2011 the REEFVTS was extended to southern boundary of GBR PSSA However, the Authority's planning systems are inadequate to deal with impacts of ship groundings on reefs and other substrata or the remediation of sites after shipping incidents There is no marine pest incursion plan 	<ul style="list-style-type: none"> http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf http://www.amsa.gov.au/shipping_safety/REEFVTS/ 	Adequate	Improving
PL2 The planning system for shipping addresses the major pressures and drivers impacting on the Great Barrier Reef's values	3	<ul style="list-style-type: none"> The AIS system implemented in 2008 on all vessels provides automatic information exchange between vessels as well as being monitored by shore side AIS receivers greatly assist real time data on vessel movement. The system greatly enhances AMSA's vessel tracking abilities for compliance activities and also as a preventative measure for ship groundings (e.g. if a ship has not changed course for a while the ship will be radioed) There are stringent management requirements for commercial shipping in the waters of the Great Barrier Reef, designated a Particularly Sensitive Sea Area by the International Maritime Organisation. Shipping traffic is confined to Designated Shipping Areas in the Great Barrier Reef Region. Measures to increase navigational safety and reduce the risk of ship groundings and collisions include: <ul style="list-style-type: none"> Compulsory pilotage Recommended pilotage Mandatory vessel reporting and monitoring. The inner shipping route of the Great Barrier Reef is a vital part of the Queensland shipping industry. The Designated Shipping Area is defined in the Great Barrier Reef Marine Park Zoning Plan 2003. However, there are inadequate plans for monitoring detection, and treatment of marine pest incursions from ballasts, hull fouling or internal piping of ships.. Pollution response plans are in place but are inadequate to deal with remote incidents 	http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-outlook-report/outlook-online?sq_content_src=%2BdXjsPWh0dHAIM0EIMkYIMkZ3d3ctcmMuZ2JybXBhLmdvdi5hdSUyRI9fZGF0YSUyRmFzc2V0cyUyRnBkZl9maWxlJTIGMDAyMCUyRjc1MTclMkZzaGlwcGluZ19pbmZvLnBkZiZhGw9MQ%3D%3D http://www.amsa.gov.au/Shipping_Safety/NESM/ <ul style="list-style-type: none"> Australian Maritime Safety Authority 2008. Particularly Sensitive Sea Areas: Fact Sheet. Australian Maritime Safety Authority 2010. Improving Safe Navigation in the Great Barrier Reef. http://www.amsa.gov.au/shipping_safety/Great_Barrier_Reef_and_Torres_Strait/documents/AMSA%20report%20of%20safe%20navigation%20in%20the%20GBR.pdf Australian Maritime Safety Authority 2011. Strengthening the protection of the Great Barrier Reef. 	Adequate	Improving
PL3 Actions for implementation regarding shipping are clearly identified within the plan	3	<ul style="list-style-type: none"> The GBR shipping study includes a shipping actions list and identifies recommendations, risks addressed and suggested lead. There are no timeframes associated with the actions 	http://abbotpointworkinggroup.com.au/files/Technical%20Studies/Great%20Barrier%20Reef%20Shipping%20Study.pdf WQ Protection Plan 2009: http://www.environment.gov.au/coasts/pollution/reef/index.html	Adequate	Improving
PL4 Clear, measurable and appropriate objectives for management of shipping have been documented	2	<ul style="list-style-type: none"> There is a lack of defined targets for shipping incidents, on-going monitoring, containerised chemical risk, biofouling and ballast, oil spills etc 		Adequate	Improving

PL5 The main stakeholders &/or the local community are effectively engaged in planning to address shipping	3	<ul style="list-style-type: none"> LMACs and RACs are engaged in the development of key policy papers and strategies, Stakeholders are engaged if EPBC is triggered and under GBRMP Act for developments 	http://www.gbrmpa.gov.au/about-us/local-marine-advisory-committees http://www.gbrmpa.gov.au/about-us/reef-advisory-committee GBRMPA regulations (r88D) EPBC Act (s98 and 103)	Adequate	Improving
PL6 Sufficient policy currently exists to effectively address shipping	2	<ul style="list-style-type: none"> Number of policies and guidelines about how shipping activities should be carried out (see Abbott point) are available, however there is no specific Authority policy on shipping Policy lacking for chemical and biofouling and damaged site remediation. 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf http://abbotpointworkinggroup.com.au/files/Technical%20Studies/Great%20Barrier%20Reef%20Shipping%20Study.pdf Australian Maritime Safety Authority 2008. Particularly Sensitive Sea Areas: Fact Sheet. Australian Maritime Safety Authority 2010. Improving Safe Navigation in the Great Barrier Reef. http://www.amsa.gov.au/shipping_safety/Great_Barrier_Reef_and_Torres_Strait/documents/AMSA%20report%20of%20safe%20navigation%20in%20the%20GBR.pdf Australian Maritime Safety Authority 2011. Strengthening the protection of the Great Barrier Reef. http://www.amsa.gov.au/Shipping_Safety/NESM/	Adequate	Improving
PL7 There is consistency across jurisdictions when planning for shipping	3	<ul style="list-style-type: none"> Shipping Management Group (AMSA, MSQ, the Authority) meets regularly to discuss current measures to enhance maritime safety and protection of the Great Barrier Reef. The group also assesses the risk posed by future traffic growth and recommends mitigation measures to deal with those risks. Major planning documents are not fully integrated across state and commonwealth jurisdictions. 		Adequate	Stable
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	4	<ul style="list-style-type: none"> There are stringent management requirements for commercial shipping in the waters of the Great Barrier Reef, designated a Particularly Sensitive Sea Area by the International Maritime Organisation. 	<ul style="list-style-type: none"> Australian Maritime Safety Authority 2008. Particularly Sensitive Sea Areas: Fact Sheet. Australian Maritime Safety Authority 2010. Improving Safe Navigation in the Great Barrier Reef. http://www.amsa.gov.au/shipping_safety/Great_Barrier_Reef_and_Torres_Strait/documents/AMSA%20report%20of%20safe%20navigation%20in%20the%20GBR.pdf Australian Maritime Safety Authority 2011. Strengthening the protection of the Great Barrier Reef. 	Adequate	Stable
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address shipping	2	<ul style="list-style-type: none"> Full cost of response to ship grounding and rehabilitation has been not recovered Funding for Reef VTS not secured FMP funding is decreasing in real terms 		Adequate	Improving
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address shipping	2	<ul style="list-style-type: none"> Ports and Shipping unit established however, still inadequate staff to manage these shipping issues in a strategic manner. This includes resourcing for strategic planning, and incident response management FMP resourcing is decreasing 		Adequate	Improving
IN3 The right skill sets and expertise are currently available to the managing organisations to address shipping	2	<ul style="list-style-type: none"> There are difficulties in attracting suitably qualified staff for field operations The Authority (and other agencies that co-manage shipping) require the skills and resources to assess all the damage from shipping incidents and monitoring recovery. The Authority (and other agencies that co-manage shipping) require the skills and resources to repair coral, seagrass and other sites damaged by ship groundings and spillages of cargo or fuel 			

IN4 The necessary biophysical information is currently available to address shipping	3	<ul style="list-style-type: none"> With SEWPaC funding, the Authority is undertaking targeted research projects to address key knowledge gaps relating to the management of ship anchoring and examine ways to improve management The draft Biodiversity Conservation Strategy and the vulnerability assessments also provide further information 	<i>Draft GBR Biodiversity Conservation Strategy, 2012</i>	Adequate	Improving
IN5 The necessary socio-economic information is currently available to address shipping	3	<ul style="list-style-type: none"> Project being undertaken to identify the Economic Contribution of the Great Barrier Reef to a number of industries including Shipping. 	<ul style="list-style-type: none"> Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft) ,Great Barrier Reef Marine Park Authority 	Adequate	Improving
IN6 The necessary traditional (Indigenous) knowledge is currently available to address shipping	1	<ul style="list-style-type: none"> An understanding of traditional knowledge and cultural heritage is poor in relation to how shipping is perceived and affects those values. 		Limited	No clear trend
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address shipping	N/A				
PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of shipping	3	<ul style="list-style-type: none"> Existing peak bodies and working groups dealing with issues (e.g. AMSA and MSQ re: pilotage). High level of coordination of shipping management every day appears to be effective High level of coordination of shipping incident response System of designated shipping lanes and anchorages is effective Access to areas outside shipping lanes is well managed Management of Cruise ship access to high use areas is effective There is good engagement of the Authority key stakeholders 		Adequate	Improving
PR2 The local community is effectively engaged in the ongoing management of shipping	2	<ul style="list-style-type: none"> Anchorages are becoming an issue. Aesthetics an issue as it is not well understood 		Limited	Stable
PR3 There is a sound governance system in place to address shipping	4	<ul style="list-style-type: none"> Annual meetings between GBRMP, Ports Qld and SEWPAC The Authority's CEO is on AMSA Board Extension of REEFVTS to southern boundary of GBR PSSA (AMSA & MSQ) occurred in 2011. Biosecurity responsibilities are not clearly accepted by an agency who is equipped to prevent, quarantine and treat marine pest incursions. 	In July 2011 and as a direct result of the Shen Neng 1 grounding and actual increases in ship traffic around the Gladstone region, AMSA has extended the mandatory ship reporting system into the southern portion of the Marine Park.	Adequate	Stable
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	2	<ul style="list-style-type: none"> No specific performance monitoring, including in corporate plan There is mandatory reporting for shipping incidents 		Limited	No clear trend
PR5 Appropriate training is available to the managing agencies to address shipping	3	<ul style="list-style-type: none"> There has been little emphasis put on training for shipping incidents in the last year due to competing priorities. Training for Hazardous and Noxious substance spills is lacking. Training, in relation to introduced pests monitoring and response is lacking Consistency between agencies or between ports in training for environmental monitoring is not strong. 		Adequate	Deteriorating
PR6 Management of shipping is consistently implemented across the relevant jurisdictions	4	<ul style="list-style-type: none"> Joint applications as necessary between the Authority, SEWPAC and QLD 	Shipping rules are nationally uniform	Adequate	Stable

PR7 There are effective processes applied to resolve differing views/ conflicts regarding shipping	3	<ul style="list-style-type: none"> Regular meetings between the Authority, ports and stakeholders provide opportunity to resolve issues There is no system in place to fund the immediate responses to all shipping and cargo damage with recuperation of costs not delaying action. The problem appears to have increased since Outlook. There are more ships, less response personnel (MSQ) and therefore bigger risk. 		Adequate	Deteriorating
PR8 Direct and indirect impacts of activities associated with shipping are appropriately considered.	3		<ul style="list-style-type: none"> http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf 	Adequate	Improving
PR9. Consequential and cumulative impacts of activities associated with shipping are appropriately considered.	2	<ul style="list-style-type: none"> Assessment of the Risk of Pollution from Marine Oil Spills in Australian Ports and Waters (AMSA) - Estimates the risk of pollution from marine oil spills in Australian ports and waters, in order to support a review of the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances (the National Plan) and National Maritime Emergency Response Arrangements (NEMERA). The GBR is calculated as highly sensitive and highly vulnerable to oil spill pollution. Some coordination for introduced marine pest management is in place but will require further refinement; in particular, monitoring and response planning. 	<ul style="list-style-type: none"> http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf <p>Det Norske Veritas, 2011. Assessment of the Risk of Pollution from Marine Oil Spills in Australian Ports and Waters. Final Report to Australian Maritime Safety Authority; Report No PP002916, Rev 4, 21 October 2011 http://www.amsa.gov.au/Marine_Environment_Protection/National_plan/Reports-Fact_Sheets-Brochures/DNVReport.asp</p>	Adequate	Improving
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding shipping	3	<ul style="list-style-type: none"> Draft Biodiversity Conservation Strategy Limited understanding of impacts from underwater noise and light illumination generated from shipping (anchorage areas in particular). Increased noise (which may be variable or continuous in nature) can disturb terrestrial and marine species and affect their behaviour, including use of an area for breeding or foraging. Air Quality: loading and unloading of ships can release dust and chemicals into the atmosphere. The full effect of this on the GBRR is unknown (especially in relation to coal dust on water quality. Light attenuation and ramifications on photosynthetic organisms. 	<p><i>Draft GBR Biodiversity Conservation Strategy, 2012</i></p> <ul style="list-style-type: none"> Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments 		
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding shipping	3	<ul style="list-style-type: none"> Commercial decisions made using sound economic data Long term social impacts not well understood The Great Barrier Reef World Heritage Area is listed for its aesthetic values. How the current shipping industry and anticipated increased will affect these aesthetics is unknown and needs to be reviewed. 	<ul style="list-style-type: none"> Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft), Great Barrier Reef Marine Park Authority 	Adequate	Improving
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding shipping	1	<ul style="list-style-type: none"> Knowledge sparse, for anchorage sites Traditional knowledge was captured well when the Authority assessed cruise ship anchorages. However the Authority's ability to do this for the wider shipping industry is limited (jurisdictional matters, resources, availability of traditional knowledge). IRAC engaged and stakeholder workshops 			
PR13 Relevant standards are identified and being met regarding shipping	4	<ul style="list-style-type: none"> National and international standards exist and shipping authorities meet and exceed these standards. 		Adequate	Improving
PR14 Targets have been established to benchmark management performance	1	<ul style="list-style-type: none"> While standards are in place, there are no targets to benchmark management performance of shipping 		Limited	No clear trend
OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for shipping	3	<ul style="list-style-type: none"> Managing agency plans relating pollution response are, in general, well documented, resourced, trained for and reviewed Actions relating to statutory requirements are happening e.g. Compulsory pilotage and mandatory ship reporting. Low number of shipping incidents 	<ul style="list-style-type: none"> Australian Maritime Safety Authority 2008. Particularly Sensitive Sea Areas: Fact Sheet. Australian Maritime Safety Authority 2010. Improving Safe Navigation in the Great Barrier Reef. http://www.amsa.gov.au/shipping_safety/Great_Barrier_Reef_and_Torre 	Adequate	Improving

		<ul style="list-style-type: none"> • However, there are concerns about marine pests, chemicals, impacts of split cargo and biofouling • Impacts of vessel groundings and pollution on ecosystem have been significant 	<ul style="list-style-type: none"> • s Strait/documents/AMSA%20report%20of%20safe%20navigation%20in%20the%20GBR.pdf • Australian Maritime Safety Authority 2011. Strengthening the protection of the Great Barrier Reef. 		
OP2 Implementation of management documents and/or programs relevant to shipping have progressed in accordance with timeframes specified in those documents	3	<ul style="list-style-type: none"> • Progress on managing shipping has been achieved • Progress on addressing introduced pests is lagging behind desired timeframes 		Adequate	Improving
OP3 The results (in OP1 above) have achieved their stated management objectives	2	<ul style="list-style-type: none"> • In progress/too early to assess • Difficult in the absence of clearly measurable objectives. Performance reporting is measured by monitoring trends rather than specific objectives 		Limited	No clear trend
OP4... to date, products or services have been produced in accordance with the stated management objectives for shipping	4	<ul style="list-style-type: none"> • Large numbers of vessels traverse the GBR with very few incidents • Generally good navigational safety. • Marine pest incursions have been dealt with but in an ad-hoc fashion without adequate responsibilities determined. 		Adequate	Stable
OUTCOMES					
OC1...the relevant managing agencies are to date effectively addressing shipping and moving towards the attainment of the desired outcomes.	3	<ul style="list-style-type: none"> • Few incidents relative to the large number of shipping movements • Invasive species not effectively addressed • Chemical issues not adequately addressed. 	<ul style="list-style-type: none"> • http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf 	Adequate	Stable
OC2... the outputs relating to shipping are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	3	<ul style="list-style-type: none"> • The Zoning Plan regulates where ships can transit. This management tool, in combination with the REEF VTS contributes to ensuring the values of the GBR are protected. • However, the effectiveness of the management of shipping in the WHA is decreasing due to; <ul style="list-style-type: none"> • decreasing money, personnel and equipment (e.g. boats) in several agencies. • loss of expertise in key areas such as marine pests and rehabilitation. • Increasing numbers of ships 	GBR Zoning Plan 2003	Adequate	Deteriorating
OC3... the outputs (refer OP1 & 3) for shipping are reducing the major risks and the threats to the Great Barrier Reef	3	<ul style="list-style-type: none"> • Management of shipping in the Great Barrier has successfully achieved; <ul style="list-style-type: none"> • recognition that the Great Barrier Reef is of high environmental and economic value • effective multi-agency compliance investigation guidelines, • navigation and ship management systems that aid minimisation of ship accidents, • response arrangement plans for multiple agencies to respond to oil spills and ships in peril, • Shipping management is minimising the risk of incidents. 	<ul style="list-style-type: none"> • http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf 	Adequate	Improving
OC4... use of the Great Barrier Reef relating to shipping is demonstrably environmentally sustainable	3	<ul style="list-style-type: none"> • Marine pests still an issue • Noise and light impacts from increased shipping impact on migrating species (which use sonar for communication) and turtle hatchlings. • Increased shipping and ships at anchor is likely to increase ballast water discharge, marine debris (from overboard rubbish) and degrade the environmental sustainability of this industry if not appropriately managed. Currently there are no overarching strategies in place nor policy to manage these aspects. 	<ul style="list-style-type: none"> • http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/26775/Ports-and-Shipping-Information-sheet-Aug-2012.pdf 	Adequate	Stable
OC5... use of the Great Barrier Reef relating to shipping is demonstrably economically	4	<ul style="list-style-type: none"> • Economic sustainability can be demonstrated 	Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft), Great Barrier Reef Marine Park Authority	Adequate	Stable

sustainable					
OC6... use of the Great Barrier Reef relating to shipping has demonstrably enhanced community understanding and/or enjoyment	2	<ul style="list-style-type: none"> • Communities are reliant on shipping as part of the resources boom and employment, • There are conflicting use issues between shipping, commercial fishing, indigenous heritage and aesthetics (e.g. interrupted vistas from increased shipping and ships at anchor). 	http://www.greenpeace.org/australia/en/what-we-do/climate/resources/reports/Boom-Goes-the-Reef/ An increase in complaints received about coal super highways through the GBR	Adequate	Stable
OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address shipping	2	<ul style="list-style-type: none"> • MOU with QPC and the Authority • Annual meetings between the Authority, Ports Q and SEWPAC • LMAC and RACs 	http://www.gbrmpa.gov.au/about-us/local-marine-advisory-committees	Adequate	Stable

Topic: Recreation

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to recreation are understood by managers.	4	<ul style="list-style-type: none"> Recreation Management Strategy document outlines the values of the GBR that are to be considered 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
CO2 Direct and indirect impacts associated with recreation are understood by managers.	4	<ul style="list-style-type: none"> The impacts of recreation are articulated in the Recreation Management Strategy 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
CO3 Consequential and cumulative impacts associated with recreation are understood by managers.	3	<ul style="list-style-type: none"> Cumulative Impacts associated with recreation are identified and risk assessed in the Recreation Management Strategy 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Limited	Improving
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to recreation are known by managers	3	<ul style="list-style-type: none"> Condition and trend of recreational use are identified the Recreation Management Strategy Risks associated with recreation and their trends are identified in the Recreation Management Strategy The increasing number of people living close to the Great Barrier Reef means increasing recreational use of the marine area. Boat ownership is increasing steadily within the catchment. This has driven an increased demand for boating facilities such as marinas, moorings and boat ramps, often located within the Great Barrier Reef World Heritage Area or adjacent coastal habitats. The Authority has knowledge about the change in vessel registration, but doesn't yet know the extent of the flow on impacts (e.g. what effect the increase in recreational vessels will have cumulatively on the Marine Park). 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
CO5 The stakeholders relevant to recreation are well known by managers.	3	<ul style="list-style-type: none"> While recreation stakeholder groups are broadly known there are no direct links to some groups, especially where they originate from outside Queensland (e.g. cruising yachts and grey nomads) The Authority regularly interacts with recreation stakeholders through its four Reef Advisory Committees, particularly the one dedicated to Tourism and Recreation which includes representatives from the Recreation sector, and through its 12 Local Marine Advisory Committees (LMACs). A new LMAC has been established created in Mackay, an increasingly popular holiday destination. Recreational users also interact with managers through feedback provided during consultation processes, incident reporting and Sightings Network submissions. Considerable coordination between governments (e.g. FMP) Extensive ongoing engagement with industry (tourism and recreation) Regional Offices (GBRMPA CPG) 	Analysis of Recreational Vessel registrations (DRAFT) SeaRead – Recreation Supplement http://www.gbrmpa.gov.au/_data/assets/pdf_file/0015/26205/Issue-45-SeaRead-MayJune-pdf.pdf http://www.gbrmpa.gov.au/about-us/local-marine-advisory-committees	Adequate	Improving

PLANNING					
PL1 There is a planning system in place that effectively addresses recreation...	4	<ul style="list-style-type: none"> The Recreational Management Strategy was developed in response to concerns raised in the management effectiveness evaluation conducted as part of the Outlook Report 2009 that there was no overall strategy for managing recreation, a lack of coordination between managing agencies as well as a lack of targeted management objectives to properly assess effectiveness. The Recreation Management Strategy is designed to provide an overarching framework for the management of recreation by the Authority, to facilitate more coordinated management and to set out in the public arena the management approach of the Authority. The Recreation Management Strategy consolidates the management arrangements of the Authority, with a strong emphasis on maintaining, applying and enhancing the suite of management tools that can be applied to emerging recreation issues. The Statement of Management Arrangements in the Great Barrier Reef Marine Park for Super-yacht Operations summarises the current management arrangements for super-yachts. Responsible Reef Practices provide best practice guidelines for a range of recreational activities on the Reef including anchoring and mooring, bird watching, motorised water sports, visiting islands and cays and boating and yachting. 	<ul style="list-style-type: none"> Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park A Statement of Management Arrangements in the Great Barrier Reef Marine Park for Super-yacht Operations: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0017/3392/GBRMPA-ManagementArrangements-SuperyachtsMay-2011.pdf Responsible Reef Practices: http://www.gbrmpa.gov.au/visit-the-reef/responsible-reef-practicesbarrier-reef-marine-park 	Adequate	Improving
PL2 The planning system for recreation addresses the major pressures and drivers impacting on the Great Barrier Reef's values	4	<ul style="list-style-type: none"> The Recreation Management Strategy identifies and addresses the major pressures and drivers impacting on the GBR Plans of Management have not been updated for some years and site management arrangements are not planned for the Southern GBR, where increasing population trends are occurring. The planning system needs to address these issues 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park http://www.gbrmpa.gov.au/zoning-permits-and-plans/plans-of-management	Adequate	Improving
PL3 Actions for implementation regarding recreation are clearly identified within the plan	3	<ul style="list-style-type: none"> Management focus is identified in the Recreation Management Strategy, however, actions are missing from the strategy, but area covered in various plans. Plans of Management contain implementation actions 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park http://www.gbrmpa.gov.au/zoning-permits-and-plans/plans-of-management	Adequate	Improving
PL4 Clear, measurable and appropriate objectives for management of recreation... have been documented	3	<ul style="list-style-type: none"> The Recreation Management Strategy defines three objectives for the management of recreation: <ul style="list-style-type: none"> A range of recreational opportunities is provided for. The major potential threats associated with recreation are minimised. Other managing agencies and the community are working with the Authority to manage recreational use and the factors that affect it. However, the objectives have no measures associated with them 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address recreation...	4	<ul style="list-style-type: none"> The Tourism and Recreation Reef Advisory Committee (TRAAC) is regularly consulted as part of the recreation planning for the Reef and includes representatives of Marine Park recreation Recreation representatives are also included in the 12 LMACs and participate in recreation Planning Community Access points High level of engagement for legislative changes (Regulations, Zoning Plans, Plans of Management) with formal submissions received High level of local community engagement in planning processes for site plans and potential for any policy development Avenues to engage local community through representation in Local Marine Advisory Committees (LMACs), regional based staff and community Access Points (CAPs) 	http://www.gbrmpa.gov.au/about-us/reef-advisory-committee/tourism-and-recreation-reef-advisory-committee http://www.gbrmpa.gov.au/about-us/local-marine-advisory-committees	Adequate	Improving

