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**CONVENTION CONCERNING THE PROTECTION OF THE WORLD
CULTURAL AND NATURAL HERITAGE**

**CONVENTION CONCERNANT LA PROTECTION DU PATRIMOINE
MONDIAL, CULTUREL ET NATUREL**

WORLD HERITAGE COMMITTEE / COMITE DU PATRIMOINE MONDIAL

Thirty-sixth session / Trente-sixième session

Saint Petersburg, Russian Federation / Saint Pétersbourg, Fédération de Russie

24 June – 6 July 2012 / 24 juin – 6 juillet 2012

Item 7 of the Provisional Agenda: State of conservation of properties inscribed on the World Heritage List and/or on the List of World Heritage in Danger.

Point 7 de l'Ordre du jour provisoire: Etat de conservation de biens inscrits sur la Liste du patrimoine mondial et/ou sur la Liste du patrimoine mondial en péril

MISSION REPORT / RAPPORT DE MISSION

**Great Barrier Reef (Australia) (N 154)
La Grande Barrière (Australie) (N 154)**

6 – 14 March 2012 / 6 – 14 mars 2012

This mission report should be read in conjunction with Document:

Ce rapport de mission doit être lu conjointement avec le document suivant:

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UNESCO World Heritage Centre - IUCN

MISSION REPORT
Reactive Monitoring Mission to Great Barrier Reef (Australia)
6th to 14th March 2012

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Fanny Douvere (UNESCO World Heritage Centre)
Tim Badman (IUCN)
June, 2012

PREFACE

This report contains the results of a reactive monitoring mission requested by the World Heritage Committee at its 35th session (UNESCO, Paris) and undertaken jointly by the World Heritage Centre and IUCN. The mission was undertaken jointly according to the roles established by the World Heritage Convention and its operational guidelines. The reactive monitoring mission was undertaken from 6-14 March 2012 with the objective to assess the state of conservation of the Great Barrier Reef World Heritage property and to contribute to the strategic assessment process, as requested by the World Heritage Committee at its 35th session (Decision 35 COM 7B10).

The World Heritage Committee, at its forthcoming 36th session (St. Petersburg, 2012) will consider the findings of the mission and the draft decision prepared by World Heritage Centre and IUCN as part of the State of Conservation report. A final decision about the state of conservation of the Great Barrier Reef World Heritage Area and the measures required to secure its long-term conservation is due at the 36th World Heritage Committee session that will take place in St. Petersburg from 24 June to 6 July 2012.

Terminology used in this report

The official term used in the World Heritage Convention for a World Heritage Area is “property”. Throughout this report the wording “the property” is considered synonymous with the Great Barrier Reef World Heritage Area (GBRWHA). Both GBRWHA and property are used interchangeably throughout this report.

ACKNOWLEDGEMENTS

The mission wishes to thank the Government of Australia for facilitating the reactive monitoring mission, enabling the visits to various parts of the reef and the many meetings with people that were conducted throughout the nine days of the monitoring mission. The mission thanks in particular Ms. Jane Ambrose and her colleagues for their support to all logistical aspects, and the preparation of comprehensive background information and mapping, as well as much supplementary information. The mission also thanks staff of the Federal and Queensland Governments, Great Barrier Reef Marine Park Authority and other public agencies for providing the mission team with a comprehensive perspective on the achievements and challenges of protecting and managing the property. The mission also thanks the Traditional Owners who welcomed it to their country and seacountry.

This mission benefitted from the input of many individuals who undertook an exceptional effort to share their views with the mission team, and who are too many to name and thank personally but are listed in the Appendices to this report. They represented a wide range of the stakeholders in the Great Barrier Reef, and brought forward the views and concerns of many people the mission was not able to meet directly through their submissions and advice. The mission is also grateful for the enormous amount of information that has been provided via correspondence from organisations and individuals before, during and after the visit to the property.

The mission thanks in particular the Federal, State and Local politicians who met with the mission, including Minister Tony Burke, Senator Larissa Waters and Ms. Vicky Darling, who took time to hold discussions within their busy schedules, and who provided invaluable information to the mission.

Finally, the mission expresses its thanks to Dr. Greg Terrill, Mr. Andrew Skeat, and Mr. Grahame Byron for accompanying the mission team throughout its visit, for ensuring information was provided in response to the multitude of questions and requests for clarifications about points that came to the mission team's attention, and for making this important undertaking an unforgettable time in one of the most outstanding places on the planet.