PL6 Sufficient policy currently exists to effectively address recreation...	3	<ul style="list-style-type: none"> Overarching strategy (Recreational Management Strategy) now exists, and a number of policies have been identified that are relevant to recreational use. These policies are identified in the overarching strategy but are not specific to manage recreational use in developing hotspots 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
PL7 There is consistency across jurisdictions when planning for recreation...	3	<ul style="list-style-type: none"> The Recreation Management Strategy identifies that “many agencies play a significant role in managing recreation in the Marine Park” (see Appendix 2, page 35). Collaborating with other agencies to ensure management of recreation in the Marine Park is coordinated and consistently applied is one of the key management components identified in the RMS. The Authority and the Queensland Government have a long history of collaboration to ensure consistency particularly to deliver their field management program, which ensures compliance with management tools that are highly relevant to recreation such as Plans of Management. Building better collaborative arrangements with other government agencies, and improving in-park management arrangements, especially cooperation and coordination, is identified as one of the management approach most likely to effectively address the remaining risks associated with Recreation now and into the future. 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park http://www.gbrmpa.gov.au/zoning-permits-and-plans/plans-of-management	Adequate	Stable
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	2	<ul style="list-style-type: none"> Zoning plans, planning areas, and site planning identify where use may occur. For super yachts this information has been collated into a management arrangements document specific to them. 	http://www.gbrmpa.gov.au/zoning-permits-and-plans/zoning http://www.gbrmpa.gov.au/zoning-permits-and-plans/plans-of-management	Adequate	Improving
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address ...recreation	2	<ul style="list-style-type: none"> The Authority’s Strategic Plan 2012-2016 identifies recreation and one of its objectives is to implement the research and communication components of the RMS and to collaborate with reef users to implement best practice approaches to ensure sustainable use of the Reef so these will be funded accordingly. Funding concentrates mainly on recreational research (draft Analysis of Recreational vessel registrations), stewardship programs and education (TV ads, Community Access points etc) but less on site planning and recreation-specific policy development, as per management objectives. A stronger management focus has been allocated to recreation especially with the development of the RMS, however, the overall budget for managing tourism and recreation remains the same, and of this budget, limited resources are allocated specifically for Recreation even though it is a growing activity. The current Compliance and Field Management Program is operating at capacities set in the 1990s, when Reef usage and pressures were lower and prior to the 7-fold expansion of the area of highly protected zones and the emergence of climate change as a dominant threatening process. 	<ul style="list-style-type: none"> Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park Analysis of Recreational Vessel registrations (DRAFT) GBRMPA Strategic Plan 2012-2016 http://www.gbrmpa.gov.au/_data/assets/pdf_file/0014/3281/gbrmpa-Strategic-Plan-2012.pdf 	Adequate	Improving
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address recreation...	2	<ul style="list-style-type: none"> Corresponding to the financial resources, there are limited human resources directly assigned to recreation (including within the Tourism and Recreation section) resulting in only some aspects of Key management components identified in the RMS likely to be implemented by 2016. 		Adequate	Stable/Deteriorating
IN3 The right skill sets and expertise are currently available to the managing organisations to address ...	4	<ul style="list-style-type: none"> There are in-house skills and expertise, principally built from corporate knowledge, that can potentially be used to address recreation 		Adequate	Improving

IN4 The necessary biophysical information is currently available to address ...	4	<ul style="list-style-type: none"> Information contained in the draft <i>Great Barrier Reef Biodiversity Conservation Strategy</i> can be used to inform management actions for Recreation The technical report entitled: <i>Informing the Outlook for Great Barrier Reef coastal ecosystems</i> includes information on the current status of the catchment and the threats it faces which can be useful to address recreation. 	<p>Draft Great Barrier Reef Biodiversity Conservation Strategy http://www.gbrmpa.gov.au/_data/assets/pdf_file/0020/21728/gbrmpa-BioStrategy-DRAFT-Aug-2012.pdf</p> <p>Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/_data/assets/pdf_file/0006/28257/Informing-the-Outlook-for-Great-Barrier-Reef-coastal-ecosystems.pdf</p>	Adequate	Improving
IN5 The necessary socio-economic information is currently available to address ...	3	<ul style="list-style-type: none"> Socio –economic information as used to assist in the development of the Recreational Management Strategy 	<p>Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park</p> <ul style="list-style-type: none"> Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft) ,Great Barrier Reef Marine Park Authority 	Adequate	Improving
IN6 The necessary traditional (Indigenous) knowledge is currently available to address ...	2	<ul style="list-style-type: none"> The Recreation Management Strategy clearly identified the need to improve TO engagement and knowledge, but it does not indicate if this has occurred. 		Limited	Improving
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address ...	4	<ul style="list-style-type: none"> Extensive programs in place. 	<ul style="list-style-type: none"> TRRAC, LMACs, community associations Order of Underwater Coral Heroes - (OUCH) e.g. monitoring corals, foreshore mangroves, maintenance of moorings http://www.landcareonline.com/case_study.asp?cid=32 Low Isles Preservation Society - conservation group http://www.lips.org.au/ Reef Guardian Schools - http://www.reefed.edu.au/home/guardians/reef_guardian_schools Seagrass-Watch - monitoring program collecting data about near-shore seagrasses http://www.seagrasswatch.org/home.html ReefCheck - coral monitoring group http://www.reefcheckaustralia.org/ 	Adequate	Improving
PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of	3	<ul style="list-style-type: none"> The Tourism and Recreation Reef Advisory Committee (TRAAC) is regularly consulted as part of the recreation planning for the Reef and includes representatives of Marine Park recreation Recreation representatives are also included in the 12 LMACs and participate in the ongoing management of Recreation The Authority's staff in Regional offices (Cairns, Mackay, Rockhampton interact with recreations users particularly through Community Access Points (CAPs) Stakeholders can also provide input during public consultation processes relevant to them (e.g. RMS development, site management arrangements, Plans of Management amendments.) While recreation stakeholders groups are broadly known there are no direct links to these groups, especially where they originate from outside Queensland (e.g. cruising yachties and grey nomads) therefore making engagement in management difficult. 	<p>http://www.gbrmpa.gov.au/about-us/reef-advisory-committee/tourism-and-recreation-reef-advisory-committee</p> <p>http://www.gbrmpa.gov.au/zoning-permits-and-plans/plans-of-management</p>	Adequate	Improving
PR2 The local community is effectively engaged in the ongoing management of recreation	3	<ul style="list-style-type: none"> As above 		Adequate	Improving
PR3 There is a sound governance system in place to address recreation...	4	<ul style="list-style-type: none"> The Recreation Management Strategy provides a framework to improve the recreation governance system. 'Working with others' is one of the 4 management strategies identified in the RMS (see p. 3). 	<p>Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park</p>	Adequate	Improving
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	2	<ul style="list-style-type: none"> No specific performance monitoring with no KPI for recreation. 		Adequate	Stable

PR5 Appropriate training is available to the managing agencies to address recreation	3	<ul style="list-style-type: none"> No formal training available 		Adequate	Stable
PR6 Management of recreation is consistently implemented across the relevant jurisdictions	4	<ul style="list-style-type: none"> High level of coordination across agencies Coordination between relevant agencies (the Authority, QPWS, MSQ, Australian Water Police) to enforce Marine Park Acts, Regulations, Zoning Plans and Plans of Management is high although compliance of recreational use has an overall low priority Some products and services jointly prepared/presented (e.g. maps, brochures) Some data sharing across jurisdictions (e.g. vessel registration) 		Adequate	Improving
PR7 There are effective processes applied to resolve differing views/ conflicts regarding recreation...	3	<ul style="list-style-type: none"> Regular interaction with recreational stakeholders through TRRAC, LMACs and regional offices staff, as well as public consultation processes and communication campaigns, help minimise conflicts and misunderstandings. However, as some recreation stakeholders groups are only broadly known (e.g. cruising yachties and grey nomads) identification and resolution of the range of conflicts is not currently considered 	http://www.gbrmpa.gov.au/about-us/reef-advisory-committee/tourism-and-recreation-reef-advisory-committee http://www.gbrmpa.gov.au/about-us/local-marine-advisory-committees	Adequate	Improving
PR8 Direct and indirect impacts of activities associated with recreation are appropriately considered.	3	<ul style="list-style-type: none"> Clearly articulated in Recreation Management Strategy, but little evidence of implementation 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
PR9. Consequential and cumulative impacts of activities associated with recreation are appropriately considered.	3	<ul style="list-style-type: none"> Clearly articulated in Recreation Management Strategy, but little evidence of implementation 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding recreation	3	<ul style="list-style-type: none"> The Recreation Management Strategy was based on latest biophysical research and monitoring information relevant to recreation 	Draft Biodiversity Conservation Strategy	Adequate	Improving
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding recreation	3	<ul style="list-style-type: none"> The Recreation Management Strategy was based on latest socio-economic research and monitoring information relevant to recreation 	Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft) ,Great Barrier Reef Marine Park Authority	Adequate	Improving
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding recreation	3	<ul style="list-style-type: none"> Identified, but limited access and processes in place to incorporate this knowledge. 		Limited	Improving
PR13 Relevant standards are identified and being met regarding recreation	3	<ul style="list-style-type: none"> Whale watching guidelines (national). These are compulsory. OH&S standards Vessel standards (MSQ) Voluntary best practice standards (Responsible Reef Practices) it is not known if all relevant standards are identified and being met for new user groups 	http://www.gbrmpa.gov.au/visit-the-reef/responsible-reef-practices http://www.environment.gov.au/coasts/publications/whale-watching-guidelines-2005.html	Adequate	Improving
PR14 Targets have been established to benchmark management performance	2	<ul style="list-style-type: none"> Benchmarks have not been established 		Adequate	Stable

OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for recreation	3	<ul style="list-style-type: none"> Recreation Management Strategy has been delivered Update of Plans of Management is still to occur. This will address the use and demand on different areas (especially in the Southern GBR) that is increasing 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park http://www.gbrmpa.gov.au/zoning-permits-and-plans/plans-of-management	Adequate	Improving
OP2 Implementation of management documents and/or programs relevant to recreation have progressed in accordance with timeframes specified in those documents	3	<ul style="list-style-type: none"> The Recreation Management Strategy does not include specific timeframes for implementation of the key management components listed. One of the deliverables for 2012-2013 identified in the Authority's Strategic Plan 2012-2016 is to "implement the research and communication components of the Recreation Management Strategy" (deliverable 2.8). This is being progressed 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	
OP3 The results (in OP1 above) have achieved their stated management objectives	4	<ul style="list-style-type: none"> The finalisation of the Recreation Management Strategy is in accordance with the annual deliverable stated in the 2011-2012 Agency AOP 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
OP4... to date, products or services have been produced in accordance with the stated management objectives for recreation	3	<ul style="list-style-type: none"> The finalisation of the Recreation Management Strategy is in accordance with the annual deliverable stated in the 2011-2012 Agency AOP Other products and services not necessarily stated in Agency AOP include the SeaRead edition on 'Recreation' May-June 2012 edition and webpages dedicated to recreation users visiting Cairns and Whitsunday Planning Areas Improvements in infrastructure such as public moorings and reef protection markers have not yet been delivered. 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
OUTCOMES					
OC1...the relevant managing agencies are to date effectively addressing recreation and moving towards the attainment of the desired outcomes.	3	<ul style="list-style-type: none"> The implementation of the Recreation Management Strategy will ensure progress towards attainment of outcomes identified in the document 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
OC2... the outputs relating to recreation are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	3	<ul style="list-style-type: none"> The main output has been the Recreation Management Strategy The next step of implementation is now required including a Communication Plan 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
OC3... the outputs (refer OP1 & 3) for recreation are reducing the major risks and the threats to the Great Barrier Reef	3	<ul style="list-style-type: none"> Issues are identified, but need action plans for addressing the risks The Recreation Management Strategy emphasises the risk-based approach adopted by the Authority and identifies the major risks and threats associated with recreation (see table 1, p. 2), assesses these risks (table 8, p. 21) and identifies avenues to reduce those risks (p.23) 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
OC4... use of the Great Barrier Reef relating to recreation is demonstrably environmentally sustainable	3	<ul style="list-style-type: none"> The implementation of the Recreation Management Strategy will improve the environmental sustainability, but it is not shown as yet. 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Adequate	Improving
OC5... use of the Great Barrier Reef relating to recreation is demonstrably economically sustainable	3	<ul style="list-style-type: none"> The value of recreation use continues to be higher than that of commercial fishing 	Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft) ,Great Barrier Reef Marine Park Authority		
OC6... use of the Great Barrier Reef relating to recreation has demonstrably enhanced community understanding and/or enjoyment	4	<ul style="list-style-type: none"> Improved distribution of information to recreational users on management arrangements (e.g. TV community announcements, boat shows, publications) Greater understanding of threats 85% of Qld residents satisfied with most recent trip in the Marine Park 		Adequate	Improving

OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address recreation.	3	<ul style="list-style-type: none"> Partnerships are maintained in various ways including through TRRAC and LMACs but also via specific partnership programs. Effective partnerships still need to be developed for recreation stakeholders groups that are not well known (e.g. cruising yachties and grey nomads). 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park http://www.gbrmpa.gov.au/about-us/reef-advisory-committee/tourism-and-recreation-reef-advisory-committee	Adequate	Improving
---	---	---	---	----------	-----------

Topic: Tourism

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to tourism are understood by managers.	4	<ul style="list-style-type: none"> Tourism within the GBR is recognised by managers as one of the most significant uses of the GBR, and the values that underpin MNES in the GBR are acknowledged to be major drivers for economic growth and employment for coastal Queensland. Management is focused on the possible impacts of tourism within the Great Barrier Reef Marine Park. GBR managers recognise the need to collaborate with other regulatory and research agencies to manage tourism activities in partnership with the marine tourism industry. 	<ul style="list-style-type: none"> Access Economics Report for RSP Project 5 due 17th Nov 2012. Access Economics, 2008, <i>Measuring the Economic and Financial Value of the Great Barrier Reef Marine Park, 2005-2006</i> http://www.gbrmpa.gov.au/_data/assets/pdf_file/0004/29272/AE_GBRMP_19MAR08.pdf Birtles, A., 2008 draft, <i>Social and economic values of key marine species, particularly large fish around tourist facilities</i> Media release http://www.rrrc.org.au/publications/downloads/Media-Release-Reef-Shark-Sightings-Worth-up-to-1375.pdf Number of snorkels and dives: Tourism Australia, 2007, <i>Queensland Scuba Diving and Snorkelling Report: Visitor Activities and characteristics</i> Economic value of snorkels and dives: Binney, J., 2008 draft report, <i>The recreational dive and snorkelling industry in the Great Barrier Reef: profile, economic contribution, risks and opportunities</i>, Marsden Jacob Associates 	Adequate	Stable
CO2 Direct and indirect impacts associated with tourism are understood by managers.	4	<ul style="list-style-type: none"> The potential impacts of commercial marine tourism have been clearly enunciated in the Great Barrier Reef Outlook Report 2009 (p.66). Managers apply a range of management tools in an effort to minimise impacts. Whilst the tourism planning system adequately addresses the localised impacts of tourism the above management arrangements do not effectively address the larger threats posed by climate change and water quality. 	<ul style="list-style-type: none"> <i>Outlook Report 2009</i> Management of tourism impacts management: Harriott, V., 2002, <i>Marine tourism impacts and their management on the Great Barrier Reef. CRC Reef Technical Report No. 46</i>, CRC Reef Research Centre http://www.reef.crc.org.au/publications/techreport/techrept46.htm Harriott brochure: http://www.reef.crc.org.au/publications/brochures/marine_tourism_web.pdf Population statistics http://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0/ Increasing recreation use e.g. vessel registration: http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/management/gbr_visitation/rec_vessels/ Inquiry into workforce challenges http://www.aph.gov.au/house/committee/ewrwp/tourism/tor.htm Moscardo, G., et al, 2002 <i>Changing patterns of reef tourism</i>. CRC Reef Technical Report No. 49, CRC Reef Research Centre, Townsville. http://www.reef.crc.org.au/publications/techreport/pdf/Technical_Report_49.pdf Prideaux, B., and Coughlan, A., 2008, draft report, <i>Analysis of recreational and tourism use and impact on the Great Barrier Reef for managing sustainable tourism</i> 	Limited	Stable
CO3 Consequential and cumulative impacts associated with tourism are understood by managers.	4	<ul style="list-style-type: none"> The potential cumulative impacts of tourism activities are generally better understood than those of most other activities in the Marine Park. They are identified and tracked through Plans of Management, Site Planning Arrangements, no-anchoring areas and permit assessment processes for the major tourism areas of Cairns, the Whitsundays and Hinchinbrook Cumulative impact assessment project undertaken as part of Strategic Assessment The sustainability of GBR tourism is closely linked to how vessels and aircraft access the Reef (anchoring, pontoon or mooring) and how their activities and visitors are managed at tourism sites. Due to marine tourism's heavy reliance on the health of the ecosystem, the industry is exposed to social and environmental impacts such as water quality, coastal development, loss of species habitat and over-fishing. Increasing recreational use has emerged as a recent risk as coastal communities 	<ul style="list-style-type: none"> National Landscapes http://www.gbrmpa.gov.au/visit-the-reef/great-barrier-reef-national-landscape and http://www.environment.gov.au/parks/national-landscapes/index.html GBRMPA EMC data http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/management/gbr_visitation/numbers GBRMPA public interface of the permits database https://secure.gbrmpa.gov.au/ENQEXT GBR as National Landscape http://www.ret.gov.au/tourism/Documents/tra/Forecasts/2012/2012ForecastIssue1.pdf Given the slowing pace of world growth and the current global economic 	Limited	Stable

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
		<p>continue to grow and prosper along the adjacent coast; resulting in competition with tourism for locations and infrastructure such as public moorings.</p> <ul style="list-style-type: none"> Locally the tourism industry has experienced difficulty in retaining and attracting staff due to mining/resources boom. 	<p>uncertainty, forecasts for inbound tourism remain moderate. In contrast, due to its recent resilience in a challenging environment, forecasts for domestic tourism have been revised upward.</p> <ul style="list-style-type: none"> GBR is a National Landscape - The GBR was officially launched as a National Landscape on 2 March 2012. Australia's National Landscapes Program is a partnership between tourism and conservation, co-managed by Tourism Australia and Parks Australia. http://www.environment.gov.au/parks/national-landscapes/index.html <ul style="list-style-type: none"> Plans of Management: http://www.gbrmpa.gov.au/zoning-permits-and-plans/plans-of-management Site Specific Management: http://www.gbrmpa.gov.au/zoning-permits-and-plans/site-specific-management GBRMPA public interface of the permits database: http://www.gbrmpa.gov.au/corp_site/permits/pems_public/dsp_index.cfm GBRMPA EMC data: http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/management/gbr_visitation/numbers 770 permitted tourism programs (2008) operating approx 1700 vessels and aircraft across GBR Tourism operators carried 1.8 million visitors and 2.8 million transfer passengers in 2007. Tourism visitation has remained relatively stable over the last five years Tourism encompasses a wide variety of operations including; hire operations, day reef and island tours, pontoons, extended charters, motorised watersports, fishing charters, aircraft sightseeing, ferry operations, kayaking, cruise ships, super-yachts and bareboats The vast majority of tourism visitation (85 per cent) occurs in Cairns, Port Douglas and the Whitsundays (i.e. less than 8 per cent of the Marine Park). 		
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to tourism are known by managers	3	<ul style="list-style-type: none"> A good understanding exists of the condition and trends in biological, ecological and physical values underpinning MNES. Social, economic, aesthetic and cultural values that underpin MNES are poorly known. With the launch of the GBR as a National Landscape in March 2012 the Authority has sought to reinforce the mutual understanding between tourism operators and managers on values underpinning MNES in the GBR for tourism. 	<ul style="list-style-type: none"> Vulnerability Assessments Biodiversity Strategy Outlook Report 2009 Access Economics Report for RSP Project 5 due 17th Nov 2012. Context consultancy delivering a report on the identification of aesthetic values for the Strategic Assessment on the 15th December. Report on the condition and trend of aesthetic values due May 2013 under SEWPaC's OUV project plan 	Limited	Improving
CO5 The stakeholders relevant to tourism are well known by managers.	4	<ul style="list-style-type: none"> The Authority has a strong focus on ensuring tourism stakeholders are well known and engaged in the management of the Reef including: <ul style="list-style-type: none"> Consultation mechanisms such as the Tourism and Recreation Reef Advisory Committee (TRRAC) and Local Marine Advisory Committees (LMACs) provide a direct link key with stakeholders. Partnerships have been established with marine tourism associations such as Association of Marine Park Tourism Operators Association (AMPTO), Whitsunday Charter Boat Industry Association (WCBIA) and Whitsunday Bareboat Owners Association (WBOA), Tourism and Transport (TTF) and Queensland Tourism Industry Council (QTIC) Liaison with tourism permit holders through newsletters, workshops and one-on-one meetings Coordination between managing agencies (i.e. the Authority, QPWS, AMSA, MSQ, 	<ul style="list-style-type: none"> <i>Outlook Report 2009</i> <p>Management of tourism impacts management: Harriott, V., 2002, <i>Marine tourism impacts and their management on the Great Barrier Reef</i>. CRC Reef Technical Report No. 46, CRC Reef Research Centre http://www.reef.crc.org.au/publications/techreport/techrept46.htm</p> <ul style="list-style-type: none"> Harriott brochure: http://www.reef.crc.org.au/publications/brochures/marine_tourism_web.pdf Population statistics http://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0/ Increasing recreation use e.g. vessel registration: http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/management/gbr_visitation/rec_vessels/ Inquiry into workforce challenges 	Adequate	Stable

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
		<p>QBFP, Queensland Water Policy)</p> <ul style="list-style-type: none"> The Authority chairs the regional Steering Committee for the GBR National Landscape which has members from Tourism Queensland, Queensland Parks and Wildlife Service, key tourism industry representatives, and the conservation sector. 	<ul style="list-style-type: none"> http://www.aph.gov.au/house/committee/ewrwp/tourism/tor.htm Moscardo, G., et al, 2002 <i>Changing patterns of reef tourism</i>. CRC Reef Technical Report No. 49, CRC Reef Research Centre, Townsville. http://www.reef.crc.org.au/publications/techreport/pdf/Technical_Report_49.pdf Prideaux, B., and Coughlan, A., 2008, draft report, <i>Analysis of recreational and tourism use and impact on the Great Barrier Reef for managing sustainable tourism</i> 		
PLANNING					
PL1 There is a planning system in place that effectively addresses tourism	4	<ul style="list-style-type: none"> There is no strategic planning system in place for the GBR that brings together all the respective agencies that manage tourism use, in all or part of the GBR. While the tourism planning system adequately addresses the localised impacts of tourism the above management arrangements do not effectively address the larger threats posed by climate change and water quality. One of the deliverables identified in the Strategic Plan 2012-2016 is to develop a Tourism Management Strategy (deliverable 2.6) The GRBMPA released a Great Barrier Reef Tourism Climate Change Action Strategy 2009-2012 to guide action to be taken by industry to improve reef health and the viability of the marine tourism industry. A Marine Tourism Coordination Framework for Environmental Incidents is about to be released An updated Marine Tourism Contingency Plan is currently out for public comment. 	<ul style="list-style-type: none"> Vulnerability Assessments Biodiversity Strategy Outlook Report 2009 Access Economics Report for RSP Project 5 due 17th Nov 2012. Context consultancy delivering a report on the identification of aesthetic values for the Strategic Assessment on the 15th December. Report on the condition and trend of aesthetic values due May 2013 under SEWPaC's OUV project plan 	Limited	Improving
PL2 The planning system for tourism addresses the major pressures and drivers impacting on the Great Barrier Reef's values	3	<ul style="list-style-type: none"> The major risks of tourism to Reef values such as overcrowding, displacement of users, loss of amenity, impacts on species and environmental impacts are largely addressed through permitting arrangements, plans of management, site management arrangements and supporting infrastructure. The Tourism Climate Change Action Strategy clearly addresses one of the major pressure: climate change Pressures on tourism operations associated with environmental incidents are addressed in the draft (updated) Marine Tourism Contingency Plan and the Marine Tourism Coordination Framework. Pressures associated with outbreaks of Crown-of-Thorn Starfish (COTS) are being tackled through a targeted COTS control program where marine park operators work with the Authority to protect coral at sites of high tourism value, with funding (\$1.43M) from the Australian Government's <i>Caring for our Country</i> program. The Statement of Management Arrangements in the Great Barrier Reef Marine Park for Super-yacht Operations summarises the current management arrangements for super-yachts. There has been no amendments to the Plans of Management since 2008, and no new planning for areas such as Keppels and Capricorn Bunker Group which are growth areas. There is also a need for new policies and potentially regulatory review on matters such as EMC, jetskis, and aircraft. The Act does not currently allow for the use of EMC visitation data for purposes other than determining the liability of the charge, i.e. planning and compliance. 	<ul style="list-style-type: none"> TRRAC - http://www.gbrmpa.gov.au/corp_site/management/who_participates/consultation_community_involvement/rac_tourism_advisory_committee LMACs - http://www.gbrmpa.gov.au/corp_site/management/who_participates/lmac Managing agencies - http://www.gbrmpa.gov.au/onboard/home/marine_park/management_arrangements/whos_who_of_management Tourism partners webpage: http://www.gbrmpa.gov.au/our-partners/tourism-industry 	Limited	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
PL3 Actions for implementation regarding tourism are clearly identified within the plan	4	<ul style="list-style-type: none"> Tourism management arrangements have been largely implemented within the high use areas of the Reef with implementation strategies and amendment processes to these arrangements clearly defined including the engagement of the industry, local communities and other stakeholders. Plans related to tourism generally outline clear actions for implementation. 		Adequate	Stable
PL4 Clear, measurable and appropriate objectives for management of tourism have been documented	3	<ul style="list-style-type: none"> The Great Barrier Reef Marine Park Act 1975 and the GBR 25 year Strategic Plan set the objective for tourism management as ensuring tourism is managed sustainably. Clearer and more measurable objectives need to be articulated across the spectrum of managing agencies engaged in tourism management. Plans of Management, prepared for intensively used, or particularly vulnerable groups of islands and reefs, and for the protection of vulnerable species or ecological communities, provided clear, measurable and appropriate objectives for the management of tourism in these areas. The Strategic Plan 2012-2016 identifies the development of a Tourism Management Strategy as one of its deliverable (2.6) One of the Key Performance Indicators under strategic priority 3 is 'Visitors to the Great Barrier Reef using tourism operators accredited as "High Standard Operators" [%] 	<ul style="list-style-type: none"> Strategic Plan 2012-2016 http://www.gbrmpa.gov.au/_data/assets/pdf_file/0014/3281/gbrmpa-Strategic-Plan-2012.pdf Great Barrier Reef Tourism Climate Change Action Strategy 2009-2012 http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/3987/gbrmpa-CCActionStrategyFull_2011.pdf Marine Tourism Coordination Framework for Environmental Incidents (soon to be published on the GBRMPA website) DRAFT Marine Tourism Contingency Plan http://www.gbrmpa.gov.au/_data/assets/pdf_file/0004/28291/MTCP-Background-DRAFT_updated-Oct-2012.pdf 	Adequate	Stable
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address tourism	4	<ul style="list-style-type: none"> Stakeholders are engaged in planning processes through TRRAC, LMACS and other consultative mechanisms including public consultation processes. There is a high level regulatory requirement for stakeholder engagement for Zoning Plans and Plans of Management. There is a high level of stakeholder engagement through public submission requirements for policy development and public meetings for site planning. 	<ul style="list-style-type: none"> Great Barrier Reef Tourism Climate Change Action Strategy 2009-2012 http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/3987/gbrmpa-CCAActionStrategyFull_2011.pdf Marine Tourism Coordination Framework for Environmental Incidents (soon to be published on the GBRMPA website) DRAFT Marine Tourism Contingency Plan http://www.gbrmpa.gov.au/_data/assets/pdf_file/0004/28291/MTCP-Background-DRAFT_updated-Oct-2012.pdf Tourism COTS control program http://www.gbrmpa.gov.au/about-the-reef/animals/crown-of-thorns-starfish/management-strategies A Statement of Management Arrangements in the Great Barrier Reef Marine Park for Super-yacht Operations: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0017/3392/GBRMPA-ManagementArrangements-SuperyachtsMay-2011.pdf See PL1 above Management of tourism impacts management (See Key Document 2: Harriott) 	Adequate	Stable
PL6 Sufficient policy currently exists to effectively address tourism	3	<ul style="list-style-type: none"> The Authority has extensive policies in place to manage tourism but that there is a need to develop policy on emerging issues such as planning for regional growth in tourism. The Statement of Management Arrangements in the Great Barrier Reef Marine Park for Super-yacht Operations has been produced which summarises the current management arrangements for super-yachts. A position statement on the management of tourism flights in the vicinity of Magnetic Island was released in April 2009 There are policy gaps still in key areas, i.e. EMC. 	<ul style="list-style-type: none"> Great Barrier Reef Tourism Climate Change Action Strategy 2009-2012 http://www.gbrmpa.gov.au/_data/assets/pdf_file/0009/3987/gbrmpa-CCAActionStrategyFull_2011.pdf Marine Tourism Coordination Framework for Environmental Incidents (soon to be published on the GBRMPA website) DRAFT Marine Tourism Contingency Plan http://www.gbrmpa.gov.au/_data/assets/pdf_file/0004/28291/MTCP-Background-DRAFT_updated-Oct-2012.pdf Tourism COTS control program Policies, position statements and guidelines http://www.gbrmpa.gov.au/about-us/legislation-regulations-and-policies/policies-and-position-statements A Statement of Management Arrangements in the Great Barrier Reef Marine Park for Super-yacht Operations: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0017/3392/GBRMPA-ManagementArrangements-SuperyachtsMay-2011.pdf Position Statement on the management of tourism flights in the vicinity of 	Adequate	Stable

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
			<p>Magnetic Island http://www.gbrmpa.gov.au/_data/assets/pdf_file/0004/3892/gbrmpa_ManagementOfTouristFlightsInTheVicinityOfMagneticIsland_2009.pdf</p> <ul style="list-style-type: none"> • Policies - http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/management/policies <ul style="list-style-type: none"> ○ Managing Tourism Permissions ○ Managing Bareboat Operations ○ Cruise Shipping ○ Moorings ○ Environmental Impact Management • Department of Tourism, Regional Development and Industry, 2008, <i>Queensland Superyacht Strategy</i>, DTRDI • Site management arrangements - http://www.gbrmpa.gov.au/corp_site/management/site_management • Guidelines to developing policy http://www.gbrmpa.gov.au/corp_site/about_us/policies • Endorsements under the Plans http://www.gbrmpa.gov.au/onboard/home/permits/know_your_permit/offering_special_activities • GBRMPA Act and Regs http://www.gbrmpa.gov.au/corp_site/about_us/legislation_regulations • The objectives of plans of management are set out in the Great Barrier Reef Marine Park Act 1975. • http://www.epa.qld.gov.au/parks_and_forests/marine_parks/ • Zoning Plans - http://www.gbrmpa.gov.au/corp_site/management/zoning • Plans of Management: <ul style="list-style-type: none"> ○ Cairns ○ Hinchinbrook ○ Whitsundays • Site management arrangements - http://www.gbrmpa.gov.au/corp_site/management/site_management • Policies - http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/management/policies <ul style="list-style-type: none"> ○ Managing Tourism Permissions ○ Managing Bareboat Operations ○ Cruise Shipping ○ Moorings ○ Environmental Impact Management • Permits - http://www.gbrmpa.gov.au/onboard/home/permits 		
PL7 There is consistency across jurisdictions when planning for tourism	3	<ul style="list-style-type: none"> • There have been efforts to minimise duplication between jurisdictions, through a Joint permit system and joint policy initiatives. • There has been a renewed intergovernmental Agreement to replace the Emerald Agreement signed in 2009. The renewed agreement seeks to continue joint arrangements for permits, policies, compliance • The need to develop a Tourism Management Strategy is identified in the Strategic Plan 2012-2016 	<ul style="list-style-type: none"> • Great Barrier Reef Intergovernmental Agreement http://www.environment.gov.au/coasts/gbr/publications/pubs/gbr-agreement.pdf • Strategic Plan 2012-2016 (see PL1) • Complementary management (Emerald Agreement) http://www.gbrmpa.gov.au/corp_site/management/emerald_agreement 	Limited	Stable
PL8 Plans provide certainty regarding where uses may	3	<ul style="list-style-type: none"> • There is a strong legislative and regulatory framework in place for existing tourism hotspots but wider planning is reactive rather than proactive. 	<ul style="list-style-type: none"> • TRRAC http://www.gbrmpa.gov.au/our-partners/reef-advisory-committee/tourism-and-recreation-reef-advisory-committee 	Adequate	Stable

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable			<ul style="list-style-type: none"> LMACs http://www.gbrmpa.gov.au/our-partners/local-marine-advisory-committees Public consultation webpage http://www.gbrmpa.gov.au/about-us/consultation The objectives of plans of management are set out in the Great Barrier Reef Marine Park Act 1975. Guidelines to developing policy http://www.gbrmpa.gov.au/corp_site/about_us/policies 		
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address tourism	3	<ul style="list-style-type: none"> While allocation of financial resources is prioritised during budget preparation lower priority but nevertheless important projects are regularly unfunded, such as public moorings and reef protection markers. There is insufficient funding to adequately resource EMC, Planning, Permitting (e.g. tourism infrastructure), compliance and in field engagement. While the Authority's budget has remained relatively stable, since Outlook Report 2009 there has been a decline in real terms, especially as the projected income from EMC did not occur due to the decline in tourism. 	<ul style="list-style-type: none"> Budgets (including EMC) (refer Key Document 4 – Annual Report) GBRMPA Annual Operating Plans (refer Key Document 5) EMC - http://www.gbrmpa.gov.au/onboard/home/emc With few exceptions, every tourist carried by a commercial operator visiting the Marine Park contributes to management through an Environmental Management Charge (EMC). 	Adequate	Deteriorating
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address tourism	3	<ul style="list-style-type: none"> Due to shifting priorities there is inadequate human resources to meet specific tourism objectives Shifting priorities for QPWS has also meant a reduction in their staffing levels for joint Marine Parks permitting which has a flow-on effect to the Authority's permitting resources. 	<ul style="list-style-type: none"> Human resources (refer Key Document 4 – Annual Report) GBRMPA Annual Operating Plans (refer Key Document 5) GBRMPA Public interface of the permits database: http://www.gbrmpa.gov.au/corp_site/permits/pems_public/dsp_index.cfm 	Adequate	Deteriorating
IN3 The right skill sets and expertise are currently available to the managing organisations to address tourism	4	<ul style="list-style-type: none"> The human resources of the Tourism and Recreation and Program Delivery Groups possess high levels of expertise and skills in marine tourism management and impact assessment. Expertise and skills relating to tourism management was also judged to be readily available across the agency. There continue to be high levels of in-house skills related to marine tourism management and impact assessment. 		Adequate	Stable
IN4 The necessary biophysical information is currently available to address tourism	4	<ul style="list-style-type: none"> Extensive biophysical information relating to tourism use and impacts is considered to be readily available Information contained in the draft <i>Great Barrier Reef Biodiversity Conservation Strategy</i> is available to inform management actions for tourism The technical report entitled: <i>Informing the Outlook for Great Barrier Reef coastal ecosystems</i> includes information on the current status of the catchment and the threats it faces which can be useful to address tourism issues. 	<ul style="list-style-type: none"> Draft Great Barrier Reef Biodiversity Conservation Strategy http://www.gbrmpa.gov.au/_data/assets/pdf_file/0020/21728/gbrmpa-BioStrategy-DRAFT-Aug-2012.pdf Informing the Outlook for Great Barrier Reef coastal ecosystems http://www.gbrmpa.gov.au/_data/assets/pdf_file/0006/28257/Informing-the-Outlook-for-Great-Barrier-Reef-coastal-ecosystems.pdf Management of tourism impacts management (See Key Document 2: Harriott) Authority research priorities http://www.gbrmpa.gov.au/corp_site/info_services/science_management/research_priorities/database/ Birtles, A., 2008 draft, <i>Social and economic values of key marine species, particularly large fish around tourist facilities</i> Media release http://www.rrrc.org.au/publications/downloads/Media-Release-Reef-Shark-Sightings-Worth-up-to-1375.pdf 	Adequate	Improving
IN5 The necessary socio-economic information is currently available to address tourism	3	<ul style="list-style-type: none"> Expert advice sought on tourism issues continues to be sought through the Tourism and Recreation Reef Advisory Committee (TRRAC) and the in house Social Science Unit. The Authority is involved in a NERP project that is designed to capture social and economic information from Great Barrier Reef industries and coastal communities. 	<p>NERP Project 10 http://www.nerptropical.edu.au/node/31</p> <p>Economic value - (see Key Document 1: Access Economics)</p> <p>Number of snorkels and dives: Tourism Australia, 2007, <i>Queensland Scuba Diving and Snorkelling Report: Visitor Activities and characteristics</i></p> <p>Satisfaction of visitors (see Key Document 3: Young & Temperton)</p>	Limited	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
			Australian Bureau of Statistics tourism data: http://www.abs.gov.au/websitedbs/c311215.NSF/20564c23f3183fdaca25672100813ef1/2ca1bbf5a5d82db8ca2567220072eab3!OpenDocument Tourism Australia Online data http://www.tra.australia.com/aboutus.asp?lang=EN&sub=0121%20%20		
IN6 The necessary traditional (Indigenous) knowledge is currently available to address tourism	2	<ul style="list-style-type: none"> Information on significant sites, cultural activities, cultural mapping is difficult to obtain and there are significant Issues of trust between managers and Traditional Owners. Increased interaction by the Authority with Traditional Owners with new TUMRAs, an Indigenous Reef Advisory Committee and the connection of some LMACs with Traditional Owner groups has increased the Agency's access to traditional knowledge. 	<ul style="list-style-type: none"> Story place http://www.gbrmpa.gov.au/corp_site/info_services/library/resources/story_place GBRMPA sources include Cultural and Heritage Values Database and Traditional Owner Profiles database (intranet) Information on significant sites (Britnell) http://www.refworks.com/refshare/?site=016331133164800000/1005099/StoryPlace Aboriginal maryth http://www.refworks.com/refshare/?site=016331133164800000/1005099/StoryPlace 	Limited	Improving
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address tourism	4	<ul style="list-style-type: none"> Tourism operators significantly contribute to Reef management largely based around the 'Healthy Reef Healthy Industry' ideal and actively engage in the development of management arrangements and monitoring programs. Community groups such as OUCH (Association of Underwater Coral Heroes) continue to provide voluntary assistance with management of the GBR. Industry organisations such as AMPTO, CHARROA, WCBIA, WBOA, LIPS and CVA provide input to GBR management. Tour operators (via the Association of Marine Park Tourism Operators AMPTO) are participating in a COTS control program in high value tourism sites. Some tour operators have voluntarily set out to reduce greenhouse gas emissions associated with their operations within the GBR. The Authority is involved in the Social and Economic Long Term Monitoring Project (a NERP project that is designed to capture social and economic information from Great Barrier Reef industries and coastal communities - NERP Tropical Ecosystems Hub Theme 3, Program 10). 	<ul style="list-style-type: none"> NERP Project 10 http://www.nerptropical.edu.au/node/31 Tourism COTS control program (see PL2) Tourism Climate Change Case Studies: <ul style="list-style-type: none"> Reef Friendly Carbon Offsetting Sustainable Island Resorts Reducing Outboard Emissions Certification: Recognising Best Practice Green Purchasing Becoming Carbon Neutral Industry engagement: <ul style="list-style-type: none"> High Standard Tourism Program http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/how_to_choose_a_tour/certification Eyes and Ears http://www.gbrmpa.gov.au/onboard/home/marine_park/management_arrangements/eyes_ears_reporting Sightings network http://www.gbrmpa.gov.au/onboard/home/marine_park/management_arrangements/reporting Community <ul style="list-style-type: none"> Order of Underwater Coral Heroes - http://www.landcareonline.com/case_study.asp?clD=32 Low Isles Preservation Society - http://www.lips.org.au/ 	Adequate	Stable
PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of tourism	4	<ul style="list-style-type: none"> There is high level of coordination between partner agencies (the Authority & QPWS) through various formal and informal forums including the MPA Board, Tourism and Recreation Reef Advisory Committee (TRRAC), Local Marine Advisory Committees (LMACs), Joint Permit Working Group, State Wide Tourism Forum and the Whitsunday Parks Forum Ongoing tourism industry and community engagement is comprehensive with minimum standards of consultation for amendments to Plans of Management, complemented by engagement through the TRRAC and LMACs, industry associations and individual operator meetings Ongoing tourism industry engagement occurs through specific partnership 	<ul style="list-style-type: none"> TRRAC - http://www.gbrmpa.gov.au/our-partners/reef-advisory-committee/tourism-and-recreation-reef-advisory-committee LMACs - http://www.gbrmpa.gov.au/our-partners/local-marine-advisory-committees Managing agencies - http://www.gbrmpa.gov.au/our-partners/queensland-government-agencies http://www.gbrmpa.gov.au/our-partners/australian-government-agencies National Landscapes http://www.australia.com/campaigns/nationallandscapes/GreatBarrierReef.htm 	Adequate	Stable

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
		<p>programs (i.e. High Standard Operators, Eye on the Reef Monitoring, Sightings Network, Eyes and Ears compliance program)</p> <ul style="list-style-type: none"> There is regular liaison with tour operators and industry representatives on site, through policy implementation and Marine Park permits. 	<ul style="list-style-type: none"> Industry engagement <ul style="list-style-type: none"> High Standard Tourism Program http://www.gbrmpa.gov.au/visit-the-reef/choose-a-high-standard-operator Eye on the Reef Monitoring http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/our-monitoring-and-assessment-programs/eye-on-the-reef. 		
PR2 The local community is effectively engaged in the ongoing management of tourism	3	<ul style="list-style-type: none"> Local communities are engaged through representation at forums/TRRAC/Public meetings /LMACs etc There are statutory requirements for engaging with the local community in the development of management plans, zoning plans, reviews and for some permit application assessments. Since PoMs have not been amended since 2008, and very few tourism policies have been developed, there has been less engagement of the community in the ongoing management of tourism. 		Adequate	Deteriorating
PR3 There is a sound governance system in place to address tourism	4	<ul style="list-style-type: none"> Complementary management arrangements occur between the Authority and other agencies including: <ul style="list-style-type: none"> Complementary management (zoning and joint permitting with State Marine Parks) EPA, MSQ sewage regulations Cross-delegations re: compliance and enforcement Committees/forums – RACs, LMACs, etc. Assessments Regional staff – EPA, GBRMPA Joint products (maps, booklet, signs) Joint stalls at events Website Tourism operators handbook Linking with Environment Protection and Biodiversity Conservation Act The renewed Intergovernmental Agreement establishes the new arrangements, clearly articulating objectives, respective functions and accountabilities. There are still some areas where management arrangements complementarity could be improved (for example, sewage regulations no longer mirror each other, EMC). 	<ul style="list-style-type: none"> Strategic Plan 2012-2016 (see PL1) Great Barrier Reef Intergovernmental Agreement http://www.environment.gov.au/coasts/gbr/publications/pubs/gbr-agreement.pdf <p>Complementary management (Emerald Agreement) http://www.gbrmpa.gov.au/corp_site/management/emerald_agreement</p>	Adequate	Stable
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	3	<ul style="list-style-type: none"> Some level of performance monitoring is achieved through Annual Reports and AOP reporting mechanisms. One KPI relates to tourism in Strategic Plan 2012-2016 (Visitors to the Great Barrier Reef using tourism operators accredited as "High Standard Operators"[%]) 	<ul style="list-style-type: none"> Outlook Report 2009 Strategic Plan 2012-2016 (see PL1) EMC - http://www.gbrmpa.gov.au/onboard/home/emc GBRMPA public interface of the permits database: http://www.gbrmpa.gov.au/corp_site/permits/pems_public/dsp_index.cfm <ul style="list-style-type: none"> Environmental Protection Agency, 2007, <i>QPWS Visitor Monitoring Project: Whitsunday Islands</i> 	Limited	Stable
PR5 Appropriate training is available to the managing agencies to address tourism	3	<ul style="list-style-type: none"> Opportunities are available for staff to participate in general training as well as attending workshops, seminars and conferences related to tourism in the GBR. 		Limited	Stable
PR6 Management of tourism is consistently implemented across the relevant jurisdictions	3	<ul style="list-style-type: none"> Compliance and enforcement programs based on a comprehensive risk matrix approach are in place to check that tourism operators met requirements. There is a high level of coordination between relevant agencies (the Authority, EPA, AMSA, MSQ, Australian Water Police) to enforce Marine Park Acts, Regulations, Zoning Plans and Plans of Management. Joint permitting and assessment processes remain in place, overseen by the Joint Permits Working Group. The level of resourcing (refer IN1) has affected the ability to deliver on compliance and tourism policy. 	<ul style="list-style-type: none"> Joint permitting system http://www.gbrmpa.gov.au/zoning-permits-and-plans/permits Compliance and enforcement http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/field-management-of-the-great-barrier-reef-marine-park Great Barrier Reef Intergovernmental Agreement http://www.environment.gov.au/coasts/gbr/publications/pubs/gbr-agreement.pdf Compliance and enforcement programs 	Adequate	Deteriorating

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
			http://www.gbrmpa.gov.au/corp_site/management/ddm <ul style="list-style-type: none"> Coordination between agencies 		
PR7 There are effective processes applied to resolve differing views/ conflicts regarding tourism	4	<ul style="list-style-type: none"> A statutory process exists for appealing tourism permit decisions (reconsideration - internal review and then AAT – Commonwealth, Magistrates Court - QLD) Regular meetings of Government agencies, industry groups (AMPTO, etc) and advisory committees (TRRAC, LMAC, etc) are used as a forum to resolve differing views. 	<ul style="list-style-type: none"> Appeals - http://www.gbrmpa.gov.au/zoning-permits-and-plans/permits/review-rights 	Limited	Stable
PR8 Direct and indirect impacts of activities associated with tourism are appropriately considered.	4	<ul style="list-style-type: none"> Research on tourism impacts have been well documented, and focussed on better understanding the industry and its social and economic values including the value of certain species and activities to the industry. Contemporary knowledge is used in the development of tourism related plans, policies and permit assessments. 	<ul style="list-style-type: none"> NERP Project 10 http://www.nerptropical.edu.au/node/31 Outlook Report 2009 Plans of Management: <ul style="list-style-type: none"> Cairns Hinchinbrook Whitsundays Site management arrangements - http://www.gbrmpa.gov.au/corp_site/management/site_management Permits - http://www.gbrmpa.gov.au/onboard/home/permits Policies – Managing tourism permissions– http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/management/policies/permits_policy 	Limited	Stable
PR9. Consequential and cumulative impacts of activities associated with tourism are appropriately considered.	3	<ul style="list-style-type: none"> Cumulative impacts from tourism were generally dealt with through statutory instruments such as Plans of Management or policy. GBRMP Regulations provided the ability to review and if necessary, change tourism permit conditions if necessary to address emerging signs of cumulative impacts. The Authority’s policy “Managing Tourism Permissions” limited the latency associated with unused permits, and thereby potential cumulative impacts, by implementing use it or lose it principles. The draft policy on the Marine Tourism Contingency Plan for the GBR Marine Park (currently out for public consultation) address some aspects of cumulative impacts. 	<ul style="list-style-type: none"> Marine Tourism Coordination Framework for Environmental Incidents (soon to be published on the GBRMPA website) DRAFT policy on the Marine Tourism Contingency Plan http://www.gbrmpa.gov.au/about-us/consultation/current-proposals/draft-marine-tourism-contingency-plan Management of tourism impacts management (See Key Document 2: Harriott) 	Limited	Stable
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding tourism	4	<ul style="list-style-type: none"> The Authority endeavours to build on best available biophysical and monitoring research information to make relevant management decisions, including monitoring information provided by tourism operators themselves through the Eye on the Reef Program. 	<ul style="list-style-type: none"> Eye on the Reef Program (see PR1) Economic value - (see Key Document 1: Access Economics) Satisfaction - (see Key Document 3: Young & Temperton) Management of tourism impacts management (See Key Document 2: Harriott) 	Limited	Stable
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding tourism.	3	<ul style="list-style-type: none"> Outlook 2009 noted that then current research was focused on better The Authority continues to monitor emerging socio-economic issues to inform management decisions including information provided by the Bureau of Statistics on Population Growth, Tourism data provided by Tourism Australia and Tourism Queensland and the Authority’s own socio-economic program. The Authority is involved in the Social and Economic Long Term Monitoring Project (a NERP project that is designed to capture social and economic information from Great Barrier Reef industries and coastal communities - NERP Tropical Ecosystems Hub Theme 3, Program 10). 	<ul style="list-style-type: none"> A Statement of Management Arrangements in the Great Barrier Reef Marine Park for Super-yacht Operations: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0017/3392/GBRMPA-ManagementArrangements-SuperyachtsMay-2011.pdf NERP Project 10 http://www.nerptropical.edu.au/node/31 GBRMPA sources include Cultural and Heritage Values Database and Traditional Owner Profiles database (intranet) Information on significant sites (Britnell) http://www.refworks.com/refshare/?site=016331133164800000/1005099/StoryPlace Aboriginal maritime culture (Smyth) http://www.refworks.com/refshare/?site=016331133164800000/1005099/StoryPlace 	Limited	Stable
PR12 The best available	3	<ul style="list-style-type: none"> Contemporary knowledge is sourced and used in the development of tourism 	<ul style="list-style-type: none"> Indigenous Reef Advisory Committee http://www.gbrmpa.gov.au/our- 		Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding tourism.		<p>related plans, policies and permit assessments.</p> <ul style="list-style-type: none"> Standard tourism permit assessment required native title referral providing the opportunity for traditional owners and representative bodies to comment on the possible grant of a permit; and the permit assessment criteria require consideration of the need to protect the cultural and heritage values of traditional owners. In 2009 an Indigenous Reef Advisory Committee was established which is consulted on relevant tourism management decisions to provide an opportunity for inclusion of any traditional knowledge. There is an Indigenous representative on the Tourism and Recreation RAC to provide input into tourism policy development. Development of the Reef Facts for Tour Guides: Traditional Owners and the Great Barrier Reef. 	<ul style="list-style-type: none"> partners/reef-advisory-committee/indigenous-reef-advisory-committee Reef Facts for Traditional Owners http://www.gbrmpa.gov.au/data/assets/pdf_file/0016/11257/4-Traditional-Owners-of-the-GBR.pdf High Standard Tourism Program http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/how_to_choose_a_tour/certification Whale watching - http://www.environment.gov.au/coasts/publications/whale-watching-guidelines-2005.html Safety - http://www.environment.gov.au/coasts/publications/whale-watching-guidelines-2005.html Vessel standards - http://www.msq.qld.gov.au/Home/Registration/ Responsible Reef Practice - http://www.gbrmpa.gov.au/onboard/home/high_standards/responsible_reef_practices 	Limited	
PR13 Relevant standards are identified and being met regarding tourism.	3	<ul style="list-style-type: none"> The Authority's approach to tourism management in partnership with the industry and other regulators is regarded as 'best practice internationally' (e.g. Winner of World Travel and Tourism Council's Tourism for Tomorrow Award 2007). The Authority consistently applies relevant national standards as the minimum basis for management and employed Eco certification for recognising high performing tourism operations. The Authority recognises Eco certification standards to identify high standard tourism operations. Involvement in the High Standard Tourism Program continues to grow. The Authority encourages operators to achieve Climate Action Certification standards. The downturn in the tourism industry has flow on effects across most of the industry (e.g. lowering standards for tourism infrastructure, vessels, tourism products and services. Tourism operators are less able to comply with maintenance of their facilities which in turn increases the risks to the environment should extreme weather eventuate. OUV could be presented better. The Reef Discovery Course (developed by the Authority) is not being delivered to operators due to long-term resourcing of the Course. 	<ul style="list-style-type: none"> List of high standard operators: http://www.gbrmpa.gov.au/visit-the-reef/choose-a-high-standard-operator/high-standard-tourism-operation International recognition Tourism for Tomorrow Award http://www.tourismfortomorrow.com/prevwinners/2007winners.htm 	Adequate	Deteriorating
PR14 Targets have been established to benchmark management performance	3	<ul style="list-style-type: none"> The Strategic Plan 2012-2016 identifies the development of a Tourism Management Strategy as one of its deliverable (2.6) One of the Key Performance Indicators under strategic priority 3 is 'Visitors to the Great Barrier Reef using tourism operators accredited as "High Standard Operators"[currently 60%] 	<ul style="list-style-type: none"> Strategic Plan 2012-2016 (see PL1) 	Limited	Stable
OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for tourism	4	<ul style="list-style-type: none"> Management programs are generally delivered on time however some delays inevitably were outside the Authority's control, e.g. POM amendments were slow due to legislative impediments and available resources in AGS and the progress of some programs, such as COTS was dependent on priorities assigned by other agencies. The Tourism and Recreation Section's Annual Operating Plan for 2012-13 identifies the timelines for the development of the Tourism Management Strategy and the draft policy for the Marine Tourism Contingency Plan and a review of the Moorings Policy. 	<ul style="list-style-type: none"> Aiello, R., 2007, <i>Crown of Thorns Starfish Control Program on the Great Barrier Reef</i>, Association of Marine Park Tourism Operators 	Limited	Stable