EXECUTIVE SUMMARY

The World Heritage Centre and IUCN undertook a reactive monitoring mission to assess the state of conservation of the Great Barrier Reef World Heritage property and to contribute to the strategic assessment process, as requested by the World Heritage Committee at its 35th session (Decision 35 COM 7B.10).

The mission took place from 6-14 March 2012. The mission addressed the following key issues:

1. Assessment and conclusions on the state of conservation of the property as a whole, including key issues identified that have the potential to significantly impact on Outstanding Universal Value (OUV);
2. Visit and assessment of key development areas, including those on Curtis Island, as well as elsewhere along the Great Barrier Reef (GBR) coast, with the aim to assess their impacts on OUV;
3. Review of planned and potential future developments that could impact OUV and assist the State Party to develop a long-term plan for sustainable development;
4. Contribute to the Strategic Assessment process being undertaken by the State Party; and
5. Work with the State Party to ensure that reporting under paragraph 172 of the *Operational Guidelines* to the Convention meet the requirements of the Committee.

The mission concludes that the Great Barrier Reef continues to demonstrate OUV. The property is iconic as the world's largest coral reef ecosystem of which the size, beauty, composition and biodiversity rate remain exceptional. The property is one of the largest multiple use marine areas included on the World Heritage List, and the efforts of the State Party to conserve the area as a whole over the 31 years it has been inscribed on the World Heritage List are remarkable. Since the listing of the Great Barrier Reef as World Heritage, the property has tackled a series of threats effectively, notably through the successful zoning system which increased no-take zones up to 33% of the property and covers a representative selection of the marine ecosystems present in the property. Threats that had been noted previously and range from oil and gas development inside the property to recreation, fishing and tourism, and most recently water quality from catchment run-off are being dealt with effectively and indications are such that they will likely be further improved in the future. The planning framework for surveillance, and the monitoring and evaluation of the property are highly sophisticated.

Despite these positive trends, the future conservation of the Great Barrier Reef World Heritage area is at crossroads and decisions that will be taken in the immediate future will be decisive for the long-term health of the property as a whole. The mission concludes that the property is affected by a number of current and potential threats and that decisive and immediate action is required to secure its Outstanding Universal Value over the long-term. Climate change, catchment runoff, coastal development, ports and shipping and direct extractive use pose the most important threats to the long-term conservation of the property. Considering the rapid increase of coastal developments, including ports infrastructure, and the fact that circa 35 new development proposals are awaiting determination by 2013, including in highly sensitive or already pressured areas, the mission concludes that this is of high concern to the conservation of the OUV for which the property is inscribed on the World Heritage List. The property further lacks an overall plan for the future sustainable development of the reef that will protect its OUV and ensure its ecological integrity while simultaneously achieving sustainable economic and social goals. The continuation of investments for improving water quality beyond 2013 also requires confirmation. The overall outcome of the management of the property should result in a net-benefit for the long-term health of the property as a whole.

Based on the many consultations the mission conducted throughout its visit, it concludes that the environmental quality of parts of the Great Barrier Reef ecosystem, and most notably the inshore areas of the reef south of Cooktown, has declined since the time of inscription in 1981. Considering the overarching importance of water quality to the reef's health, it is indispensable that the current level of investment in measures to tackle this threat is maintained and the recent positive trends are sustained. It

is further essential to reduce development and other pressures on the property as much as possible to enable an increase in the reefs resilience to adapt to climate change. The mission further concluded that the practice related to port development within and in areas adjacent to the property is not carried out consistently with the highest international standards of practice commensurate with status of an iconic World Heritage property.

The mission considers that developments and operations in Gladstone Harbour and on Curtis Island impact on the OUV of the property. An independent review of the environmental concerns of the developments in Gladstone Harbour and on Curtis Island is essential and recommendations from the review need to propose measures that will ensure future management, development and operations in the harbour and its surroundings are consistent with the high standards for conservation of the Outstanding Universal Value as applied in other parts of the property. Resulting recommendations and measures need to have the confidence of stakeholders involved and be in place prior to consenting further developments. The mission also notes that developments on Curtis Island are not consistent with the leading industry commitment to not develop oil and gas resources in natural World Heritage properties.

In the immediate future the mission considers that it is clear that the scale of coastal development currently being proposed and consented presents a significant risk to the conservation of the OUV and integrity of the property, and that the scale and pace of development proposals appear beyond the capacity for independent, quality and transparent decision making. The Strategic Assessment is a vital response to this situation. Highly precautionary decision making consistent with the recommendations of the mission is required until the Strategic Assessment is completed, and its findings have been considered fully by the World Heritage Committee at its 39th session in 2015. The mission considers that the development of new ports or other types of large infrastructure, ahead of addressing demand through strategic planning and management within the existing port facilities would create a significant and largely irreversible negative impact on the OUV of the property. The mission considers further that an extension of the footprint of development outside of currently industrialized areas would clearly present a significant threat to the OUV and integrity of the property. Such decisions would entirely pre-empt the Strategic Assessment the State Party has committed to put in place, and thus undermine its effectiveness.

The mission makes additional recommendations to review and improve the recognition of OUV in the management system of the property, the institutional and legal system for the property, and the availability of resources.

The mission considers that the property does not currently meet the requirements for inscription on the List of World Heritage in Danger, but risks meeting those requirements if remedial measures are not undertaken. The mission notes that development pressures, reduction in water quality, and climate change are clearly impacting on the values of the property. It also notes that the property was inscribed as a large multiple-use area, that there are recent positive trends in restoring water quality, and that the State Party has committed to ensure a solid strategic planning framework for future developments will be put in place in a timely manner. However, should any of the most threatening developments proceed further towards consent and water quality measures do not continue to show a positive trend, the mission concludes that the World Heritage Committee should consider the possibility of listing the property as being in danger. The consent of such developments would directly risk irreversible impacts on the OUV of the property, and, as noted above, would pre-empt an effective outcome of the Strategic Assessment and its envisioned plan for the long-term sustainable development of the reef. Improved water quality is essential to the health of the reef and requires a continued investment to ensure continuation of the positive trend. It is further recommended that the State Party undertakes regular evaluation of the OUV via its existing 5 yearly Great Barrier Reef Outlook Report cycle. It is recommended the second report, due in 2014, is presented to the World Heritage Committee for consideration at its 39th session in 2015. It is suggested the report includes an assessment of the long term prospects for the OUV of the property, threats to OUV, and the effectiveness of protection and management measures to address such threats. They recommend the Committee should also seek further information from the State Party regarding its progress at its 37th and 39th sessions, to confirm that the necessary actions to address the threats to the OUV have been taken.

Based on the assessment of the State of Conservation of the property, considering its values, integrity and protection and management, the mission proposes 14 recommendations.

The mission considers that the State Party should take urgent measures to implement the following recommendations immediately to prevent a further erosion of the OUV and address important threats to the property:

R1: Sustain beyond 2013, and on a long-term basis, the current financial investment in the progressive and highly important Reef Water Quality Protection Plan and associated Reef Rescue measures, and where necessary increase this investment, to address impacts of water quality in the catchments that drain into the Great Barrier Reef, and ensure that these programmes and related planning policies consider water quality impacts from all uses within the catchments.

R2: Not permit any new port development or associated infrastructure outside of the existing and long-established major port areas within and adjoining the property. It is essential that development is not permitted if it would impact individually or cumulatively on OUV, including the integrity of the property. This measure should apply both within and in the adjacent areas to the property. This measure should take immediate effect and requires full application until the Strategic Assessment and the resulting long-term plan for the sustainable development of the property has been completed, and has been considered by the World Heritage Committee at its 39th session in 2015.

R3: Commission an independent review of all environmental concerns of consented developments in Gladstone Harbour and on Curtis Island, and the implications of the consented developments in Gladstone Harbour and on Curtis Island for Traditional Owners and the local community dependent on the resources of the area. The review should be undertaken by internationally recognized and widely respected scientific experts and conducted in an independent and transparent manner. The review should:

a) Consider all previous review findings and all information used as a basis for the current approvals for development in Gladstone Harbour and on Curtis Island;
b) Address the current and future planning and management of the Port of Gladstone and development of Curtis Island;
c) Lead to clear recommendations for the optimization of port development and operation, including supporting activities and infrastructure, and according to the highest internationally recognized standards for best practice;
d) Provide lessons learned for the development and operation of other port areas within and adjacent to the property;
e) Lead to the implementation of concrete action to address issues identified in the review, as soon as possible and before any other major port development is commenced.