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
OP2 Implementation of management documents and/or programs relevant to tourism have progressed in accordance with timeframes specified in those documents	3	<ul style="list-style-type: none"> The Strategic Plan 2012-2016 identifies the development of a Tourism Management Strategy as one of its deliverables (2.6) for 2012-13. 	<ul style="list-style-type: none"> Strategic Plan 2012-2016 (see PL1) 	Limited	Stable
OP3 The results (in OP1 above) have achieved their stated management objectives	3	<ul style="list-style-type: none"> There is a strong management framework and program in place for existing tourism hotspots but tourism management elsewhere is reactive rather than proactive. One KPI relates to tourism in Strategic Plan 2012-2016 (Visitors to the Great Barrier Reef using tourism operators accredited as "High Standard Operators"[%] 58 high standard operators carry 60% of visitors to the GBR. The 2009 assessment noted that Marine Park permissions included provisions to limit cumulative impacts including 2 visits in any 7 period; and a total of 50daysper year in any one location. The GBRMP Regulations provided the ability to review and if necessary, change tourism permit conditions if necessary to address emerging signs of cumulative impacts. The Authority's policy "Managing Tourism Permissions" limited the latency associated with unused permits, and thereby potential cumulative impacts, by implementing use it or lose it principles. 	<ul style="list-style-type: none"> High Standard Tourism Program http://www.gbrmpa.gov.au/visit-the-reef/choose-a-high-standard-operator 	Limited	Stable
OP4... to date, products or services have been produced in accordance with the stated management objectives for tourism.	4	<ul style="list-style-type: none"> The Authority's products and services related to tourism are generally implemented in accordance with objectives identified in GBRMPA Strategic Plan, Agency AOP and Section Operating Plan. Partnership Programs, such as Eye on the Reef, have been improved and integrated with updated sheets, a user-friendly data portal and the provision of in-person and online training. 	<ul style="list-style-type: none"> Strategic Plan 2012-2016 (see PL1) Eye on the Reef program http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/our-monitoring-and-assessment-programs/eye-on-the-reef Tourism Climate Change Action Strategy (see PL1) Marine Tourism Coordination Framework for Environmental Incidents (soon to be published on the GBRMPA website) DRAFT Marine Tourism Contingency Plan (see PL1) GBR as National Landscape (see PL1) Climate action products: http://www.gbrmpa.gov.au/our-partners/tourism-industry/tackling-climate-change Reef Facts for Tour Guides http://www.gbrmpa.gov.au/_data/assets/pdf_file/0016/11257/4-Traditional-Owners-of-the-GBR.pdf http://www.gbrmpa.gov.au/_data/assets/pdf_file/0012/4332/3-climate-change-2010.pdf High Standard Tourism Program http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/how_to_choose_a_tour/certification Cruise ship http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/25570/anchorages_and_transit_corridors_Nov_06.pdf Moorings - http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/management/moorings Position statements <ul style="list-style-type: none"> Coral Transplantation Indigenous Tourism Commercial Jet Ski operations at Magnetic Island Artificial Reefs Partnership programs (See 'PR1' above) VINS 	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
			http://www.gbrmpa.gov.au/onboard/home/permits/know_your_permit/nominating_your_vessel_or_aircraft/vessel_and_bareboat_identification_numbers <ul style="list-style-type: none"> • COTS http://www.gbrmpa.gov.au/corp_site/info_services/publications/sotr/latest_updates/cots/part_03.html • Onboard website http://www.gbrmpa.gov.au/onboard/home • Reef Facts for Tour Guides http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/publications-facts • Tourism newsletter http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/publications-Newsletters 		
OUTCOMES					
OC1...the relevant managing agencies are to date effectively addressing tourism and moving towards the attainment of the desired outcomes.	4	<ul style="list-style-type: none"> • Management of tourism in the GBRMP is being effectively addressed through: <ul style="list-style-type: none"> • current programs delivered by the Tourism and Recreation section • regular consultation with industry, other management agencies and the general public; • management plans and policies developed and implemented to manage the potential impacts of tourism and to ensure tourism activities are sustainable. 	<ul style="list-style-type: none"> • 	Adequate	Stable
OC2... the outputs relating to tourism are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	3	<ul style="list-style-type: none"> • Outputs are largely on track with values protected including: <ul style="list-style-type: none"> • Natural and cultural values through the Plans of Management, policies and Marine Parks permits • Some iconic and endangered species that are important to tourism through legislation • Coral through legislation for the Plan of Management areas, use of public moorings and no-anchoring areas • The launch of the GBR as a National Landscape in March 2012 enhances the prospect that the values of the GBR will continue to be recognised, advocated and protected. 	<ul style="list-style-type: none"> • GBR as National Landscape (see CO1) 	Limited	Stable
OC3... the outputs (refer OP1 & 3) for tourism are reducing the major risks and the threats to the Great Barrier Reef	4	<ul style="list-style-type: none"> • Risks to the GBR from tourism activity have been significantly reduced through management and education including: <ul style="list-style-type: none"> • Increased understanding of climate change by tourism operators and ways for operators to address climate change through certification • Improved management of tourism impacts through permit assessments • Improved environmental management systems through business process analysis • Greater compliance reporting from tourism operators through Eyes and Ears Program • Reduced conflict of use through the Zoning Plan, Plans of Management and Site Plans • Accreditation of tourism operators for high environmental standards. • Threats associated with extreme weather events and environmental incidents will be reduced through implementation of the Marine Tourism Coordination Framework and Marine Tourism Contingency Plan • The Marine Tourism COTS control program (funded under <i>Caring for our Country</i>) is a short-term response to the COTS threat. 	<ul style="list-style-type: none"> • Outlook Report 2009 • Marine Tourism Coordination Framework for Environmental Incidents (soon to be published on the GBRMPA website) • DRAFT Marine Tourism Contingency Plan (see PL1) • Marine Tourism COTS Control Program • Tourism and climate change: a framework for action http://www.ret.gov.au/tourism/policy/tourism_climate_change_framework_for_action/Pages/TourismandClimateChangeAFrameworkforAction.aspx • Ecotourism Australia climate certification http://www.ecotourism.org.au/climate_action.asp?id=1017 	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
OC4... use of the Great Barrier Reef relating to tourism is demonstrably environmentally sustainable	3	<ul style="list-style-type: none"> The 2009 assessment noted that 45 per cent of all visitors to the Reef were carried on High Standard tourism operations. This has risen to 60% in 2012. The Authority's resources are directed at ensuring tourism was sustainable by; developing tourism management arrangements, managing tourism permits, environmental impact assessments, planning, compliance and enforcement, maintenance of supporting infrastructure, research, collection of EMC and reporting. , Currently 58 certified high standard tourism operators in the Marine Park offer a total of 120 certified products. Economic downturn has resulted in limited maintenance, repair and replacement of tourism structures and facilities. Tourism operators are less able to comply with maintenance of their facilities which in turn increases the risks on the environment should extreme weather eventuate. 	<ul style="list-style-type: none"> GBRMPA High Standard Program http://www.gbrmpa.gov.au/visit-the-reef/choose-a-high-standard-operator 	Limited	Stable
OC5... use of the Great Barrier Reef relating to tourism is demonstrably economically sustainable	3	<ul style="list-style-type: none"> Given the slowing pace of world growth and the current global economic uncertainty, forecasts for inbound tourism remain moderate. In contrast, due to its recent resilience in a challenging environment, forecasts for domestic tourism have been revised upward. The decline in the tourism has forced some operators to close business and put extra pressure on remaining operators to run more cost effectively which in turn has led to an increase in non-compliance in some areas. To assist businesses in the short term, the Australian Government reduced the EMC from \$6.00 down to \$3.50 per passenger. This decline in visitation numbers and in actual EMC \$ has impacted on the Authority's budget and its management of tourism. 	<ul style="list-style-type: none"> Tourism Forecast http://www.ret.gov.au/tourism/Documents/tra/Forecasts/2012/2012ForecastIssue1.pdf <p>Economic value - (see Key Document 1: Access Economics)</p>	Limited	Deteriorating
OC6... use of the Great Barrier Reef relating to tourism has demonstrably enhanced community understanding and/or enjoyment	4	<ul style="list-style-type: none"> Outlook 2009 noted that 80% of visitors to the Reef were either satisfied or very satisfied with the experience; that there was improved understanding of tourism and its management arrangements through greater transparency regarding management; that improved presentation of the Reef to visitors was leading to greater understanding of the Marine Park; and there was greater understanding of the threats to the Marine Park by tourism operators. There has been no new research on visitor satisfaction. The Reef HQ Aquarium provides an avenue to enhance community understanding of the GBR. It surpassed a 20 year visitation record in 2011-12 receiving 145,000 visitors and has consistently met visitor expectations while promoting World Heritage values of the GBR to a wide range of visitors. 	<ul style="list-style-type: none"> Satisfaction - (see Key Document 3: Young & Temperton) 	Limited	Stable
OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address tourism. .	4	<ul style="list-style-type: none"> A strong and active partnership with the tourism industry has been maintained with tourism actively engaged and supportive of the management of the Reef and the Authority. The administrative burden on tourism operators has been reduced through simplification and increased flexibility of tourism management arrangements. LMACs, RACs, 	<ul style="list-style-type: none"> TRRAC - http://www.gbrmpa.gov.au/our-partners/reef-advisory-committee/tourism-and-recreation-reef-advisory-committee LMACs - http://www.gbrmpa.gov.au/our-partners/local-marine-advisory-committees 	Adequate	Stable

Topic: Defence

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to Defence are understood by managers.	4	<ul style="list-style-type: none"> Defence activities and movements occur throughout the region. Three Defence Training Areas are within the GBR: Shoalwater Bay, Cowley Beach and Halifax Bay. Shoalwater Bay, Tully, High Range and Mt Stuart Training Areas also include significant catchment areas which drain into the GBR. MNES in all these areas have been well documented. The Department of Defence (DoD) contributes to providing information on values that underpin MNES, in particular seagrass, turtles and dugong as well as Wetlands of International Significance and migratory shorebirds. DoD has commissioned studies into several MNES: <ul style="list-style-type: none"> Seagrasses, mangroves and saltmarshes Marine fauna Migratory shorebirds 	<ul style="list-style-type: none"> Relevant to all sections of Defence GBRMPA website on Defence: http://www.gbrmpa.gov.au/about-the-reef/Managing-multiple-uses/defence Relevant to all sections of Defence Strategic environmental assessment of Defence activities in the GBRWHA: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0013/7051/strategic_env_assessment_defence.pdf.pdf Relevant to all sections of Defence 2010-2014 Defence Strategic Environmental Plan: http://www.defence.gov.au/Environment/strat_plan.pdf 2011 Talisman Sabre Public Environment Report: http://www.defence.gov.au/opEx/exercises/ts11/docs/PER.pdf DoD information on MNES (seagrasses, saltmarshes and mangroves): http://www.defence.gov.au/environment/swbta/Defence%20SOE%20report_chapter%207f.pdf DoD information on MNES (marine fauna): http://www.defence.gov.au/environment/swbta/Defence%20SOE%20report_chapter%209f.pdf Shoalwater Bay State of Environment Report http://www.defence.gov.au/environment/swbta_report.htm 	Adequate	Stable
CO2 Direct and indirect impacts associated with Defence are understood by managers.	4	<ul style="list-style-type: none"> Risks are well understood by managers. Most of the huge range of defence activities that occur within the GBR are managed under the Strategic Environmental Assessment developed by DoD in collaboration with the Authority. This document identifies the direct and indirect impacts associated with a specific suite of defence activities and details how they will be mitigated. Reef Vessel Tracking System monitoring of Royal Australian Navy (RAN) by vessels (and visiting overseas ships) occurs (RAN can be exempt but chooses to engage). All RAN vessels run on diesel (no bunker fuel on board). There is believed to be very low potential for nuclear-powered vessel accident and this threat is included in an existing risk assessment. All exercises are thoroughly governed by extensive and intensive risk assessment. In 2012 the DoD funded the Authority to undertake a research project: <i>Assessing aspects of the health of the seagrass meadows and green turtle population in Shoalwater Bay</i> which highlighted the status of turtles in Shoalwater bay and quantified the type and extent of impacts on them (e.g. number with propeller damage). For activities that fall outside the Strategic Environmental Assessment, the DoD requires a part 5 directions in accordance with part 5.2 of the Zoning Plan. Several of these were issued in 2012. The Part 5 Directions issued by the Authority take into account the potential impacts of the activities (direct and indirect) and direct the DoD to undertake activities in a prescribed manner with reporting and evaluation post activity also required. The indirect impacts associated with noise are not well understood and research is needed to determine these impacts, especially cumulative aspects, for large exercises. 	<ul style="list-style-type: none"> 2010-2014 Defence Strategic Environmental Plan: http://www.defence.gov.au/Environment/strat_plan.pdf 2012 Research Project Plan Shoalwater Bay Draft Research Project outputs Part 5 direction for Talisman Sabre 2011 and Environmental Management Plan Risk Assessment on GBR Website 	Adequate	Improving

CO3 Consequential and cumulative impacts associated with Defence are understood by managers.	4	<ul style="list-style-type: none"> Impacts including cumulative impacts are relatively well known and are documented in the Strategic environmental assessment. Compounding of impacts is limited by the remoteness and isolation of sites and the low to moderate temporal intensity of Defence exercises, coupled with low spatial intensity The DoD, the Authority and QPWS are considering remaining issues with underwater explosive activities in the waters surrounding Triangular Island and the impacts from noise on marine life. The indirect impacts associated with noise are not well understood and research is needed to determine these impacts, especially cumulatively for large exercises. 	Strategic environmental assessment of Defence activities in the GBRWHA: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0013/7051/strategic_env_assessment_defence.pdf	Adequate	Stable
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to Defence are known by managers	4	<ul style="list-style-type: none"> The current condition and trend of some species in defence areas are well known (e.g. turtles and seagrass), however in general there is still a paucity of information on the current condition and trend of MNES in defence areas. Further partnerships with DoD are required to monitor the condition and trend of MNES in Defence areas (before, during and after exercises). 	<ul style="list-style-type: none"> Shoalwater Bay draft research project outputs. Shoalwater Bay SOE report http://www.defence.gov.au/environment/swbta_report.htm 	Adequate	Stable
CO5 The stakeholders relevant to Defence are well known by managers.	4	<ul style="list-style-type: none"> DoD liaises with the Authority and QPWS closely in relation to its activities in the GBRR. Local stakeholders are involved in an Environmental Advisory Committee (EAC) for each Training area Public Environment Reports are put out for public comment prior to major Defence exercises, and liaison with stakeholders is extensive. The 2012 Shoalwater Bay research project involved capacity building of local Defence staff and Traditional Owners in standard turtle research methodologies 	<ul style="list-style-type: none"> 2011 Talisman Sabre Public Environment Report: http://www.defence.gov.au/opEx/exercises/ts11/docs/PER.pdf Stakeholders identified in the Defence Environmental Strategic Plan 	Adequate	Improving
PLANNING					
PL1 There is a planning system in place that effectively addresses Defence activities	4	<ul style="list-style-type: none"> The ADF Doctrine and the Defence Strategic Environmental Plan outline responsibilities for the planning and implementation of environmental protection measures during the planning and conduct of exercises, in terms of protecting areas for future use, maintaining public confidence and compliance with statutory requirements including the <i>Great Barrier Reef Marine Park Act 1975</i> and the <i>Environment Protection and Biodiversity Conservation Act 1999</i>. The Strategic Environmental Assessment Strategic Environmental Assessment of Defence Activities in the Great Barrier Reef World Heritage Area provides more detailed planning systems. 	<ul style="list-style-type: none"> 2010-2014 Defence Strategic Environmental Plan: http://www.defence.gov.au/Environment/strat_plan.pdf 	Adequate	Stable
PL2 The planning system for Defence addresses the major pressures and drivers impacting on the Great Barrier Reef's values	4	<ul style="list-style-type: none"> The Defence training areas within the GBRMP have undergone rigorous environmental assessments. These training areas have comprehensive Environmental Management Plans with stringent environmental protocols to protect environmentally sensitive features within or adjacent to training areas, mitigating the potential for detrimental physical impact in the course of conducting training all-year-round. The Part 5 Direction for Talisman Sabre 2011 operations addressed the major pressures exerted on seagrasses (and dugong and turtles) from flooding and cyclones. Additional planning was undertaken to address these additional pressures. The Part 5 Direction for the Triangular Island Maritime Warfare Facility Construction 2012 considered the planning system in place to ensure the construction activities on the Commonwealth Triangular Island would avoid or mitigate impacts. 	<ul style="list-style-type: none"> Defence webpage of Talisman Sabre exercise http://www.defence.gov.au/exercises/ts07/environment.htm Part 5 direction for Triangular Island Maritime Warfare Facility Construction (included Part 5 direction, letter to Dod, Environmental Clearance Certificate and the Environmental Review and Management framework) 	Adequate	Stable
PL3 Actions for implementation regarding Defence are clearly identified within the plan	4	<ul style="list-style-type: none"> Procedures to control possible environmental impacts are in place and are supplemented by Standard Operating Procedures and site-specific environmental controls that apply to all ongoing training exercises conducted by the ADF. The Maritime Exercise Areas Environmental Management Plan details environmental mitigation and reporting procedures for all activities occurring at 	<ul style="list-style-type: none"> Zoning Plan – notification when using Training Areas (including “Notice to Mariners” etc NOTAM, “Notice to Airmen) EMPs for activities and Training areas ECCs (Environ Clearance Certificates) Management arrangements for Defence in GBRWHA (web) Strategic Environmental Assessment – planning framework (web) 	Adequate	Stable