R4: Ensure that any development, including ports and other types of development, as well as all associated infrastructure and supporting activities are carried out consistent with the highest international standards of best practice, commensurate with status of an iconic World Heritage property, and enabling the State Party to continue to provide global leadership for the conservation and sustainable development of multiple use marine protected areas.

R5: Complete the Strategic Assessment and resulting long-term plan for the sustainable development of the property for consideration by the World Heritage Committee at its 39th session in 2015. The assessment and long-term plan should be completed in a coordinated and fully consultative process, against a number of defined criteria for success, and considering the conclusions and recommendations of the mission as set out in this report. Expectations of the Strategic Assessment include that it will lead to:

- **A long-term plan with agreed leadership at Federal and State levels, that addresses the entire property and the adjacent areas where activities can affect the OUV of the property, and ensures that any development that is approved results in an overall net-benefit for the property;**
- **Explicit incorporation of all elements that make up the OUV of the property, and in particular the long-term conservation of the integrity of the property, into the decision making process regarding all development and use that may negatively impact the property, both within the boundaries of the World Heritage area and in areas adjacent to the property;**
- **Improved effectiveness of the overall protection, planning and management of the OUV of the property as a whole, and the catchments, and coastal and marine areas that are intimately linked to it, including if necessary legal/statutory reforms to strengthen protection and management;**
- **A clear and target-driven framework to support planning and assessment of development proposals to protect OUV, and restore it where necessary, and to ensure resilience of the site, including the consideration of cumulative impacts;**
- **A clear analysis and related policies and strategies that will sustain long-term sustainable development, compatible with the protection of OUV, including consideration of the all economic sectors, including sustainable tourism and recreation and commercial fishing, as well as coastal development;**
- **Spatial policies that will identify appropriate and limited locations and standards for coastal development, and also identify areas that should not be subject to development, and which will provide greater business certainty regarding development proposals and community confidence and understanding of future development scenarios;**
- **Increased public confidence in their ability to engage with and influence policy and development decisions, including independent mechanisms to scrutinize and advise on the assessment of impacts of development;**
- **Support for new and enhanced policies and measures to regulate and manage shipping, and provide appropriate emergency planning and response;**
- **Appropriate systems to secure that, where development and use is permitted it will lead to net benefits to the property as a whole, including from contributions from developers to mitigate impacts of development;**
- **Measures, such as legislative change to enhance compliance, that may increase the results achieved from the funding available for management, and to also increase overall levels of funding where required to provide for effective protection and management.**

R6: Include, in the future editions of the Outlook Report for the Great Barrier Reef, and commencing with the version to be published in 2014, a specific assessment on the condition, trends, threats and prospects for the OUV of Great Barrier Reef World Heritage Area. The assessment should be benchmarked at the date of inscription of the property in 1981, and its results should be reported to the World Heritage Committee for consideration at its 39th session in 2015.

R7: Ensure that any determination made for applications under the EPBC Act, considering this is the principal legislation to ensure development does not negatively impact the values and integrity of the property, includes for each application:

a) A thorough assessment, supported by a detailed statement of reasons, and appropriate independent review input, on how the proposal will ensure conservation of each of the components that make up the OUV of the property, and avoid impacts upon it;
b) A thorough consideration of the combined, cumulative and possible consequential impacts of development, infrastructure and associated activities on the OUV as material

considerations in determining all applications, benchmarked on the date of inscription of the property in 1981;

c) Detailed assessment of alternative options for all aspects of a development proposal, including supporting infrastructure and activities. This assessment should consider in detail the environmental, social and economic costs and benefits and lead to a clear indication of the net benefit of the development to the values and integrity of the property.

R8: Adopt the highest level of precaution in decision-making regarding development proposals with potential to impact the property, and to Prevent any approval of major projects that may compromise the outcomes of the Strategic Assessment, until the Strategic Assessment is completed and its resulting plan for the long-term sustainable development for the property has been considered by the World Heritage Committee. During this period, the State Party is requested to ensure no developments are permitted which create individual, cumulative or combined impacts on the OUV of the Great Barrier Reef World Heritage area and its long-term conservation.

The mission considers that the following recommendations to further improve the conservation of the property and strengthen its management should also be implemented as soon as possible, and before the 39th Session of the World Heritage Committee:

R9: Ensure all components of the OUV of the Great Barrier Reef are a clearly defined and form a central element within the protection and management system for the property as well as the catchments and ecosystems that surround it. The OUV of the property should be a principal reference for all plans and legislation relating to the protection and management of the property as a whole, and in particular for legislation in relation to development within or in areas adjacent to the property. All the elements that constitute the OUV of the property should be included in the framework for future monitoring and reporting on the State of Conservation of the property to the World Heritage Committee.