		<ul style="list-style-type: none"> sea. Major exercises all have comprehensive planning (e.g. 18 month lead time for Talisman Sabre) 	<ul style="list-style-type: none"> Environmental Management System – hierarchy of plans ISO/14001 		
PL4 Clear, measurable and appropriate objectives for management of Defence activities have been documented	4	<ul style="list-style-type: none"> Planning priorities are clearly identified through Risk Assessment – ERT (Environmental Risk Tool) Clear objectives in Environmental Management System are reviewed annually. Post-exercise reporting by DoD ensures that lessons are learnt. 	<ul style="list-style-type: none"> 2010-2014 Defence Strategic Environmental Plan: http://www.defence.gov.au/Environment/strat_plan.pdf 	Adequate	Stable
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address Defence	4	<ul style="list-style-type: none"> Consultation was undertaken as part of the Strategic Environmental Assessment Public consultation for major exercises is comprehensive. The PER is put out for public comment (complies with EPBC requirements). Environmental Advisory Committees have been established at the local level for all three training areas. 	<ul style="list-style-type: none"> Defence report of Talisman Saber exercise http://www.defence.gov.au/exercises/ts07/environment.htm PER (117 pages) http://www.defence.gov.au/exercises/ts07/pdf/TS07PERFinalApril07.pdf 	Adequate	Stable
PL6 Sufficient policy currently exists to effectively address Defence	4	<ul style="list-style-type: none"> While there is no ‘formal’ Defence policy in the Authority, very comprehensive management arrangements are in place covering DoD activities. DoD has specific policies relating to environmental management, including a commitment to excellence in environmental stewardship 		Adequate	Stable
PL7 There is consistency across jurisdictions when planning for Defence	4	<ul style="list-style-type: none"> A generally consistent approach is applied across jurisdictions 	<ul style="list-style-type: none"> 2010-2014 Defence Strategic Environmental Plan: http://www.defence.gov.au/Environment/strat_plan.pdf 	Adequate	Stable
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	4	<ul style="list-style-type: none"> The Strategic Environmental Assessment (SEA) of Defence activities in the GBRWHA is currently undergoing a review. The Authority is an involved stakeholder. The review is expected to update the SEA to reflect changes to status and trend of species and habitats as well as changes in the activities being conducted by DoD. The revised SEA will also clarify which DoD activities require a Part 5 direction. 		Adequate	Improving
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address Defence	4	<ul style="list-style-type: none"> The Authority does not allocate specific financial resources to manage Defence Activities. The management of Defence activities is undertaken by the Environmental Assessment and Management group which is also responsible for Ports & Shipping and Development. Defence has adequate resources to manage and report on its own environmental activities 	<ul style="list-style-type: none"> <u>Environmental Section</u> of Annual Reports PER (2004) – National Defence 	Adequate	Deteriorating
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address Defence	3	<ul style="list-style-type: none"> Given the increase in coastal development, ports and shipping, the resources required to manage defence activities are lacking. Defence is not managed well within the Authority due to the lack of resources and competing priorities. The Authority’s planning unit has been reduced to 1FTE from 3 FTE. Human resources within Defence are adequate 		Adequate	Deteriorating
IN3 The right skill sets and expertise are currently available to the managing organisations to address Defence	3	<ul style="list-style-type: none"> The right skill set and expertise exists within a small number of staff (2 maximum) in GBRMA. 		Adequate	Deteriorating
IN4 The necessary biophysical information is currently available to address Defence	4	<ul style="list-style-type: none"> Best available biophysical information is available e.g. Seagrass mapping 		Adequate	Stable
IN5 The necessary socio-economic information is currently available to address Defence	N/A	<ul style="list-style-type: none"> Inability to compare total economic value of Defence (e.g. Compare to tourism, fishing, ports) Defence activities occur throughout the Marine Park (e.g. off Townsville, Shoalwater Bay, Triangular Island etc) and overlap with other users (e.g. campers, fishers, Traditional Owners). The DoD notify members of the community about their operations (e.g. Notice to Mariners, radio etc) but the Authority has very little understanding of how 		Not applicable	Not applicable

		defence activities affect/interact with soci-economic values.			
IN6 The necessary traditional (Indigenous) knowledge is currently available to address Defence	3	<ul style="list-style-type: none"> There is good understanding of Traditional knowledge for SWB; somewhat less for Cowley Bay/Halifax Bay and other areas 	Shoalwater Bay SOE chapter 3 http://www.defence.gov.au/environment/swbta_report.htm	Limited	Deteriorating
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address Defence	3	<ul style="list-style-type: none"> Some conservation volunteer work is undertaken in DoD areas Vicarious 'use' is arguably relevant; i.e. community appreciation and support for Defence 'stewardship' of the areas. Key environmental tasks are outsourced to consultants according to a certified quality management system External experts reviewed all sections of the Shoalwater Bay SOE. 		Adequate	Stable
PROCESSES					
PR1 The main stakeholders &/or industries are effectively engaged in the ongoing management of Defence	4	<ul style="list-style-type: none"> DoD is committed to complying with relevant federal and state legislation. The preparation of initial environmental reviews, environmental management plans and environmental clearance certificates are tools that Defence uses for routine or low risk activities. 	2010-2014 Defence Strategic Environmental Plan: http://www.defence.gov.au/Environment/strat_plan.pdf	Adequate	Stable
PR2 The local community is effectively engaged in the ongoing management of Defence	4	<ul style="list-style-type: none"> Stakeholders are effectively engaged through EAC's Other existing consultation mechanisms could be put to more effective use e.g. LMACs/RACs. 	Defence website on consultation http://www.defence.gov.au/Capability/jctc/Community_Consultation.asp	Adequate	Stable
PR3 There is a sound governance system in place to address Defence	4	<ul style="list-style-type: none"> The Authority and the QPWS work collaboratively with the DoD in accordance with the IGA to manage defence activities within the Marine Parks. 	<i>As above</i>	Adequate	Stable
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	3	<ul style="list-style-type: none"> Good performance monitoring is in place for major exercises There is a sound management agreement between Authority and DoD, but there is a need for explicit performance indicators. Some work has been undertaken to develop more specific indicators in line with an Environmental Management System. Cumulative impacts monitoring is not comprehensive but some is undertaken e.g. seagrass, water quality inputs to GBR State of Environment reports for Defence training facilities are undertaken but are not on a regular or frequent basis 	Wen Wu, Xiao Hua Wang, 2011, Development of an Environmental Performance Indicator Framework to Evaluate an Environmental Management System for Shoalwater Bay Training Area, Queensland, <i>Australia Labour in Land and Management Journal</i> 11	Adequate	Stable
PR5 Appropriate training is available to the managing agencies to address Defence	4	<ul style="list-style-type: none"> Defence undertakes induction training using /DVD's/awareness cards for users Defence do briefings for specialist areas and activities e.g. clearance divers on marine wildlife Further training of more Authority and DoD staff is needed, as many staff that have the training have either moved on and/or the procedures have changed over time and re-training has not occurred. 	W. Wu, X. H. Wang, and D. Paull, 2011. Evaluating the Australian Defense Force Environmental Awareness Training at Shoalwater Bay Training Area, Queensland, Australia World Academy of Science, Engineering and Technology vol 59	Adequate	Deteriorating
PR6 Management of Defence is consistently implemented across the relevant jurisdictions	4	<ul style="list-style-type: none"> The partnership between Defence and the Authority involves staff at all levels – for example there is an annual meeting of Defence and Authority officers The risk assessment process addresses differing views (if any) 		Adequate	Stable
PR7 There are effective processes applied to resolve differing views/ conflicts regarding Defence	4	<ul style="list-style-type: none"> The partnership between Defence and the Authority involves staff at all levels e.g. annual meeting of Defence/the Authority officers The risk assessment process addresses differing views (if any) 		Adequate	Stable
PR8 Direct and indirect impacts of activities associated with Defence are appropriately considered.	4	<ul style="list-style-type: none"> Most defence activities that occur within the GBRR are managed under the Strategic Environmental Assessment that the DoD developed in collaboration with the Authority. This document identifies the direct and indirect impact associated with a specific suite of defence activities and details how they will be mitigated. For activities that fall outside the Strategic Environmental Assessment, the DoD requires a part 5 direction in accordance with part 5.2 of the Zoning Plan. Several 	<ul style="list-style-type: none"> 2012 Research Project Plan Shoalwater Bay Draft Research Project outputs Part 5 direction for Talisman Sabre 2011 and Environmental Management Plan Strategic Environment Assistance in GBRWHA (web) 	Adequate	Stable

		<p>of these were issued in 2012 (see supporting evidence). The Part 5 Directions issued by the Authority take into account the potential impacts of the activities (direct and indirect) and direct the DoD to undertake activities in a certain manner with reporting and evaluation post activity also required.</p> <ul style="list-style-type: none"> • Where Defence undertakes environmental impact assessments Defence uses specialist environmental consulting companies who work with Defence to ensure environmental risks are identified and managed on the ground. • Where it is unlikely that significant environmental impacts will arise, Defence considers and manages the effects of these activities on the environment through an internal protocol known as an Environmental Clearance Certificate. • The indirect impacts associated with noise are not well understood and research is needed to determine these impacts, especially cumulative impacts of large exercises. • There are some remaining issues with underwater explosive activities in the waters surrounding Triangular Island and the impacts from noise on marine life. These issues are being considered by the DoD, the Authority and QPWS. 			
PR9. Consequential and cumulative impacts of activities associated with Defence are appropriately considered.	4	<ul style="list-style-type: none"> • The indirect impacts associated with noise are not well understood and research is needed to determine these impacts, especially cumulative impacts of large exercises. • There are some remaining issues with underwater explosive activities in the waters surrounding Triangular Island and the impacts from noise on marine life. These issues are being considered by the DoD, the Authority and QPWS. 		Adequate	Stable
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding Defence	4	<ul style="list-style-type: none"> • The best available information is used for decision-making 		Adequate	Stable
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding Defence	NA	<ul style="list-style-type: none"> • Inability to compare total economic value of Defence (e.g. Compare to tourism, fishing, ports) • No alternative Training areas to Shoalwater Bay – so it has irreplaceable economic value as a Training area. 		Not applicable	Not applicable
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding Defence	3	<ul style="list-style-type: none"> • There is good understanding of Traditional knowledge for SWB, but somewhat less for Cowley Bay/Halifax Bay 	Shoalwater Bay SOE chapter 3 http://www.defence.gov.au/environment/swbta_report.htm	Limited	Deteriorating
PR13 Relevant standards are identified and being met regarding Defence	4	<ul style="list-style-type: none"> • Reporting following a Part 5 direction ensures performance monitoring • There is good performance monitoring for big exercises. • No incidents threatening GBR values have occurred. • High standards are being met with regards to environmental management. • Issues associated with noise are still unknown. • There is a good management agreement between DoD and the Authority but there is a need for explicit performance indicators • The monitoring of cumulative impacts is not comprehensive but some relevant monitoring does occur e.g. seagrass, water quality inputs to GBR 		Adequate	Stable
PR14 Targets have been established to benchmark management performance	3	<ul style="list-style-type: none"> • The Environmental Clearance Certificates for low-impact Defence activities set some performance indicators. However an ecosystem approach to target setting within defence areas has not been implemented (e.g. seagrass cover maintained at X% by 2014). 		Adequate	Stable
OUTPUTS					
OP1 To date, the actual	4	<ul style="list-style-type: none"> • Environment outputs are generally good or excellent demonstrating an overall 	<ul style="list-style-type: none"> • Some measures of effectiveness past exercise reporting 	Adequate	Stable

management program (or activities) have progressed in accordance with the planned work program for Defence		<p>lack of pressure from DoD activities on the GBR marine environment.</p> <ul style="list-style-type: none"> Defence has responded to community concerns/data e.g. Halifax Bay bombing no longer use HE 	<ul style="list-style-type: none"> Defence report of Talisman Saber exercise http://www.defence.gov.au/exercises/ts07/environment.htm 		
OP2 Implementation of management documents and/or programs relevant to Defence have progressed in accordance with timeframes specified in those documents	4	<ul style="list-style-type: none"> Management documents and/or programs have been implemented in accordance with timeframes. Where timeframes are not met the Authority is notified. 		Adequate	Stable
OP3 The results (in OP1 above) have achieved their stated management objectives	3	<ul style="list-style-type: none"> Results have generally achieved stated objectives. 		Adequate	Stable
OP4... to date, products or services have been produced in accordance with the stated management objectives for Defence	4	<ul style="list-style-type: none"> Products and services generally produced as per objectives. 		Adequate	Stable
OUTCOMES					
OC1...the relevant managing agencies are to date effectively addressing Defence and moving towards the attainment of the desired outcomes.	4	<ul style="list-style-type: none"> Defence has been able to train and the GBRMP has not been significantly impacted. There have been some localised short term impacts but these have been well managed. There is good compliance and enforcement of Defence activities and all other users in all three training areas The completion of the review of SEA is expected to achieve the desired outcomes. 		Adequate	Stable
OC2... the outputs relating to Defence are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	4	<ul style="list-style-type: none"> Provided DoD continue to engage with the Authority and modify their activities in response to extreme weather and incidents, the outputs will be kept on track to ensure the values of the GBR are protected. Greater understanding of the GBRMP Act and Authority's national and international responsibilities and how these interact with the DoD responsibilities would give more certainty of success. Completion of the review of SEA is expected to enhance prospects for success over the planning period. 	Shoalwater Bay SOE http://www.defence.gov.au/environment/swbta_report.htm	Adequate	Stable
OC3... the outputs (refer OP1 & 3) for Defence are reducing the major risks and the threats to the Great Barrier Reef	4	<ul style="list-style-type: none"> The comprehensive 'risk' assessment processes ensure that risks/threats are reduced to minimal levels 		Adequate	Stable
OC4... use of the Great Barrier Reef relating to Defence is demonstrably environmentally sustainable	4	<ul style="list-style-type: none"> Outcomes are on track to ensure sustainability and the Authority's input to the review of SEA should enhance certainty. 			
OC5... use of the Great Barrier Reef relating to Defence is demonstrably economically sustainable	NA	<ul style="list-style-type: none"> National security and defence imperatives are of a high priority 		Not applicable	Not applicable
OC6... use of the Great Barrier Reef relating to Defence has demonstrably enhanced community understanding and/or enjoyment	4	<ul style="list-style-type: none"> While defence areas are generally off limits for the general public, the fact that defence activities are well managed and confined to these areas means that community enjoyment of other adjoining areas is assured. Defence activities enhance the Aboriginal and Torres Strait Islander communities' enjoyment and understanding because the remoteness and inaccessibility of the defence areas assists with protection of their traditional use and values. 		Adequate	Stable

OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address Defence	4	<ul style="list-style-type: none"> • Good partnerships are established with local communities and stakeholders. 		Adequate	Stable
---	---	--	--	----------	--------

Topic: Research

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to research are understood by managers.	4	<ul style="list-style-type: none"> The importance of research to better understand the MNES and inform management to protect the underpinning values is well understood by the Authority's managers. Most research has focused on coral reefs and high profile species (e.g. protected, threatened, and commercially important). There is some increase in focus on the social/economic drivers of various activities associated with the GBR and this is now a growing area of research, most of which takes places outside the GBRMP and hence outside the management arrangements described here. The GBR is known internationally as a premiere site in which to conduct scientific studies. Many of the island research stations (e.g. Lizard Island in particular) attract researchers from other parts of the world that are keen to study coral reef ecosystems in a relatively undisturbed state. The Authority is updating its 'Scientific Information Needs for Management of the GBRMP' as a key input to the development of an integrated monitoring framework for the GBRWHA (2012-13). 	<p>Science Information Needs document on GBRMPA website: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3376/GBRMPA_Scientific_Information_Needs.pdf</p> <p>Vulnerability assessments on GBRMPA website: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/draft-biodiversity-conservation-strategy/vulnerability-assessments</p>	Adequate	Improving
CO2 Direct and indirect impacts associated with research are understood by managers.	4	<ul style="list-style-type: none"> The majority of research occurs at the four major research stations located at: Lizard Island, Orpheus Island, One Tree Island and Heron Island with diffuse research conducted at other locations. Climate change effects on marine environments may change the focus of research conducted on the GBR. If the GBR becomes one of the last coral reef ecosystems in relatively good condition, it might have increased value for research as scientists trial acceptable methods for adaptation or mitigation of climate change impacts. 		Adequate	Improving
CO3 Consequential and cumulative impacts associated with research are understood by managers.	3	<ul style="list-style-type: none"> Cumulative impacts around scientific research stations – from cumulative collections are not managed well. Some research stations collect information on what is taken by each researcher, but this is not sourced and used by the Authority. Researchers must submit to the Authority a species collection form at the cessation of their permit which is usually after a 3 year period – the standard duration of a research permit (not every year – therefore there can be a 3 year lag in getting this information). The Authority has a Reef Permits System Permits database however it is currently unable to assist in the management of cumulative research use. There is no mechanism to register who is collecting what and where which might enable sharing of specimens between researchers to reduce collections. 		Adequate	Stable
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to research are known by managers	3	<ul style="list-style-type: none"> Currently the research permit assessor is only able to determine current condition and trend from published literature, monitoring data and web based information (see eReefs below). The five-year eReefs project commenced in January 2012 to provide vital tools for decision making and communication spanning the entire GBR spectrum - from catchment to ocean - across space and time. eReefs uses the latest technologies to collate data, develop new and integrated modelling and provide powerful visualisation, communication and reporting tools. The eReefs Project is a collaboration between the Great Barrier Reef Foundation, the Bureau of Meteorology, CSIRO, the Australian Institute of Marine Science and the Queensland Government. the Authority is a key stakeholder, has provided its GIS data for this project and sits on the User Reference Group. It will develop four main packages to assist research and management: <ul style="list-style-type: none"> Enhancing monitoring efforts 	http://www.bom.gov.au/environment/activities/coastal-info.shtml	Adequate	Improving

		<ul style="list-style-type: none"> • Interoperable data and information systems • Operational catchment and marine modelling • Reporting and visualisation framework 			
CO5 The stakeholders relevant to research are well known by managers.	4	<ul style="list-style-type: none"> • Eight scientific institutions that are accredited to undertake limited impact research in the Marine Park without the need for a permit. • There is a good understanding of other permitting requirements for researchers accessing the GBR (e.g. EHP, NPRSR, DPIF, SEWPAC requirements) 		Adequate	Stable
PLANNING					
PL1 There is a planning system in place that effectively addresses research	3	<ul style="list-style-type: none"> • The effectiveness of the planning system for scientific research is constrained by limited knowledge of the cumulative impact of collection undertaken for research. • Regulations need to be reviewed and updated. • Guidelines for justification of research in MNPZ/ BZ/PZ and issuing of permits should be reviewed and updated to identify priorities for management (as set out in the Information Needs document) and to ensure that proposed research activities are sustainable. • The Authority has limited capacity for compliance monitoring of research projects and the Reef Permits System data base does not adequately manage collection data. • In addition to permitted research, limited impact research, which is specifically defined in the GBRMP Regulations 1983 (the Regulations), can be undertaken by a researcher if they are from an institution that has been accredited by the Authority. These arrangements are complemented under the Queensland GBR (Coast) Marine Park Zoning Plan. • Limited impact research under accreditation does not require a permit. • The Authority has attempted to develop Environmental Management Plans (EMP) for each scientific research zone around the research stations to manage research within the high use areas. Orpheus Island was the first research station to have an EMP in place and Heron Island SRZ has a draft EMP. • The policy on Managing Scientific Research in the GBRMP and the related regulations that deal with limited impact research take limits (regulations 19-20) have not been updated since 2003 and has not been fully implemented. . • Cumulative impacts around scientific research stations – from cumulative collections are not managed well. • Projects in the GBR funded under the Australian Government Sustainable Regional Development Program (2012-2013) to protect MNES include: <ul style="list-style-type: none"> • Improved dredge material management of the GBR Region (the Authority managing) • Identification of impacts and proposed management strategies associated with offshore ship anchorages in the GBRWHA (the Authority managing) • Economic contribution of the Great Barrier Reef (the Authority managing) • Great barrier Reef resilience decision framework (the Authority managing – AIMS is the consultant) • Great Barrier Reef Coastal Ecosystems Assessment Framework (the Authority is undertaking this) • Defining aesthetic values of the GBRWHA (SEWPaC managing with input from the Authority) • Survey of historical information that exists in the GBR between 1901 – 1981 (SEWPaC managing with input from the Authority) • An additional project the “Great Barrier Reef World Heritage Area Integrated Monitoring Program” is a program that brings together expertise from the Marine Biodiversity Hub, Tropical Ecosystems Hub, Environmental Decisions Hub, and the Authority to build on existing work relating to marine ecosystem health monitoring. 	<ul style="list-style-type: none"> • Policy on Managing Scientific Research in the GBRMPA. • Scientific Information Needs • Reef Permits System data base. <p>http://www.environment.gov.au/sustainability/regional-development/index.html</p> <ul style="list-style-type: none"> ○ Policy on Managing Scientific Research in the Great Barrier Reef Marine Park http://www.gbrmpa.gov.au/_data/assets/pdf_file/0006/7872/research_policy_2004.pdf ○ Accredited Educational and Research Institutions http://www.gbrmpa.gov.au/corp_site/permits/research_permits/inst_accreditation ○ Example MOU for accreditation of education and research institutions http://www.gbrmpa.gov.au/_data/assets/pdf_file/0016/8413/sample_mou.pdf ○ GBRMP Zoning Plan & Maps of Scientific Research Zones ○ 5. Environmental Research Ethics Advisory Committee http://www.gbrmpa.gov.au/corp_site/permits/research_permits/attachment_a 	Adequate	Stable

PL2 The planning system for research addresses the major pressures and drivers impacting on the Great Barrier Reef's values	3	<ul style="list-style-type: none"> The Great Barrier Reef Marine Park Zoning Plan came into effect on the 1 July 2004. Managing Scientific Research in the Great Barrier Reef Marine Park policy underpins research in the Zoning Plan. There may not be a need for individual researchers to obtain Great Barrier Reef Marine Park permissions if they are undertaking Limited Impact Research and their parent organisations are accredited educational or research institutions. Any organisation wishing to become accredited would have to meet specific performance and reporting criteria designed to demonstrate adoption of appropriate environmental practices and standards set by the GBRMPA. 		Adequate	Stable
PL3 Actions for implementation regarding research are clearly identified within the plan	4	<ul style="list-style-type: none"> Policy on Managing Scientific Research clearly identifies actions for the Authority to undertake in regard to the management of scientific research (e.g. The Authority will consider research activities following an environmental assessment in accordance with the Regulations etc.). The Authority can accredit scientific institutions if they enter into a Memorandum of Understanding and adopt an approved Code of Conduct. This Code of Conduct directs staff and students of the institution in how to conduct their science in the Marine Park in an environmentally sustainable way. Research permits generally have a range of conditions under which the activity may occur. 	Policy on Managing Scientific Research in the Great Barrier Reef Marine Park.	Adequate	Stable
PL4 Clear, measurable and appropriate objectives for management of research have been documented	4	<ul style="list-style-type: none"> The Authority has limited capacity to monitor compliance with permits. The basic objective of the Zoning Plan is that all researchers in the Marine Park hold and comply with a permit or Letter of Authority. The draft Biodiversity Conservation Strategy provides direction for research and improvements in knowledge to assist biodiversity protection. Researchers acting under permit and accreditation must provide a collection report to the Authority and remove all equipment at the cessation of their permit/study. Annual reports from institutions are also required under the accreditation MOU. 	The Great Barrier Reef Zoning Plan.	Adequate	Stable
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address research	3	<ul style="list-style-type: none"> For some research projects, scientists are encouraged to engage LMACs and/or develop communication strategies to explain their studies to the broader community. 		Adequate	Stable
PL6 Sufficient policy currently exists to effectively address research	3	<ul style="list-style-type: none"> The Policy and Regulations need reviewing and updating to ensure effectiveness. Within the Authority if developing new policies or position statements additional staff are allocated in the form of a working group. The independent Environmental Research Ethics Advisory Committee which was used to review potentially controversial research projects to has been dissolved. 		Limited	Deteriorating
PL7 There is consistency across jurisdictions when planning for research	3	<ul style="list-style-type: none"> The former Environmental Protection Agency (EPA) co-accredited the 8 institutions that are currently accredited by the Authority. This removes the need for researchers to get an additional permit under State legislation when they are conducting 'limited impact research' as per the Regulations. If researchers are studying or taking samples of marine plants, they are also required to obtain a research permit from the Queensland Government in addition to an Authority permit. If researchers plan to export/take out of the country certain specimens then they may also require an export permit from the Commonwealth Government. Researchers that intend to use marine products collected within the GBRMP for biodiscovery purposes are also required to contact both the State and Commonwealth departments as a 'benefits sharing agreement' may be required. 	http://www.gbrmpa.gov.au/corp_site/permits/research_permits/biodiscovery	Adequate	Stable
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where	3	<ul style="list-style-type: none"> Research sites are clearly defined and zoning controls permissible activities. 		Adequate	Stable

impacts are likely to be acceptable					
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address research	3	<ul style="list-style-type: none"> There is little capacity within the Authority to assist institutions monitor their MOUs or develop their Environmental Management Plans for the Scientific Research Zones. 		Limited	Stable
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address research	3	<ul style="list-style-type: none"> Within the Authority there is one APS5 FTE allocated to assess all research permits, manage the accreditation of institutions (including training) and develop Environmental Management Plans with research stations. There is little capacity within the Authority to assist institutions monitor their MOUs or develop their Environmental Management Plans for the Scientific Research Zones. Within the Authority if developing new policies or position statements additional staff are allocated in the form of a working group. 		Limited	Stable
IN3 The right skill sets and expertise are currently available to the managing organisations to address research	4	<ul style="list-style-type: none"> The Authority has staff with the relevant skills and expertise to assist with the management of scientific research in the GBRMP. 		Adequate	Stable
IN4 The necessary biophysical information is currently available to address research	4	<ul style="list-style-type: none"> Generally there is enough known about the biophysical requirements associated with species and habitats proposed to be the subject of research. 	<ul style="list-style-type: none"> The Australian Government's National Environmental Research Program (NERP) will provide up to \$68.5 million in funding over four years to December 2014 for applied, public good research. The largest of the five NERP hubs, the Tropical Ecosystems Hub is addressing issues of concern for the management, conservation and sustainable use of the World Heritage listed Great Barrier Reef and its catchments, tropical rainforests including the Wet Tropics World Heritage Area, and the terrestrial and marine assets underpinning resilient communities in the Torres Strait, through the generation and transfer of world-class research and shared knowledge. Current projects of particular relevance to improved management of the GBRWHA are: <ul style="list-style-type: none"> Project 1.1 'Monitoring status and trends of coral reefs of the Great Barrier Reef' Project 1.2 'Marine wildlife management in the Great Barrier Reef World Heritage Area' Project 1.3 'Characterising the cumulative impacts of global, regional and local stressors on the present and past biodiversity of the Great Barrier Reef' Project 4.1 'Tracking coastal turbidity over time and demonstrating the effects of river discharge events on regional turbidity in the Great Barrier Reef' Project 4.2 'The chronic effects of pesticides and their persistence in tropical waters' Project 4.3 'Ecological risk assessment of pesticides, nutrients and sediments on water quality and ecosystem health - Phase 1' Project 5.1 'Understanding diversity of the Great Barrier Reef: Spatial and temporal dynamics and environmental drivers' Project 5.2 'Experimental and field investigations of combined water quality and climate effects on corals and other reef organisms' Project 5.3 'Vulnerability of seagrass habitats in the Great Barrier Reef to flood plume impacts: light, nutrients, salinity' Project 6.1 'Maximising the benefits of mobile predators to Great Barrier Reef ecosystems: the importance of movement, habitat and environment' 	Adequate	Improving

			<ul style="list-style-type: none"> ○ Project 6.2 'Drivers of juvenile shark biodiversity and abundance in inshore ecosystems of the Great Barrier Reef' ○ Project 6.3 'Critical seabird foraging locations and trophic relationships for the Great Barrier Reef' ○ Project 8.1 'Monitoring the ecological effects of the Great Barrier Reef zoning plan on mid and outer shelf reefs' ○ Project 8.2 'Do no-take marine reserves contribute to biodiversity and fishery sustainability? Assessing the effects of management zoning on inshore reefs of the Great Barrier Reef Marine Park' ○ Project 8.3 'Significance of no-take marine protected areas to regional recruitment and population persistence on the Great Barrier Reef' ○ Project 9.1 'Dynamic vulnerability maps and decision support tools for the Great Barrier Reef' ○ Project 9.2 'Design and implementation of Management Strategy Evaluation for the Great Barrier Reef inshore (MSE-GBR)' ○ Project 9.3 'Prioritising management actions for Great Barrier Reef islands' ○ Project 9.4 'Conservation planning for a changing coastal zone' 		
IN5 The necessary socio-economic information is currently available to address research	3	<ul style="list-style-type: none"> • There is still little socio-economic information available upon which address management of scientific research but two current projects are relevant: <ul style="list-style-type: none"> • Project 10.1 'Social and Economic Long Term Monitoring Programme (SELTMP)' • Project 10.2 'Socio-economic systems and reef resilience' 		Adequate	Improving
IN6 The necessary traditional (Indigenous) knowledge is currently available to address research	3	<ul style="list-style-type: none"> • There is still little traditional knowledge available upon which to address management of scientific research. • The Reef Rescue Indigenous Land-Sea Country Partnership Program Plan provides for Indigenous engagement to access traditional knowledge. 	Reef Rescue Indigenous Land-Sea Country Partnership Program Plan.	Limited	Improving
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address research	3	<ul style="list-style-type: none"> • Accredited research/educational institutions contribute to the management of scientific research as part of their MOU requirements. • Research stations also manage local use of the Scientific Research Zones. 		Adequate	Stable
PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of research	4	<ul style="list-style-type: none"> • Researchers/ universities/ research stations are regularly consulted with respect to research, particularly the management of the Accreditation Program. • Consultation also occurs through RAP etc. 		Adequate	Stable
PR2 The local community is effectively engaged in the ongoing management of research	3	<ul style="list-style-type: none"> • Local communities are engaged through public awareness and education programs as well as through consultative processes of LMACs etc. 		Adequate	Stable
PR3 There is a sound governance system in place to address research	4	<ul style="list-style-type: none"> • Each research application is assessed against a set of criteria listed in the GBRMP Regulations 88Q and R. • Accreditation of research institutions is managed through the Regulations. • The GBRMP Zoning Plan provides for permitted research and limited impact research (without a permit) provided the research institution is accredited and the researchers carry a letter of authorisation from their institution (for compliance purposes). A MOU and code of conduct agreed with the GBRMPA underpins this accreditation program. • The discontinuation of the Authority Environmental Ethics Advisory Committee means that Authority must rely on the Ethics Committees of partner institutions to scrutinise some aspects of sensitive research applications. 	http://www.gbrmpa.gov.au/zoning-permits-and-plans/permits/research-permits-advice-to-researchers	Adequate	Stable

PR4 There is effective performance monitoring to gauge progress towards the objective(s)	4	<ul style="list-style-type: none"> The Great Barrier Reef Marine Park Zoning Plan came into effect on the 1 July 2004. Managing Scientific Research in the Great Barrier Reef Marine Park policy underpins research in the Zoning Plan. There may not be a need for individual researchers to obtain Great Barrier Reef Marine Park permissions if they are undertaking Limited Impact Research and their parent organisations are accredited educational or research institutions. Any organisation wishing to become accredited would have to meet specific performance and reporting criteria designed to demonstrate adoption of appropriate environmental practices and standards set by the GBRMPA. 	Zoning Plan Research permit conditions Accreditation requirements Reporting requirements	Adequate	Stable
PR5 Appropriate training is available to the managing agencies to address research	4	<ul style="list-style-type: none"> No training programs are established specifically for managing scientific research. 		Adequate	Stable
PR6 Management of research is consistently implemented across the relevant jurisdictions	4	<ul style="list-style-type: none"> Research activities that require a permit in the Marine Park may also require a similar permit under Queensland Marine Parks Legislation. The Authority and the relevant Queensland agency, the Queensland Parks and Wildlife Service (QPWS), cooperate to assess and issue joint permits, where necessary, whereby the research assessor at the Authority undertakes one assessment process in consultation with the QPWS. Note that Queensland legislation may require a permit where the Authority does not. Also there may be other Queensland Government approvals required before researchers can conduct their activities in the GBRMP. NPRSR is involved in the assessment of applications through a joint permitting process with the Authority. The Authority and SEWPAC have an agreement that research involving access to biological resources will only require a permit from the Authority, whilst benefit sharing agreements required under the EPBC Act will be dealt with by the SEWPAC. 		Adequate	Stable
PR7 There are effective processes applied to resolve differing views/ conflicts regarding research	4	<ul style="list-style-type: none"> The Authority provides for a review rights process for all its permit decisions. The applicant or aggrieved third party can apply to have the decision reconsidered and reviewed. 		Adequate	Stable
PR8 Direct and indirect impacts of activities associated with research are appropriately considered.	3	<ul style="list-style-type: none"> Direct and indirect impacts are well considered at the permit application assessment stage, but there is limited follow up on performance reports. 		Limited	Stable
PR9. Consequential and cumulative impacts of activities associated with research are appropriately considered.	2	<ul style="list-style-type: none"> The cumulative impacts of scientific research activities cannot be currently assessed in detail. Environmental Management Plans for high use Scientific Research Zones should assist in cumulative impact assessments in certain locations. 		Limited	Improving
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding research	4	<ul style="list-style-type: none"> National requirements for access of biological resources (http://www.environment.gov.au/biodiversity/publications/access/nca/index.html) under the EPBC Act are adhered to within the GBRMP. 		Adequate	Improving
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding research	3	<ul style="list-style-type: none"> There is little socio-economic information available upon which address management of scientific research. 		Limited	Improving
PR12 The best available traditional (Indigenous)	3	<ul style="list-style-type: none"> There is little traditional knowledge available upon which to address management of scientific research. 		Limited	Deteriorating

knowledge is applied appropriately to make relevant management decisions regarding research					
PR13 Relevant standards are identified and being met regarding research	4	<ul style="list-style-type: none"> The Australian Government adheres to Convention on Biological Diversity requirements in relation to access to biological resources. http://www.environment.gov.au/biodiversity/science/access/contacts/index.html 	http://www.environment.gov.au/biodiversity/science/access/contacts/index.html	Adequate	Stable
PR14 Targets have been established to benchmark management performance	2	<ul style="list-style-type: none"> While the Authority direct or facilitated research is highly regarded internationally, formal performance benchmarks have not been established. 		Limited	Stable
OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for research	3	<ul style="list-style-type: none"> Although the accreditation of research/education institutions has progressed well, the development of environmental management plans for scientific research zones has been slow. The policy on managing scientific research (developed in 2004) requires updating. Permits are generally assessed within recommended timeframes of 8-10 weeks. 		Adequate	Stable
OP2 Implementation of management documents and/or programs relevant to research have progressed in accordance with timeframes specified in those documents	3	<ul style="list-style-type: none"> Annual reports are submitted by accredited institutions within the requirements of their MOU Permit conditions are regularly complied with. See OP3 		Adequate	Stable
OP3 The results (in OP1 above) have achieved their stated management objectives	4	<ul style="list-style-type: none"> At any one time there is on average 250 current research permits operational in the GBRMP. Eight research institutions have been accredited, which reduces the permit requirements for researchers/institutions if they are undertaking low impact research. One Environmental Management Plan is in place for Orpheus Island Research Station. 	http://www.gbrmpa.gov.au/corp_site/permits/research_permits/research_permits_online_application_form2	Adequate	Stable
OP4... to date, products or services have been produced in accordance with the stated management objectives for research	3	<ul style="list-style-type: none"> The Authority has a detailed series of webpages that assist those looking to undertake scientific research, including access to biological resources, within the GBRMP. The products designed to measure intended versus actual use in the Reef Permits system have not been developed. As such cumulative take from a location and of a certain species cannot be ascertained and incorporated into permit assessments. 		Adequate	Stable
OUTCOMES					
OC1...the relevant managing agencies are to date effectively addressing research and moving towards the attainment of the desired outcomes.	4	<ul style="list-style-type: none"> Researchers are able to gain access to the GBRMP through a structured permit process. This process aims to manage the impact of the research via permit conditions. Much of the research conducted in the GBRMP provides information that is important to the management of the GBRMP. 	<ul style="list-style-type: none"> AIMS Coral Decline Paper: http://www.aims.gov.au/docs/research/climate-change/declining-coral-growth.html http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-outlook-report <p>Various significant research projects have been undertaken on the GBR and recently published; these include: EFFECTIVELY ADDRESSING</p> <ul style="list-style-type: none"> Research showing conclusive evidence that the no-take green zones can help to restock exploited fish populations on neighbouring reefs which are open to fishing. Using DNA finger-printing technology, the scientists tracked the dispersal pathways of larval and juvenile coral trout and stripey snappers from the green zones where they spawned. A very large proportion were found to have settled on adjacent reefs that were open to fishing, up to 30 kms from where they spawned. 	Adequate	Improving

			<p>INEFFECTIVE</p> <ul style="list-style-type: none"> Research shows the number of dugong in the southern GBR was the lowest since surveys began in 1986 (about 500-600 animals compared with previous estimates in the order of 2,000-2,500 animals). No calves were seen in the surveys during the 2011 surveys indicating a reduction in fertility in response to the extreme weather in 2011 which exacerbated a decline in their seagrass feeding grounds over several years. Crown-of-thorns starfish (COTS) - There is emerging evidence that poor water quality resulting from floods and extreme weather events in the summers of 2009 to 2011 have created conditions which has resulted in COTS numbers increasing at some locations in the GBR. COTS outbreaks are also a matter of concern for the tourism industry (see below). There is some evidence of a decline in coral reef habitat over recent decades (see AIMS research). <p>INFORMATION TO INFORM MANAGEMENT</p> <ul style="list-style-type: none"> Research has found that corals are responding to rates of warming of the oceans in accord with predictions. In particular, corals at the southern end of their range (in cooler waters) are showing signs of increased growth rates as waters warm due to climate change. 		
OC2... the outputs relating to research are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	4	<ul style="list-style-type: none"> The system of accreditation, codes of conduct and environmental management plans has reduced the number of research projects requiring a specific permit, thereby reducing administrative workloads for scientists and Marine Park managers. 	See also all Vulnerability assessments on our website: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/draft-biodiversity-conservation-strategy/vulnerability-assessments	Adequate	Stable
OC3... the outputs (refer OP1 & 3) for research are reducing the major risks and the threats to the Great Barrier Reef	4	<ul style="list-style-type: none"> In general, research is not seen to have a large and detrimental impact on the reef ecosystem. 		Adequate	Stable
OC4... use of the Great Barrier Reef relating to research is demonstrably environmentally sustainable	3	<ul style="list-style-type: none"> In general, research is not seen to have a large and detrimental impact on the reef ecosystem. Confidence that research is environmentally sustainable is reduced by the limited knowledge of cumulative impacts of collection The GBRMP Regulations Table 19-1, which lists a capped number that can be taken for certain species requires update 		Adequate	Stable
OC5... use of the Great Barrier Reef relating to research is demonstrably economically sustainable	Not applicable			Not applicable	Not applicable
OC6... use of the Great Barrier Reef relating to research has demonstrably enhanced community understanding and/or enjoyment	4	<ul style="list-style-type: none"> The Authority does very little of its own research, however it uses published research to inform its management decisions and to help educate the public. The Authority works closely with research institutions such as the ARC Centre of Excellence for Coral Reef Studies, the AIMS etc. which publish research results, provide public fora about their research and disseminate it through the media so that it enhances community understanding and/or enjoyment. 		Adequate	Stable
OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address research	4	<ul style="list-style-type: none"> The Authority has a close relationship with the key research/educational institutions in relation to how scientific research is managed in the GBR. 		Adequate	Stable

Topic: Commercial Fishing

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to commercial fishing are understood by managers	3	<ul style="list-style-type: none"> The Great Barrier Reef supports commercial and charter fishing, targeting a range of species including fish, sharks, crabs, lobsters and prawns. Fishing is the principal extractive use of the Great Barrier Reef. Management of fishing and its dependent aquatic environment is shared between the Australian and Queensland Governments. Viable commercial and charter fishing industries depend on a healthy ecosystem as a source of seafood. Trawling in the GBRMP has been a major focus of efforts since 2009 to improve sustainable use/management effectiveness and narrow down ecological risks. This work has improved managers' understanding of trawl fishery interactions with inshore and offshore biodiversity, including protected species and physical impacts from trawl gear on habitats. Recent collaborative activities (since Outlook 2009) led by the Authority relating to the East Coast Otter Trawl Fishery (ECOTF) include the Trawl Ecological Risk Assessment (sometimes referred to as Trawl ERA), Climate Change Vulnerability Assessment and Adaptation Planning for the fishery 	<ul style="list-style-type: none"> Draft Biodiversity Strategy & Vulnerability Assessments Trawl Ecological Risk Assessments from the East Coast Trawl Fishery Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments http://provisionreef.org/ 	Adequate	Improving
CO2 Direct and indirect impacts associated with commercial fishing are understood by managers.	3	<ul style="list-style-type: none"> Fish Spawning Aggregation Sites – are sometimes targeted by fishers. The Authority via the Great Barrier Reef Marine Park Zoning Plan 2003 is able to manage direct and indirect impacts from targeting of FSAS. Threadfin salmon/Grey Mackerel – Vulnerability Assessments <ul style="list-style-type: none"> Impacts to habitat, legal size currently does not prevent retention of immature stock. Independent observers need to monitor commercially capped catch rates (QLD) Species influenced by external factors stressors in that year (e.g. high number of cyclones may reduce licenced catch by a certain percentage?) Post-release mortality rates unknown Trawling <ul style="list-style-type: none"> Improved understanding since 2009 of context, particularly current trawl-related risks, direct and indirect impacts and uncertainties for our work on biodiversity protection, ecologically sustainable use and ecosystem conservation. The Trawl ERA has recognised progress over the last two decades in reducing environmental impacts: <ul style="list-style-type: none"> overall risk reduced from historic risks, was very high in 1980's and 1990's overall risk from 2005 to 2009 reduced Current risk levels from trawling activities are generally low. The Trawl ERA has also clearly identified there are some remaining risks from trawling to Great Barrier Reef biodiversity. Current high risks are: <ul style="list-style-type: none"> 11 species of skates and rays 2 species of sea snakes Balmain bugs (3 commercial species from deepwater) - intermediate-high risk A habitat type: poorly known upper continental slope (90 to 300 m depth) southern GBR (inc. eastern king prawn fishing grounds). A vulnerability assessment of East Coast Otter Trawl Fishery to climate change has also been published, and the Authority led projects are being considered by a major review of management arrangements for the fishery by Queensland (the 'Trawl Plan Review'). 	<ul style="list-style-type: none"> GBRMPA website: http://www.gbrmpa.gov.au/outlook-for-the-reef/remaining-impacts-from-fishing EPBC Guidelines on the ecologically sustainable management of fisheries http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html DAFFQ 2007 Annual Status Status reports for adjacent fisheries (e.g. Torres Strait: http://www.pzja.gov.au/fisheries/default.htm; Coral Sea http://www.afma.gov.au/fisheries/ext_territories/coral_sea/default.htm; Eastern Tuna/Billfish http://www.afma.gov.au/fisheries/tuna/etbf/default.htm; Southern QLD: https://fishnet.dpi.qld.gov.au/Content/Public/StandardReports.aspx DAFFQ Prospects report – quarterly (fisheries component) Seagrasswatch monitoring and status reports http://www.seagrasswatch.org/home.html Fish Habitat Areas http://www.dpi.qld.gov.au/cps/rde/dpi/hs.xsl/28_142_ENA_HTML.htm Seabed Biodiversity Report (Pitcher et al.) GBRMPA's FMP Compliance Risk Assessment RIS information (reef line, trawl, ECIFF) National Recreational and Indigenous Fishing Survey (DAFF, http://www.daff.gov.au/fisheries/recreational/recfishsurvey) DAFFQ Recreational Survey EPA Back on Track assessments http://www.epa.qld.gov.au/nature_conservation/wildlife/back_on_track_species_prioritisation_framework/ <p>Tobin, A., Schlaff, R., Tobin, R., Penny, A., Ayling, T., Ayling, A., Krause, B., Welch, D., Sutton, S., Sawynok, B., Marshall, N.A., Marshall, P.A. and Maynard, J.A. 2010, Adapting to change: minimising uncertainty about the effects of rapidly-changing environmental conditions on the Queensland Coral Reef Fin Fish Fishery. Final</p>	Adequate	Improving

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
		<ul style="list-style-type: none"> • Line fishing <ul style="list-style-type: none"> • The commercial Coral Reef Fin Fishery has reported significantly reduced catch rates of coral trout in recent years. These reports have been significant since the impact of Cyclone Hamish on the GBR on March 2009 and also apparent after Cyclone Yasi and Anthony in early 2011. Preliminary research indicated that Tropical cyclones in the short-term did not adversely affect fish community structure and abundance but catch rates of coral trout were depressed for some 12 month after cyclonic influence. Other recent fisheries independent research (in last two years) has shown differing results with respect to health of coral trout stocks on reef open and closed to fishing though many commercial fishers report concern about the status of coral trout stocks. The Authority is actively involved in two current projects being conducted by other parties: <ul style="list-style-type: none"> ○ Scientist from the Agri-Science Queensland Department of Agriculture, Fisheries and Forestry are conducting an inaugural coral trout stock assessment and the Authority has been pivotal in providing various data to feed into this stock assessment and also facilitated meetings between scientists and the commercial fishing industry which has shaped the manner in which the stock assessment is being structured to more realistically represent the fishery. ○ The Authority is a contributor to the FRDC project 2011/030 titled "Evaluating Candidate Monitoring Strategies, Assessment Procedures and Harvest Control Rules in the Spatially Complex Queensland Coral Reef Fin Fish Fishery" being undertaken by the CSIRO. • Illegal fishing infringements detected in the past few years, indicate that there is significant ongoing illegal fishing in breach of the <i>Great Barrier Reef Marine Park Zoning Plan 2003</i>. • Initial findings from research on Spanish mackerel titled "Utilising innovative technology to better understand Spanish mackerel spawning aggregations and the protection afforded by marine protected areas" (Tobin et al) indicate that a portion of Spanish mackerel stock while spawning in reefs adjacent to Townsville is afforded protection by the Great Barrier Reef Zoning Plan 2003 • Spanish mackerel appears to be the fish stock in the GBRMP that is closest to be being categorised as overfished according to evidence from most recent Spanish Mackerel Stock assessment from QLD Fisheries. • Netting <ul style="list-style-type: none"> • The Authority has major concerns about non-compliance of marine park and fisheries legislation by commercial netting operations in a number of areas, with particular concerns in sensitive areas such as Bowling Green Bay and the Princess Charlotte Bay Special Management Area (PCB SMA). • The main impacts from illegal netting involve entanglement of vulnerable species and bycatch. Net attendance rules are in place but compliance with these rules and their effectiveness is questionable (especially in remote areas where compliance patrol activity is less due to resourcing). In addition, illegal netting is frequently conducted at night time to minimise risks of detection. • Harvest fisheries (collecting) <ul style="list-style-type: none"> • A FRDC funded Management Strategy Evaluation (MSE) research project to evaluate the effectiveness of the time limited rotational harvest strategy (RHS) (156 sectors @ no greater than 15 days fishing effort per 3 year 	<p>Report to the Fisheries Research & Development Corporation, Project 2008/103, James Cook University, Townsville</p>		

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
		<p>period) for sea cucumber (BDM) has commenced. The RHS was developed collaboratively with industry in mid-2000's and was implemented via the Authority's permit conditions.</p> <ul style="list-style-type: none"> • Coral collection –the voluntary moratorium at Keppels under the Pro-Vision Reef Stewardship Action Plan remains in place (to reduce impacts on inshore corals following the coral bleaching and flood damage events). • All of the harvest (dive collection) fisheries require the Authority's permit. The sea cucumber fishery (covered under permits) is perhaps the best managed sea cucumber harvest fishery in the world, the MSE referred to above is in now underway to test this strategy). In 2008/09 the Queensland Sea Cucumber Association developed a MOU) to sustainably manage this fishery following concerns from the Authority. The Authority has supported this MOU through permit conditions. Management advances to manage the direct and indirect impacts from this fishery include rotational collection areas and vessel monitoring to measure compliance with the MOU and permits. 			
CO3 Consequential and cumulative impacts associated with commercial fishing are understood by managers.	3	<ul style="list-style-type: none"> • Cumulative impacts associated with commercial fisheries are better known than for recreational fishing. The Authority works informally with the DSEWPaC on the Fishery Assessments for QLD fisheries. These assessments apply management conditions and recommendation to the fisheries and attempt to ensure sustainable use. • Since 2009, understanding of trawl-related consequential and cumulative impacts has improved, and climate change implications have been considered (ecological, social and economic). • In the East Coast Inshore Fin Fish Fishery monitors the amount of bycatch of sharks. Generally results have shown that the grey reef shark and white tip reef shark are not significantly impacted. However the scalloped hammerhead shark, sawfish and speartooth sharks (as well as dugong and inshore dolphin) are more at risk • The bycatch and mortality of sharks during reef line fishing is also of significant concern. 	<p>http://www.daff.qld.gov.au/documents/Fisheries_SustainableFishing/Stock-Status-of-Queenslands-Fisheries-Resources-2011.pdf DSEWPaC Fishery Assessments for QLD fisheries http://www.environment.gov.au/coasts/fisheries/qld/index.html Analysis of risks and threats of trawl to GBRMPA ecosystem.</p>	Adequate	Improving
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to commercial fishing are known by managers	3	<ul style="list-style-type: none"> • Since 2009 the Authority has a greater understanding of the current condition and trend of commercial fisheries. In particular annual reports and progress reports on the SEWPaC website show how each fishery is tracking against the Fishery assessment conditions with regard to take levels and ecological sustainability. This information is accessed and used by the Authority. • East Coast Inshore Fin Fish Fishery <ul style="list-style-type: none"> • Shark Panel – the Authority had two representatives on the Shark Panel which also involved QLD and DSEWPaC. • The amount of bycatch of sharks (generally results have shown that the grey reef shark and white tip reef shark are not significantly impacted. However the scalloped hammerhead shark, sawfish and speartooth sharks (as well as dugong and inshore dolphin) are more at risk from this fishery. • Coral Reef Finfish Fishery <ul style="list-style-type: none"> • The bycatch and mortality of sharks during reef line fishing is of significant concern as many of the sharks caught are killed as pests • Trawl <ul style="list-style-type: none"> • Research (e.g. by Pitcher et al, Courtney et al) has improved understanding of condition of MNES in relation to trawl (e.g. for sea snakes, sharks, biodiversity) and this has informed a comprehensive ecological risk assessment (Pears et al 2012) of trawling for the GBR ecosystem. 	<p>DSEWPaC Fishery Assessment Progress Reports e.g. For Coral Fishery: http://www.environment.gov.au/coasts/fisheries/qld/coral/submission-mar2012.html ECIF Observer Program Report: http://www.environment.gov.au/coasts/fisheries/qld/east-coast-finfish/pubs/fishery-obs-2011.pdf Reef Guardian Fishers: http://www.gbrmpa.gov.au/our-partners/reef-guardians/reef-guardian-fishers</p> <ul style="list-style-type: none"> • Campbell, M.J., Roy, D.P., Tonks, M.L., Gaddes, S.W., Chilcott, K.E., O'Neill, M.F., Brown, I.W., McLennan, M., Jebreen, E.J., et al. 2007, Bycatch weight, composition and preliminary estimates of the impact of bycatch reduction devices in Queensland's trawl fishery, Report to the Fisheries Research and Development Corporation, Project no. 2000/170, Department of Primary Industries and Fisheries, Brisbane. • Courtney, A.J., Schemel, B.L., Wallace, R., Campbell, M.J., Mayer, D.G. and Young, B. 2010, Reducing the impact of Queensland's trawl fisheries on protected sea snakes, Department of Employment, Economic Development and Innovation, Brisbane. 	Adequate	Stable