R10: Develop and adopt, at the level of the Ministerial Forum, clearly defined and scientifically justified targets for improving the State of Conservation of the OUV of the Great Barrier Reef World Heritage Area, including for enhanced resilience of the property, and in particular for the conservation, and where necessary restoration, of the inshore areas of the property that are under greatest pressure. All plans, policies and development proposals affecting the property should demonstrate a positive contribution to the achievement of those targets.

R11: Commission an independent review, undertaken by internationally recognized and widely respected scientific experts, of the overall institutional and legal mechanisms that provide coordinated planning, protection and management of the Great Barrier Reef World Heritage Area as a whole. The results of the review should be reported to the Great Barrier Reef Ministerial Forum and provide input to the Strategic Assessment to which the State Party has committed. The review should address enhancement of the implementation of the Great Barrier Reef Intergovernmental Agreement, assessment of the effectiveness of legal protection, institutional and management planning arrangements for the property, and include specific attention to the areas of the property which are not managed by the Great Barrier Reef Marine Park Authority, as well as all adjacent marine, coastal and land areas. This review should be provided for consideration at the 37th session of the World Heritage Committee and subsequently lead to the implementation of concrete measures to address identified weaknesses, under the scrutiny of the Great Barrier Reef Ministerial Forum.

R12: Ensure increased resources from both State and Federal Governments for the protection and management of the property, in particular to cover growing costs associated with effective responses to key threats and increasing demand for use of both within the property and its

adjacent areas that affect it. Resources allocated to the research, monitoring and surveillance of the property should consistently reflect the actual increase of costs associated with such activities.

R13: Develop a fully integrated approach to the planning, regulation and management of ports and shipping activity affecting the property, including via Shipping Policy for the property, the proposed Ports Strategy of Queensland, and individual Port Plans, that will ensure that ports and shipping activity does not negatively impact the OUV, including the integrity, of the property, and meets the highest international standards in its planning, regulation, assessment and operation.

R14: The mission recommends the State Party to strengthen the sharing of its best practices and success stories, in particular those related to the spatial and temporal management for tourism, recreation and fishing, the framework developed for surveillance, compliance and monitoring of the property as well as the community engagement programmes, with other World Heritage sites facing similar management challenges but lacking the capacity to deal with them. Recognising the excellence of many aspects of the management of the property that is derived from over 35 years of experience, this support should enhance the leadership role of the State Party to support World Heritage Sites to be drivers for positive change globally, and in excellence in marine protected area management in particular.

Finally the mission recalls the obligation of the State Party to report to the World Heritage Centre any new plans and proposals for developments that may impact the OUV of the property, consistent with paragraph 172 of the *Operational Guidelines* to the World Heritage Convention, and prior to their determination. This has been done regularly by the State Party since the 35th Session of the Committee, and the mission notes that in future, and at least until the World Heritage Committee has considered the completed Strategic Assessment and the resulting long-term plan for the sustainable development of the property at its 39th session in 2015, these reports should additionally include an executive summary detailing the outcomes of the assessments mentioned in Recommendation 9 of the mission report and confirming that the proposal will not individually or cumulatively impact on the OUV of the property. The report to the 39th session of the World Heritage Committee should be supported by a further World Heritage Centre/IUCN monitoring mission to the property.

CONTENTS

1. BACKGROUND TO THE MISSION

1.1 Inscription history

The Great Barrier Reef was inscribed on the World Heritage List in 1981. The property's OUV (OUV) is recognized for all four of the natural World Heritage criteria. The property includes virtually the entire Great Barrier Reef proposed as such to ensure the overall integrity of the coral reef ecosystems in all its diversity.
At the time of inscription, the IUCN evaluation commented on *"the duality of responsible administrations (the State of Queensland, Commonwealth of Australia), the lack of sufficient legal protection, in particular for the areas lying outside sections considered for zoning plan, and the lack of firm temporal commitment for declaration of other sections throw doubts upon the adequacy of current legal measures to ensure the long term integrity of the proposed site."* The IUCN evaluation further noted that "*considerable exploitation pressures had been placed on the resources of the property*", and noted concern at that time over possible oil exploitation and its potential damage to the World Heritage area.