CO5 The stakeholders relevant to commercial fishing are well known by managers.	4	<ul style="list-style-type: none"> The Authority has very good relationships with commercial fishers and representative bodies in particular: SunFish, QSIA, Pro-Vision Reef, Reef Line Council, Sea Cucumber and Tropical Lobster Associations and the some of the trawl industry. Following the RAP the Authority developed regional officers to liaise with the community, especially regional fishing stakeholders. This stakeholder engagement strategy has been highly effective in identifying and liaising with stakeholders relevant to the commercial fisheries. The Authority has established a Reef Guardian Fishers program (for commercial harvest and Line fisheries currently and further development planned for inshore net fishers) - this program recognises fishers who operate sustainably and innovatively in order to maintain the health of the Great Barrier Reef while building the future of their fishery, their business and the Reef. Collaborations and partnerships under the Climate Change Action Plan for the GBR with the fishing industry and peak bodies (QSIA, Provision Reef) have provided further opportunities for the Authority's managers to work closely with stakeholders relevant to fishing. 	Reef Guardian Fishers: http://www.gbrmpa.gov.au/our-partners/reef-guardians/reef-guardian-fishers	Adequate	Improving
PLANNING					
PL1 There is a planning system in place that effectively addresses commercial fishing	2	<ul style="list-style-type: none"> The Authority does not manage most major fisheries directly, it takes an ecosystem based approach and has a head of power to manage the environment that supports the commercial fishing industries. There is no overarching plan (e.g. like Reef Water Quality Protection Plan) for addressing fisheries issues in the GBR. The GBRMP Zoning Plan 2003 provides a planning system to address commercial fishing access to locations within the GBRMP. The Zoning Plan requires all fishing activities to be lawful under Qld fisheries legislation The Zoning Plan and Regulations have provisions that relate to specific fishery management plans or fishery regulations. Special Management Areas (SMAs) can be put in place to regulate some fishing efforts (e.g. Princess Charlotte Bay SMA has been designated to protect dugong within Princess Charlotte Bay . The Special Management Area requires commercial net fishers to obtain a permit to operate under a number of netting restrictions). Joint Marine Parks permits cover the following commercial fisheries and can be modified and used as a planning tool to address commercial fishing if required: <ul style="list-style-type: none"> Tropical Rock Lobster Sea Cucumber Marine Aquarium Fish (including sea cucumber) Coral Fishery PCB netting Beach worm (no current permits issued) Shell Collecting Trochus 	<ul style="list-style-type: none"> GBRMP Zoning Plan 2003 In particular see the activities guide on Zoning Maps as to the fishing methods that may be used in specific zones DPA's: http://www.gbrmpa.gov.au/outlook-for-the-reef/great-barrier-reef-outlook-report/outlook-online?sq_content_src=%2BdXjsPWh0dHAIM0EIMkYIMkZ3d3ctcmMuZ2JybXBhLmdvdi5hdSUyRmNvcnBfc2l0ZSUyRmtleV9pc3N1ZXMIMkZjb25zZXJ2YXRpb24IMkZuYXR1cmFsX3ZhbHVlcYUyRmR1Z29uZ3MIMkZkdWdvbmdfcHJvdGVjdGlubl9hc mVhcyZhbGw9MQ%3D%3D	Adequate	Stable
PL2 The planning system for commercial fishing addresses the major pressures and drivers impacting on the Great Barrier Reef's values	2	<ul style="list-style-type: none"> Zoning Plan - In 2003 the Authority increased Green zones to ~33% - research (Harrison et al (2012) has shown that populations of commercially important fish species within green zones exported 55-83% of their offspring to areas open to fishing. This indicates that the reserve areas within the Keppel Island are making significant contributions to the replenishment of populations on both reserve and fished reefs at a scale beneficial to stakeholders. Harvest fishery permits contain conditions aimed at removing and reducing potential impacts. The Authority is able to access collection data from the DAFFQ fishery status reports. Technology: VMS is mandatory in the trawl fishery and the N4 shark net component of the ECIFF Trawl: The Trawl ERA, Adaptation Planning and Trawl Plan Review have 	<ul style="list-style-type: none"> Trawl Ecological Risk Assessments from the East Coast Trawl Fishery Harrison et al, larval export from marine reserves and the recruitment benefit for fish and fisheries, Current Biology 22, 1-6 June 5, 2012 	Adequate	Stable

		<p>identified the fishery management arrangements are inflexible and lack effective controls to address ecological sustainability concerns or direct the fishery towards (economic) targets.</p> <ul style="list-style-type: none"> The Authority priority issues (e.g. protection of MNES) have generally been considered in the recent Trawl Plan Review. 			
PL3 Actions for implementation regarding commercial fishing are clearly identified within the plan	2	<ul style="list-style-type: none"> The Zoning Plan clearly identifies where and how actions in the Marine Park should be implemented. EPBC Assessments of fisheries include conditions and recommendations. Other plans (e.g. Draft Biodiversity Conservation Strategy, Climate Change Action Plan and Adaptation Strategy) also identify some fishery-related actions. 	<ul style="list-style-type: none"> Climate change vulnerability assessment 2007 Draft Biodiversity Strategy Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments 	Adequate	Stable
PL4 Clear, measurable and appropriate objectives for management of commercial fishing have been documented	2	<ul style="list-style-type: none"> Measurable objectives for commercial fishing are not clearly specified nor measured by the Authority. However, significant improvements for trawl fisheries through new work since 2009: a study identified clear objectives for trawl fishery management (economic, social, management, environmental) and has been published (Dichmont et al 2012). 	Dichmont et al 2012	Adequate	Stable
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address commercial fishing	3	<ul style="list-style-type: none"> The Authority is heavily engaged in a number of forums with Stakeholders to provide input into the management of the main fisheries operating in the Marine Park – this engagement aims to deliver improved ecosystem based management outcomes for the Region. The Authority continues to liaise and rely upon input from the Reef Advisory Committees and Local Marine Advisory Committees which are engaged and effectively contribute to planning processes associated with commercial fishing Reef Guardian Fishers Steering Committee and Working Groups is a forum where fishers can raise concerns and discuss plans to solve them. The main stakeholders involved in the net fishery in Bowling Green Bay were heavily engaged to implement changes to netting regulations in Bowling Green Bay. 		Adequate	Stable
PL6 Sufficient policy currently exists to effectively address commercial fishing	2	<ul style="list-style-type: none"> The Authority has no specific policies on commercial fishing. Responsible Reef Practices (GBRMPA website) covers a number of activities that could be associated with commercial and recreational fishing (e.g. boating, fishing, anchoring and mooring, collecting) 	<p>GBRMPA website on Zoning: http://www.gbrmpa.gov.au/zoning-permits-and-plans</p> <p>Responsible Reef Practices: http://www.gbrmpa.gov.au/visit-the-reef/responsible-reef-practices</p>	Adequate	Improving
PL7 There is consistency across jurisdictions when planning for commercial fishing	2	<ul style="list-style-type: none"> Multiple agencies are involved in fishing management: Fisheries Queensland (FQ), SEWPaC, and the Authority. FQ are the managers of fisheries in Queensland, including fisheries within the GBRMP under the Offshore Constitutional Settlement Agreement; SEWPaC accredits the commercial fisheries and audits commercial State fisheries against the national standards via the EPBC Act & associated guidelines for ecologically sustainable management of fisheries. The Authority, SEWPaC, and FQ work together to deal with EPBC assessments however this is through informal arrangements. There is no overarching plan for commercial fishing (e.g. like Reef Plan) to manage commercial fishing in the Great Barrier Reef Region. As such the objectives of different jurisdictions are not as well aligned as they could be. For trawl, system includes zoning and formal Qld fishery management plan which is under review. 	<ul style="list-style-type: none"> Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments <i>Draft GBR Biodiversity Conservation Strategy, 2012</i> 	Adequate	Deteriorating

PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	4	<ul style="list-style-type: none"> The Zoning Plan provides certainty regarding where uses may occur, the type of activities allowed, but the fishery management plans are relied on for providing conditions under which activities may proceed and circumstances where impacts are likely to be acceptable. Marine Parks permits specify what activity can occur where, but are generally considered on a case by case basis 	<p>GBRMPA website on Zoning: http://www.gbrmpa.gov.au/zoning-permits-and-plans</p> <p>Responsible Reef Practices: http://www.gbrmpa.gov.au/visit-the-reef/responsible-reef-practices</p>	Adequate	Stable
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address commercial fishing	2	<ul style="list-style-type: none"> Compliance and wider Field Management financial resources associated with the surveillance of commercial fishing is inadequate and declining in real terms. The current Field Management Program is operating at capacities set in the 1990s, when reef usage and pressures were lower, and prior to the 7-fold expansion of the area of highly protected zones and the emergence of climate change. 	FMP review	Adequate	Deteriorating
IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address commercial fishing	2	<ul style="list-style-type: none"> The Authority has 3 full time equivalent Managers working on sustainable commercial and recreational fishing. Some work is also done on sustainable fishing through the Reef Guardian Program. 		Adequate	Stable
IN3 The right skill sets and expertise are currently available to the managing organisations to address commercial fishing	3	<ul style="list-style-type: none"> The skill set within the Authority is of a high quality and experienced, and generally meets the needs for managing commercial and recreational fishing impacts in the GBRWHA. Many external agencies and stakeholders rely on and trust the knowledge and expertise provided by the Authority for informing management of fisheries and marine resources in the GBRWHA 		Adequate	Stable
IN4 The necessary biophysical information is currently available to address commercial fishing	2	<ul style="list-style-type: none"> Substantial advances have been made in the past decade but there are still information gaps for some species and ecosystem function in general. The draft Great Barrier Reef Biodiversity Conservation Strategy 2012 and the Vulnerability Assessments - The Strategy provides some biophysical information relevant to fisheries. A major study of sea snake interactions with East Coast Otter Trawl Fishery completed in 2010 - and bycatch reduction devices tested, and associated program of extension work with industry. The fishery still has a substantial interaction with sea snakes (a few years ago estimated mortality levels were about 27,000 sea snakes per year, would be lower in 2012). Improved Bycatch Reduction Devices (BRDs) can be highly effective at excluding sea snakes, but these are yet to be fully adopted across relevant areas of the fishery. A major study (bio-economic modelling) for eastern king prawns completed - the most valuable resource species in the trawl fishery. Has identified fishery management/effort controls need to be improved to ensure sustainability. The Authority supported an update by CSIRO of ecological sustainability indicators under the Seabed Biodiversity Project - using current trawl fishing effort levels. Many of other fish stocks not known, and lack near-real time information for most fisheries, and access to data for management and science can be slow. Trawl ERA provided significant biophysical information. 	<ul style="list-style-type: none"> Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments <p>draft Great Barrier Reef Biodiversity Conservation Strategy 2012: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation</p> <p>Scientific information Needs 2009-2014: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0019/3376/GBRMPA_Scientific_Information_Needs.pdf</p>	Adequate	Improving
IN5 The necessary socio-economic information is currently available to address commercial fishing	2	<ul style="list-style-type: none"> Deloitte Access Economics report provides data on commercial fishing The Authority is actively involved in current economic survey of commercial operators in Coral Reef Finfish Fishery. Improved social and economic information for trawl through work by CSIRO, DAFFQ, the Authority and others. Work also happening to improve this on an ongoing basis (Socio Economic Long Term Monitoring Program (SELTMP) for GBR, and national FRDC project on social objectives and indicators for fisheries – with GBR case study (trawl). Also work by Seafood CRC and several institutions. Although there is current NERP investment to develop the SELTMP, there is 	<ul style="list-style-type: none"> Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft), Great Barrier Reef Marine Park Authority CSIRO FRDC project 2011/030 titled "Evaluating Candidate Monitoring Strategies, Assessment Procedures and Harvest Control Rules in the Spatially Complex Queensland Coral Reef Fin Fish Fishery". 	Adequate	Improving

		<p>currently no long term funding plan to maintain the program.</p> <ul style="list-style-type: none"> • Socio-economic assessments of flood and cyclone impacts on commercial fishing industry completed. Also adaptation work with fishing industries has been considering social and ecological aspects, in addition to ecological. 			
IN6 The necessary traditional (Indigenous) knowledge is currently available to address commercial fishing	2	<ul style="list-style-type: none"> • The Authority accredits TUMRAs through its Indigenous Partnerships Group and Environmental Assessment and Management Group. • However a detailed and widespread understanding of traditional (indigenous) knowledge and cultural heritage is limited 	Woodley et al, World Heritage Research: Making a Difference, CRC Reef Research Centre 2007 http://www.reef.crc.org.au/publications/finalsynthesis/Making-a-difference_72dpi.pdf	Adequate	Improving
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address fishing	3	<ul style="list-style-type: none"> • Non-government inputs are through Reef guardian fishers, Reef Advisory Committees, Sunfish etc. 		Adequate	Stable
PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of commercial fishing	4	<ul style="list-style-type: none"> • The Authority implemented amendments to rules for commercial net fishing in specific areas within Bowling Green Bay to reduce risk for dugong, and this was supported by local industry, conservation groups and other agencies. • The formal forums for planning for fishing with the main stakeholders are limited. • Engagement with Inter Departmental Committees, LMACs, RACs. • Recent work on the Ecological risks from and climate change risks to the trawl fishery has involved extensive engagement with the fishing industry, scientists, the conservation sector and fisheries managers. 		Adequate	Stable
PR2 The local community is effectively engaged in the ongoing management of commercial fishing.	2	<ul style="list-style-type: none"> • Focus for most of the fishery engagement work has been with stakeholder groups (including managers, industry, scientists, conservation) rather than local community per se. • Some regional fisheries projects (e.g. Burdekin, Mackay) have improved local engagement, but this can be a difficult area. • 12 LMACs are a forum for local community engagement, and the regional the Authority's offices. 		Adequate	Improving
PR3 There is a sound governance system in place to address commercial fishing	3	<ul style="list-style-type: none"> • There is no overarching governance system for commercial fishing (e.g. like Reef Plan) to manage commercial fishing in the Great Barrier Reef Region. As such the objectives of different jurisdictions are not as well aligned as they could be. • The GBRMP Act, Regulations, Zoning Plan and Permits are in place to manage some aspects of the commercial fisheries from an ecosystem perspective. • The formal forums for planning for fishing with other jurisdictions are limited, • Given that multiple agencies are involved in fishing management: FQ, SEWPaC, and the Authority; this currently informal governance arrangement for commercial fishing within the GBRMP could be improved by a more formal mechanism. 	GBRMPA website on Zoning: http://www.gbrmpa.gov.au/zoning-permits-and-plans	Adequate	stable
PR4 There is effective performance monitoring to gauge progress towards the objective(s)	3	<ul style="list-style-type: none"> • The Authority works closely with AIMS and James Cook University to monitor the performance outcomes from the Zoning Plan 2003. • The Authority works with SEWPAC to evaluate (through status reporting) fisheries and update conditions where needed. The way this works in practice is that conditions or recommendations are modified or negotiation takes place about what is achievable. • The Trawl ERA has identified some remaining risks - so there is a need for ongoing risk monitoring and this may be more difficult with a reduced budget and staff at Fisheries Queensland. • While some objectives in relation to fishing are monitored, there is no integrated program across all fishing activities and the elements of biodiversity that they affect. The recent termination of the fisheries observer program will affect performance monitoring. 		Adequate	Stable

PR5 Appropriate training is available to the managing agencies to address commercial fishing	3	<ul style="list-style-type: none"> Appropriate training is provided as needed. 		Adequate	Stable
PR6 Management of fisheries is consistently implemented across the relevant jurisdictions	2	<ul style="list-style-type: none"> There is no overarching plan for commercial fishing (e.g. like Reef Plan) to manage commercial fishing in the Great Barrier Reef Region. For trawl, system includes zoning and formal Qld fishery management plan which is under review. The formal forums for planning for fishing with other jurisdictions are limited The legal sizes of some targeted species (specifically the threadfin salmon and grey mackerel) to date are not adequate to ensure ecologically sustainable use of the stock (see vulnerability assessments on GBRMPA website). 	<ul style="list-style-type: none"> Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments 	Adequate	Deteriorating
PR7 There are effective processes applied to resolve differing views/ conflicts regarding commercial fishing	2	<ul style="list-style-type: none"> The formal forums for planning for fishing with other jurisdictions are limited (e.g. a number of partnership programs and advisory boards), and this is making consistent consideration of GBR issues (e.g. remaining impacts from fishing) more difficult to resolve. Permits have a review rights process. Regional Liaison Officers are on the ground to assist with the management of issues and conflicts are identified early so they can be discussed and resolved. There are limited processes across the governance arrangement for fisheries stakeholders, including commercial fishers, to resolve differing views / conflicts regarding commercial fishing. 		Adequate	Deteriorating
PR8 Direct and indirect impacts of activities associated with commercial fishing are appropriately considered.	3	<ul style="list-style-type: none"> Fishing is a key extractive use of the GBRMP. The Authority is reviewing the remaining impacts from fishing. Illegal fishing is the most pertinent direct impact on sustainable fish populations and fisheries management. There is a well-planned multi-agency compliance program in place to address this risk. Great Barrier Reef Marine Park Regulations 88Q and 88R specifies consideration of these matters in all permit application assessments (which include harvest fisheries) Research into net redesign was coordinated through the shark panel. It has been found that changes to net designs can reduce entanglement impacts to specific animals, TRAWL: The findings from the trawl ecological risk assessment are being considered in the Biodiversity Strategy and other relevant the Authority and external processes. The Authority has also completed an assessment of ecological vulnerabilities of the ECOTF to climate change, and applied a tool (the 'Climate Risk Management Matrix') to identify vulnerabilities, risks and adaptation options (ecological, social, economic) for trawl. 	<ul style="list-style-type: none"> Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments 	Adequate	Improving
PR9. Consequential and cumulative impacts of activities associated with commercial fishing are appropriately considered.	2	<ul style="list-style-type: none"> Cumulative impacts associated with commercial fisheries are more well-known than for recreational fishing but are difficult to consider as a whole as the Authority do not have a fully functional Reef Permit System to support a cumulative impact assessment. The public database for commercial fishing data has not been updated since 2005 For trawl, cumulative impacts have been considered in recent processes, but the knowledge base is quite limited. 		Adequate	Improving
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding commercial fishing	4	<ul style="list-style-type: none"> Reef Guardian Fishers have participated in a trial of electronic data collection devices and are interested in further development of a system that delivers on multiple information needs (e.g. vessel tracking, safety, business efficiency, and fisheries data reporting). Biophysical data relevant to fishing has improved with the draft Biodiversity Conservation Strategy and Vulnerability Assessments, and the Coastal Ecosystem Framework. In relation to trawling, the available biophysical information (e.g. from DAFF, 	<ul style="list-style-type: none"> Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments 	Adequate	Improving

		CSIRO, AIMS, others) has been well considered in management decision making access to data held by QLD has been good in recent collaborative projects. The trawl ecological risk assessment synthesises much of this information and provided a mechanism for it to be considered in decision making.			
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding commercial fishing	2	<ul style="list-style-type: none"> The amount of socio-economic research information available relating to commercial fishing is much less than for biophysical information. Deloitte Access Economic study 2012 The climate adaptation work and extreme weather response programs have had strong socio-economic components and this work is informing decision making. Similarly, recent work by CSIRO/GBRMPA/DAFFQ funded by FRDC on social aspects has had good uptake by managers. 	<ul style="list-style-type: none"> Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft) ,Great Barrier Reef Marine Park Authority 	Adequate	Improving
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding commercial fishing	1	<ul style="list-style-type: none"> The Authority liaises with traditional users of the GBRMP via a number of means and this results in formation sharing which assists in the management of fishing. However a detailed and widespread understanding of traditional (indigenous) knowledge and cultural heritage is limited. 		Adequate	Stable
PR13 Relevant standards are identified and being met regarding commercial fishing	4	<ul style="list-style-type: none"> The Zoning Plan sets a level of protection (a standard) to be achieved to ensure a representative proportion of different habitats are protected. The greatest risk to these standards being met is illegal fishing. The Field Management Program/Compliance program has specific strategies for Zoning Plan compliance and the resources needed to achieve those standards. EPBC Guidelines & assessments contain high level standards. To date some fisheries are not achieving the standards e.g. Coral reef Finfish Fishery where recommendations relating to the EPBC accreditation of the Coral Reef Finfish Fishery are not being met. Some examples where standards have been identified include 1) the aquarium supply sector including Stewardship Action Plan by Provision Reef, 2) the ecological risk assessment work for trawl, 3) pilot program Reef Guardian Fishers and 4) climate adaptation work with aquarium and trawl fishing industries. Progress towards meeting these standards is variable and is generally improving. 	http://www.daff.qld.gov.au/28_15487.htm http://www.gbrmpa.gov.au/_data/assets/pdf_file/0018/6165/gbrmpa_InfoSheetERAEastCoastOtterTrawlFishWeb_2010.pdf	Adequate	Stable
PR14 Targets have been established to benchmark management performance	2	<ul style="list-style-type: none"> CITES Convention on Migratory Species (CMS) – Australia sets agendas for environmental stewardship in fisheries. There is no independent auditor to assess delivery of ecologically sustainable fisheries management outputs or outcomes relating to any targets for any fishery in the GBRMP. 		Adequate	Stable
OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for commercial fishing	2	<ul style="list-style-type: none"> In general, the Authority activities and programs relating to commercial fishing have progressed in accordance with planned work programs (e.g. trawl ERA, Vulnerability Assessment, Social Objectives work, inputs to Trawl Plan Review, Climate adaptation planning all progressed in 2010 – 2012 with delivery of outputs e.g. reports, workshops, frameworks etc). Management activities are planned and undertaken on a fishery-by-fishery basis. To date there has been little work to look at cumulative ecosystem approaches at a marine park scale. A strategic overview for fishing is lacking 		Adequate	Stable

OP2 Implementation of management documents and/or programs relevant to fishing have progressed in accordance with timeframes specified in those documents	2	<ul style="list-style-type: none"> Once in place implementation does occur within given timeframes. Several major management and research studies completed and informing management, extension work on by-catch reduction and Trawl Plan review process over last 2 years, but actual management changes to protect values and improved practices is more limited. With better resourcing, the Field Management Program's compliance and enforcement program could be more effectively implemented and progressed. 	FMP Business Plan	Adequate	Stable
OP3 The results (in OP1 above) have achieved their stated management objectives	2	<ul style="list-style-type: none"> The compliance/field management program has insufficient resources to effectively manage illegal fishing. More work is required to reduce risks and impacts for species vulnerable to overfishing, to mitigate protected species interactions; and to reduce bycatch. While objectives of the Authority work programs have generally been achieved, further time/work required to achieve desired outcomes for the GBR ecosystem and to protect values and MNES. For example, to reduce risk to sea snakes from trawling, use of highly effective bycatch reduction devices for sea snakes needs to be made mandatory for all trawl operators where they interact with sea snakes. 		Adequate	Improving
OP4... to date, products or services have been produced in accordance with the stated management objectives for commercial fishing	4	<ul style="list-style-type: none"> Informing public about rules: such as zoning maps, GPS products, DAFFQ range of bag/size limit products have been produced and disseminated in accordance with objectives From an industry perspective the issues are not being addressed within timeframes relevant to industry. 		Adequate	Stable
OUTCOMES					
OC1...the relevant managing agencies are to date effectively addressing commercial fishing and moving towards the attainment of the desired outcomes.	2	<ul style="list-style-type: none"> While almost all fisheries sectors demonstrate varying degrees of progress towards desired biodiversity outcomes, there are still fishing operations whose activities are believed to be largely illegal in nature and which undermine the attainment of desired outcomes. Compliance management is not achieving desired outcomes due to insufficient technology (e.g. VMS) and resources Development and testing of new net designs (e.g. with breakaway panels to reduce dugong bycatch) need to be more effectively supported by managing agencies to move towards sustainable net designs (e.g. similar to TED's and BRD's for trawl). The recent collaborative projects on trawl have improved the Authority's understanding of current trawl-related risks and uncertainties on biodiversity protection, ecologically sustainable use and ecosystem conservation, and work is underway with key partners (but progressing slowly) to address the remaining risks. The situation is similar for several other fisheries. 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0018/6165/gbrmpa_InfoSheetERAEastCoastOtterTrawlFishWeb_2010.pdf	Adequate	Improving
OC2... the outputs relating to commercial fishing are on track to ensure the values of the Great Barrier Reef are protected (refer CO1)	2	<ul style="list-style-type: none"> While almost all fisheries sectors demonstrate varying degrees of progress towards desired biodiversity outcomes, there are still some fishing operations whose activities are believed to be largely illegal in nature, and which undermine the attainment of desired outcomes. Compliance in remote areas is of particular concern. For example, the remoteness of Princess Charlotte Bay and areas north intensify the challenges of compliance management. The Trawl ERA has recognised progress over the last two decades in reducing environmental impacts: <ul style="list-style-type: none"> overall risk reduced from historic risks, was very high in 1980's and 1990's overall risk from 2005 to 2009 reduced 	http://www.daff.qld.gov.au/28_15487.htm http://www.gbrmpa.gov.au/_data/assets/pdf_file/0018/6165/gbrmpa_InfoSheetERAEastCoastOtterTrawlFishWeb_2010.pdf	Adequate	Improving
OC3... the outputs (refer OP1 & 3) for commercial fishing are reducing the major risks and the threats to the Great Barrier Reef	2	<ul style="list-style-type: none"> Illegal fishing mainly by infringement of no take marine reserves has the potential to significantly impact on biodiversity in short periods of time in localised areas. While current risks from trawling activities are generally low, there are some remaining risks from trawling to Great Barrier Reef biodiversity that are yet to be reduced. E.g. Fishing low order predators - Ecological assessment of trawl fishery has identified several low order predator elasmobranch species as high risk. 		Adequate	Improving

		<ul style="list-style-type: none"> No increased protection of fish spawning aggregations in recent years with actual reduction in length of spawning season closures for coral reef finfish and no discussion in regard to increased protection of spawning aggregations of species such as Spanish mackerel or Grunter which fishers are known to target. Harvest fisheries (in particular sea cucumber fishery) are reducing the major risks. 			
OC4... use of the Great Barrier Reef relating to commercial fishing is demonstrably environmentally sustainable	2	<ul style="list-style-type: none"> The greatest impediment to achieving environmentally sustainable fishing is ongoing and in some sectors increasing illegal fishing activities. There is scope for sustainability to be improved in some sectors. E.g. for the threadfin salmon and grey mackerel legal sizes could be reviewed ensure ecologically sustainable use (see vulnerability assessments); research and implementation of bycatch reduction net designs to reduce risks to dugong, inshore dolphins and shark (this would also require re-implementation of the observer program). Some fisheries sectors are demonstrating a very high level of stewardship and environmental sustainability for example, the marine aquarium coral collectors in the Keppels (Pro-Vision Reef). 	http://www.gbrmpa.gov.au/_data/assets/pdf_file/0018/6165/gbrmpa_InfoSheetERAEastCoastOtterTrawlFishWeb_2010.pdf Status Reports for each fishery: http://www.environment.gov.au/coasts/fisheries/qld/index.html	Adequate	Improving
OC5... use of the Great Barrier Reef relating to commercial fishing is demonstrably economically sustainable	2	<ul style="list-style-type: none"> Within fishery sectors, some businesses are likely to be more profitable than others. The capacity of businesses and fisheries to remain viable while coping and adapting with changing circumstances is variable and sometimes limited. 	<ul style="list-style-type: none"> Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft) ,Great Barrier Reef Marine Park Authority 	Adequate	Improving
OC6... use of the Great Barrier Reef relating to commercial fishing has demonstrably enhanced community understanding and/or enjoyment	3	<ul style="list-style-type: none"> Fishing from all sectors is likely to have large, but unquantified socio/community benefits. Measures have yet to be developed for this. Valuable ecosystem services and economic/social benefits enjoyed by the community from a healthy Great Barrier Reef are at risk. Recent work on trawl management and adaptation has attempted to consider social and community aspects, and national FRDC project (and other research projects) are building capacity in this area. 		Adequate	Stable
OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address commercial fishing	3	<ul style="list-style-type: none"> The Authority has established a pilot Reef Guardian Fishers program (for commercial harvest and Line fisheries currently and further development planned for inshore net fishers)- this program recognises fishers who operate sustainably and innovatively in order to maintain the health of the Great Barrier Reef while building the future of their fishery, their business and the Reef. Partnerships with some stakeholders have improved in recent years, and include work under climate adaptation programs and research programs. 	<ul style="list-style-type: none"> Reef Guardian Fishers - finalised pilot programs in the reef line and marine aquarium fish and coral collection sectors; also trialing electronic data collection devices with Reef Guardian Fishers in the inshore gillnet fishery 	Adequate	Stable

Topic: Recreational Fishing

Component of Management	Rating	Justification	Evidence/Sources	Confidence	Trend
CONTEXT					
CO1 The values that underpin MNES in the Great Barrier Reef (incl. OUV of the GBRWHA) relevant to recreational fishing... are understood by managers.	3	<ul style="list-style-type: none"> With regard to recreational fishing, an estimated 7400 tonnes of inshore fish species and 3000 tonnes of reef fish are caught each year. The main target species are coral trout and cod, emperor, tropical snapper, barramundi, bream, mackerel, whiting, crabs, lobster and bait fish. A large proportion (for example, 60 per cent for inshore species) of the recreational catch is subsequently released, either through the increasingly popular practice of catch and release or because they are undersized or unwanted. The survival success of many of the released species is not well understood. 	<ul style="list-style-type: none"> EPBC Guidelines on the ecologically sustainable management of fisheries http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html DAFFQ 2007 Annual Status Report 	Adequate	Improving
CO2 Direct and indirect impacts associated with recreational fishing are understood by managers.	3	<ul style="list-style-type: none"> Direct and indirect impacts of fishing are reasonably well known Examples include vulnerability assessment for species of concern 	<ul style="list-style-type: none"> Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments See the Authority's Recreation Management Strategy: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0005/16835/gbrmpa-RecreationManagementStrategy-2012.pdf The results of the 2010 State-wide Recreational Fishing Survey has recently been loaded on the Queensland Fisheries survey webpage (http://www.daff.qld.gov.au/28_18273.htm) 	Adequate	Improving
CO3 Consequential and cumulative impacts associated with recreational fishing are understood by managers.	2	<ul style="list-style-type: none"> The ecosystem effects and cumulative impacts of recreational fishing are poorly understood, but are likely to be concentrated in inshore areas close to major population centres. The fishing practices of recreational users are unlikely to result in significant physical impacts on the habitats of the Great Barrier Reef. 	GBRMPA website: http://www.gbrmpa.gov.au/outlook-for-the-reef/remaining-impacts-from-fishing	Adequate	Improving
CO4 The current condition and trend of matters of national environmental significance (spatial and non-spatial) relevant to recreational fishing are known by managers	2	<ul style="list-style-type: none"> The condition and trend of recreational fishing is not well known 		Limited	No clear trend
CO5 The stakeholders relevant to recreational fishing are well known by managers.	3	<ul style="list-style-type: none"> Recreational fishing - a range of estimates up to 750,000 people fish in GBRMP annually, focus is mostly line & pots with limited types of bait The Authority has very good relationships with recreational fishing bodies Following the RAP the Authority developed regional officers to liaise with the community, especially regional fishing stakeholders. This stakeholder engagement strategy has been highly effective in identifying and liaising with stakeholders relevant to the recreational fisheries. 	Reef Guardian Fishers: http://www.gbrmpa.gov.au/our-partners/reef-guardians/reef-guardian-fishers	Adequate	Improving
PLANNING					
PL1 There is a planning system in place that effectively addresses recreational fishing	3	<ul style="list-style-type: none"> Zoning Plan - The GBRMP Zoning Plan 2003. Recreational fishing participation is not controlled by inputs other than fishing gear constraints, but is subjected to output controls including size and possession limits for most species. Some limited fishing and collecting by recreational users is managed via Regulation 15 of the Great Barrier Reef Marine Park Regulations 1983 – however take is not measured and compliance is not targeted. 	GBRMPA website on Zoning: http://www.gbrmpa.gov.au/zoning-permits-and-plans Granek et al 2008 is an international peer reviewed case study paper with one of the case studies being the zoning of the GBR and their recreational fishers involvement in the conservation and management of the GBR.	Adequate	Stable

PL2 The planning system for recreational fishing addresses the major pressures and drivers impacting on the Great Barrier Reef's values	3	<ul style="list-style-type: none"> Zoning Plan - increased Green zones to ~33% - research (Harrison et al (2012) has shown that populations of commercially and recreationally important fish species within green zones exported 55-83% of offspring to adjacent reefs open to fishing. This indicates that the reserve areas within the Keppel Island are making significant contributions to the replenishment of populations on both reserve and fished reefs at a scale beneficial to stakeholders. 	Harrison et al 2012	Adequate	Improving
PL3 Actions for implementation regarding recreational fishing are clearly identified within the plan	3	<ul style="list-style-type: none"> The Zoning Plan clearly identifies where and how actions in the Marine Park should be implemented. Other plans (e.g. Draft Biodiversity Conservation Strategy, Climate Change Action Plan and Adaptation Strategy) also identify some fishery-related actions. 	<ul style="list-style-type: none"> Climate change vulnerability assessment 2007 Draft Biodiversity Strategy Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments 	Adequate	Stable
PL4 Clear, measurable and appropriate objectives for management of recreational fishing have been documented	2	<ul style="list-style-type: none"> The Regulations and the Zoning Plan are very clear in specifying what activities and actions can occur for recreational fishing within the Authority's jurisdiction. The Recreation Management Strategy has general objectives for understanding and managing recreational use (e.g. best practice, voluntary compliance and infrastructure). While it identifies the impact of recreational take of marine resources as a risk area, it does not specifically address management arrangements for recreational fishing, recognising that is a matter for the Authority and its partner agency Fisheries Queensland. 	<p>GBRMPA website on Zoning: http://www.gbrmpa.gov.au/zoning-permits-and-plans</p> <p>Recreational Management Strategy: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0005/16835/gbrmpa-RecreationManagementStrategy-2012.pdf</p>	Adequate	Improving
PL5 The main stakeholders &/or the local community are effectively engaged in planning to address recreational fishing	3	<ul style="list-style-type: none"> The Authority has good relationships with recreational fishing bodies Following the RAP the Authority developed regional officers to liaise with the community, especially regional fishing stakeholders. This stakeholder engagement strategy has been highly effective in identifying and liaising with stakeholders relevant to the recreational fisheries. The Tourism and Recreation RAC includes a representative from Sunfish. 		Adequate	Improving
PL6 Sufficient policy currently exists to effectively address recreational fishing...	3	<ul style="list-style-type: none"> The Authority has no specific policies on recreational fishing and relies on the zoning plan. The Authority has produced a Recreation Management Strategy which identifies the impact of recreational take of marine resources as a risk area, but does not specifically address management arrangements for recreational fishing. Responsible Reef Practices (GBRMPA website) covers a number of activities that are associated with recreational fishing (e.g. boating, fishing, anchoring and mooring, collecting) 	<p>Recreational Management Strategy: http://www.gbrmpa.gov.au/_data/assets/pdf_file/0005/16835/gbrmpa-RecreationManagementStrategy-2012.pdf</p> <p>Responsible Reef Practices: http://www.gbrmpa.gov.au/visit-the-reef/responsible-reef-practices</p>	Adequate	Improving
PL7 There is consistency across jurisdictions when planning for recreational fishing...	3	<ul style="list-style-type: none"> Multiple agencies are involved in fishing management: DAAF, SEWPaC, and the Authority. There is no overarching plan for recreational fishing (e.g. like Reef Plan) to manage recreational fishing in the Great Barrier Reef Region. As such the objectives of different jurisdictions are not as well aligned as they could be. 		Adequate	Possibly Deteriorating with QLD
PL8 Plans provide certainty regarding where uses may occur, the type of activities allowed, conditions under which activities may proceed and circumstances where impacts are likely to be acceptable	4	<ul style="list-style-type: none"> GBRMPA Zoning provides certainty regarding where uses may occur, the type of activities allowed, but the fishery management plan is relied on for providing conditions under which activities may proceed and circumstances where impacts are likely to be acceptable. Recreational fishers do not require permits. Operators must hold permits for charter fishing operations, which specify what activity can occur where, and are considered on a case by case assessment. 	GBRMPA website on Zoning: http://www.gbrmpa.gov.au/zoning-permits-and-plans	Adequate	Stable
INPUTS					
IN1 Current financial resources are adequate and prioritised to meet management objectives to address recreational fishing	2	<ul style="list-style-type: none"> Compliance and Field Management financial resources associated with fishing is inadequate and declining in real terms. 		Adequate	Deteriorating

IN2 Current human resources within the managing organisations are adequate to meet specific management objectives to address recreational fishing...	2	<ul style="list-style-type: none"> The Authority has 3 full time equivalent Managers working on sustainable commercial and to a lesser extent recreational fishing. Some work is also done on sustainable fishing through the Reef Guardian Program (commercial fishing only at this stage) and the Tourism and Recreation Group (charter fishing operations and recreational use more generally). 		Adequate	Stable
IN3 The right skill sets and expertise are currently available to the managing organisations to address recreational fishing	3	<ul style="list-style-type: none"> The skill set within the Authority is of a high quality and experienced, and generally meets the needs for managing commercial and recreational fishing impacts in the GBRWHA. Many external agencies and stakeholders rely on and trust the knowledge and expertise provided by the Authority for informing management of fisheries and marine resources in the GBRWHA 		Adequate	Stable
IN4 The necessary biophysical information is currently available to address recreational fishing	3	<ul style="list-style-type: none"> Substantial advances have been made in the past decade but there are still information gaps for some species and ecosystem function in general The Draft Great Barrier Reef Biodiversity Conservation Strategy 2012 and Vulnerability Assessments- the Strategy provides some biophysical information relevant to fisheries. 	<ul style="list-style-type: none"> Draft Biodiversity Conservation Strategy Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments 	Adequate	Improving
IN5 The necessary socio-economic information is currently available to address recreational fishing	3	<ul style="list-style-type: none"> Deloitte Access Economics report provides improved data on recreational fishing 	<ul style="list-style-type: none"> Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft), Great Barrier Reef Marine Park Authority 	Adequate	Improving
IN6 The necessary traditional (Indigenous) knowledge is currently available to address recreational fishing	2	<ul style="list-style-type: none"> The Authority liaises with traditional users of the GBRMP via a number of means and this results in formation sharing which assists in the management of fishing. However a detailed and widespread understanding of traditional (indigenous) knowledge and cultural heritage is limited and a strategy to address this gap is needed. 		Adequate	Improving
IN7 There are additional sources of non-government input (e.g. volunteers) contributing to address recreational fishing	3	<ul style="list-style-type: none"> Following the RAP the Authority developed regional officers to liaise with the community, especially regional fishing stakeholders. This stakeholder engagement strategy has been highly effective in identifying and liaising with stakeholders relevant to the recreational fisheries. 		Adequate	Stable
PROCESSES					
PR1 The main stakeholders &/or industry(ies) are effectively engaged in the ongoing management of recreational fishing	3	<ul style="list-style-type: none"> The Authority has very good relationships with recreational fishing bodies Following the RAP the Authority developed regional officers to liaise with the community, especially regional fishing stakeholders. This stakeholder engagement strategy has been highly effective in identifying and liaising with stakeholders relevant to the recreational fisheries. 		Adequate	Stable
PR2 The local community is effectively engaged in the ongoing management of recreational fishing.	3	<ul style="list-style-type: none"> Focus for most of the fishery engagement work has been stakeholder groups (including managers, industry, scientists, and conservation) rather than local community per se. Some regional fisheries projects (e.g. Burdekin, Mackay) have improved local engagement. 12 LMACs are a forum for local community engagement, and the regional the Authority's offices. 		Adequate	Stable
PR3 There is a sound governance system in place to address recreational fishing...	3	<ul style="list-style-type: none"> The GBRMP Act, Regulations, Zoning Plan are in place to manage some aspects of the recreational fisheries from an ecosystem perspective. While multiple agencies are involved in fishing management: FQ, SEWPaC, and the Authority, there is no overarching governance system for recreational fishing (e.g. like Reef Plan) in the Great Barrier Reef Region. The bag limits and legal sizes of some targeted species set by other agencies are not adequately governed to ensure ecologically sustainable use (see vulnerability assessments) 	<ul style="list-style-type: none"> Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments GBRMPA website on Zoning: http://www.gbrmpa.gov.au/zoning-permits-and-plans 	Adequate	Stable

PR4 There is effective performance monitoring to gauge progress towards the objective(s)	2	<ul style="list-style-type: none"> The Authority works closely with AIMS and JCU to monitor the performance outcomes from the Zoning Plan 2003. The zoning plan is the main management tool for recreational fishing. Compliance with the zoning plan is the only performance measure for recreational fishing. This performance measure (i.e. no illegal fishing in green zones) is not being achieved. There is no integrated program across all fishing activities and the elements of biodiversity that they affect. 	GBRMPA website on Zoning: http://www.gbrmpa.gov.au/zoning-permits-and-plans	Limited	Deteriorating
PR5 Appropriate training is available to the managing agencies to address recreational fishing	3	<ul style="list-style-type: none"> Appropriate training is provided as needed. 			
PR6 Management of fisheries is consistently implemented across the relevant jurisdictions	3	<ul style="list-style-type: none"> While multiple agencies are involved in the management of fishing, there is no overarching plan for commercial fishing (e.g. like Reef Plan) to manage commercial fishing in the Great Barrier Reef Region. 		Adequate	Deteriorating
PR7 There are effective processes applied to resolve differing views/ conflicts regarding recreational fishing	3	<ul style="list-style-type: none"> Plans of Management provide for the range of recreational use. Site management arrangements are also used to address conflicts of use at specific locations. Permits for charter fishing operations have a review rights process Regional Liaison Officers are on the ground to ensure issues and conflicts are identified early so they can be discussed and resolved 	http://www.gbrmpa.gov.au/zoning-permits-and-plans/plans-of-management	Adequate	Deteriorating
PR8 Direct and indirect impacts of activities associated with recreational fishing are appropriately considered.	3	<ul style="list-style-type: none"> Fishing is a key extractive use of the GBRMP. The Authority is reviewing the remaining impacts from fishing. Illegal fishing is the most pertinent direct impact on sustainable fish populations. 		Adequate	Stable
PR9. Consequential and cumulative impacts of activities associated with recreational fishing are appropriately considered.	2	<ul style="list-style-type: none"> Cumulative impacts associated with recreational fishing are not well understood and hence not well considered. Given the Authority does not regulate it through a permits system/licence it is difficult to address this indicator. Actual/cumulative recreational use is not monitored nor well understood. 		Limited	Stable
PR10 The best available biophysical research and/or monitoring information is applied appropriately to make relevant management decisions regarding recreational fishing...	3	<ul style="list-style-type: none"> Biophysical data relevant to fishing has improved with the draft Biodiversity Conservation Strategy and Vulnerability Assessments, and the Coastal Ecosystem Framework. 	<ul style="list-style-type: none"> Draft Biodiversity Strategy Vulnerability Assessments - More information at: http://www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-for-public-consultation/vulnerability-assessments 	Adequate	Improving
PR11 The best available socio-economic research and/or monitoring information is applied appropriately to make relevant management decisions regarding recreational fishing	2	<ul style="list-style-type: none"> Deloitte Access Economic study and the other projects. 	<ul style="list-style-type: none"> Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft) ,Great Barrier Reef Marine Park Authority 	Adequate	Improving
PR12 The best available traditional (Indigenous) knowledge is applied appropriately to make relevant management decisions regarding recreational fishing	1	<ul style="list-style-type: none"> The Authority liaises with traditional users of the GBRMP via a number of means and this results in formation sharing which assists in the management of fishing. However a detailed and widespread understanding of traditional (indigenous) knowledge and cultural heritage is limited. 		Adequate	Improving

PR13 Relevant standards are identified and being met regarding recreational fishing	4	<ul style="list-style-type: none"> The Zoning Plan sets a level of protection to be achieved to ensure a representative proportion of different habitats are protected. The greatest risk to these standards being met is illegal fishing. The Field Management Program/Compliance program identifies specific standards for Zoning Plan compliance and the resources needed to achieve those standards. Voluntary best practice standards for fishing (Responsible Reef Practices) The first fishing charter operation has just become a high standard operator (therefore meeting independent certification standards in the ECO Certification Program). 	GBRMPA website on Zoning: http://www.gbrmpa.gov.au/zoning-permits-and-plans	Adequate	Stable
PR14 Targets have been established to benchmark management performance	2	<ul style="list-style-type: none"> No targets have been set There is no independent auditor to assess delivery of ecologically sustainable fisheries management outputs or outcomes relating to any targets for any fishery in the GBRMP. 		Limited	No clear trend
OUTPUTS					
OP1 To date, the actual management program (or activities) have progressed in accordance with the planned work program for recreational fishing	2	<ul style="list-style-type: none"> Management program tends to be focussed mostly on commercial sector. A strategic overview for fishing is lacking The Recreational Management Strategy considers the risks associated with recreational fishing (take of marine resources) to be medium, but does not specifically address a management program for recreational fishing. It does however address the general objectives for understanding and managing recreational use (e.g. best practice, voluntary compliance and infrastructure). 	Recreational Management Strategy (RMS) http://www.gbrmpa.gov.au/about-the-reef/how-the-reefs-managed/recreation-in-the-great-barrier-reef-marine-park	Limited	No clear trend
OP2 Implementation of management documents and/or programs relevant to recreational fishing have progressed in accordance with timeframes specified in those documents	2	<ul style="list-style-type: none"> The main programs for recreational fishing are associated with the zoning plan, and through Fisheries Qld limits on catch. A targeted education and compliance strategy has been implemented to help give effect to the zoning plans, with focus on high-risk threats. 		Limited	No clear trend
OP3 The results (in OP1 above) have achieved their stated management objectives	2	<ul style="list-style-type: none"> The issues with illegal fishing in the recreational fishing sectors suggests this is not occurring More work is required to reduce risks and impacts for species vulnerable to overfishing, to mitigate protected species interactions; and to reduce bycatch. 		Limited	Deteriorating
OP4... to date, products or services have been produced in accordance with the stated management objectives for recreational fishing	4	<ul style="list-style-type: none"> Responsible Reef Practices for fishing Informing public about rules: such as zoning maps, GPS products, DAFFQ range of bag/size limit products have been produced and disseminated in accordance with objectives The first charter fishing operation has become a high standard operator (therefore meeting independent certification standards in the ECO Certification Program). 		Adequate	Stable
OUTCOMES					
OC1...the relevant managing agencies are to date effectively addressing recreational fishing and moving towards the attainment of the desired outcomes.	2	<ul style="list-style-type: none"> Focus has been on commercial fishing. Recreational fishing is highly dispersed, and although the impacts are listed as medium, the zoning plan is the main management tool. Compliance with the zoning plan is the major way of managing recreational fishing. While recreational fishers demonstrate varying degrees of progress towards desired biodiversity outcomes, there are still fishing activities that are illegal in nature, that undermine the attainment of the desired outcomes. 		Limited	Deteriorating
OC2... the outputs relating to recreational fishing are on track to ensure the values of the Great Barrier Reef are protected (refer C01)	2	<ul style="list-style-type: none"> An understanding of and management of recreational take is limited and therefore performance evaluation is hard to determine Compliance in remote areas in particular is of concern. Localised depletion may be occurring in some areas due to excessive levels of illegal fishing activity. 		Limited	No clear trend

OC3... the outputs (refer OP1 & 3) for recreational fishing are reducing the major risks and the threats to the Great Barrier Reef	2	<ul style="list-style-type: none"> Recreational fishing is poorly quantified and increasing trends are likely to require a management challenge to ensure continued sustainability (e.g. recreational fishing licences). There are increasing concerns regarding the levels of non-compliance with marine no-take areas in the GBRMP in recent years. 		Adequate	Deteriorating
OC4... use of the Great Barrier Reef relating to recreational fishing is demonstrably environmentally sustainable	2	<ul style="list-style-type: none"> Recreational fishing is poorly quantified and increasing trends are likely to pose a management challenge to ensure continued sustainability, However the RMS does not see fishing as a high risk activity. For sectors such as recreational fishing, the desired outcomes have not been described. Public expectations of the outcomes from fishing within the GBRMP are similarly poorly documented. The greatest impediment to demonstrating environmentally sustainable fishing is ongoing and in some sectors increasing illegal fishing activities. 		Adequate	Deteriorating
OC5... use of the Great Barrier Reef relating to recreational fishing is demonstrably economically sustainable	3	<ul style="list-style-type: none"> RSP Project: Economic Contribution of the GBR Report has estimated what value the GBR supports with regard to recreational fishing Extreme weather events significantly affected several fisheries economically in 2010-2011 (e.g. cyclone Hamish and Yasi). 	<ul style="list-style-type: none"> Deloitte Economics (2012) Economic Contribution of the Great Barrier Reef (draft) ,Great Barrier Reef Marine Park Authority 	Adequate	Improving
OC6... use of the Great Barrier Reef relating to recreational fishing has demonstrably enhanced community understanding and/or enjoyment	4	<ul style="list-style-type: none"> Recreational fishing is likely to have large, but unquantified community benefits. Measures have yet to be developed for this. Valuable ecosystem services and economic/social benefits enjoyed by the community from a healthy Great Barrier Reef are at risk. 		Adequate	Stable
OC7... the relevant managing agencies have developed effective partnerships with local communities and/or stakeholders to address recreational fishing	3	<ul style="list-style-type: none"> The Authority has very good relationships with recreational fishing bodies Following the RAP the Authority developed regional offices to liaise with the community, especially regional fishing stakeholders. This stakeholder engagement strategy has been highly effective in identifying and liaising with stakeholders relevant to recreational fisheries. 		Adequate	Improving