Since its inscription on the World Heritage List, the State of Conservation of the Great Barrier Reef has been considered by the World Heritage Committee on an intermittent basis (Table 1).

Table 1: Consideration of the State of Conservation of the Great Barrier Reef by the World Heritage Committee since 1981

Date	Decision or other relevant documents	Subject
1985	09COM XIII.C	Impacts of the construction of a road on the fringing reef adjacent to Cape Tribulation National Park
1986	10COM IX.A.14-15 Context document: CC-86/CONF.003/INF.4	Proposal for revocation of 390ha of Lindeman Island for expansion of a holiday resort + potential threat from a proposed silica mine at Shelburne Bay
1994	18COM IX Context document: 20COM VII.D.43	Possible development of a 1500-bed resort
1997	21COM VII.C.41 Context document: WHC-97/CONF.208/04B	Oyster Point development and potential damage from acid sulphate soils
1999	23COM XB.23 Context document: WHC-99/CONF.209/14	Progress and adoption of the "focusses recommendations" and the "framework for management" for the property
2004	28COM 15B.14	Proposed development project at Airlie Beach adjacent to the Great Barrier Reef World Heritage property
2011	35COM 7B.10 Context document: WHC-11/35.COM/7B.Add	Planned and potential future development and potential impacts on the OUV of the property, strategic assessment for the long-term sustainable development of the property

Further information available at: http://whc.unesco.org/en/list/154/documents/

During its 23rd session (Morocco, 1999), the World Heritage Committee accepted a set of "Focused Recommendations", which were proposed by the Australian Committee for IUCN and were grouped into five priority action areas, including (a) the management of land and coastal catchments; (b) the management of fisheries; (c) the management of shipping and ship-sourced marine pollution; (d) representative marine protected areas; and (d) resources for research and management. Several progress reports have been submitted to the World Heritage Centre and most of the recommendations have been implemented or are progressing (see also section 3.3 of this report).

The World Heritage Centre and IUCN received reports in August 2009 concerning proposals for the development of a Liquefied Natural Gas (LNG) processing plant on the south extremity of Curtis Island upon which the World Heritage Centre and the government of Australia started an exchange of letters for further clarifications and information. The LNG processing plant on Curtis Island was approved by the government of Australia on 22 October 2010, after completion of the Environmental Impact Assessment. Despite the intentions of the Government of Australia expressed in its letter of 1 March 2010, no opportunity was offered to the World Heritage Committee to consider its results in view of its potential impact on the OUV of the property, in conformity with paragraph 172 of the *Operational Guidelines* to the World Heritage Convention. The State Party, in its letter of 17 December 2010, explains that the approval of the proposed development of the LNG plant on Curtis Island, granted to Santos Limited and PETRONAS Australia Pty Limited, is subject to a number of conditions to mitigate the project's likely environmental impacts and, in addition to strict environmental safeguard measures, requires the developers to offset direct impacts from the LNG plant by securing the long-term conservation of an area of at least five times the size of the plant, preferably located within the property. The World Heritage Centre and IUCN concluded however that the executive summary of the online Environmental Impact Statement provided by the State Party appeared to make contradictory statements. On the one hand, it concluded that the proposed LNG plant is not expected to have significant negative effects on the area's heritage values, but on the other hand, it also concludes that there will be direct impacts on subtidal soft bottom communities, saltpan, saltmarsh, seagrass, mangrove, and intertidal habitats, as well as potential direct and indirect impacts on whales, dolphins, turtles, dugong and migratory birds. They considered there is a link between these values and the OUV of the property and concluded the LNG plant could represent a clear potential threat to the property's OUV due to its expected direct impacts on coastal and marine habitats and species, as well as the potential direct and indirect impacts from increased maritime traffic. Additionally, from late December 2010 to early February 2011, the state of Queensland experienced extreme weather which resulted in large-scale flooding with flood plumes containing freshwater and contaminants, all of which can have detrimental effects on important marine habitats that support the OUV of the property. The category 5 tropical cyclone Yasi, which crossed the coast of Queensland in February 2011, caused destruction of corals and seagrass meadows, and impacted other coastal ecosystems. Approximately 15% of the total reef area within the property sustained some damage, including 6% that was severely damaged. Concerns over the potential threat to the OUV posed by the LNG facilities on Curtis Island led the World Heritage Centre and IUCN to request examination of the matter by the World Heritage Committee at its 35th session (UNESCO, 2011). Following examination of the State of Conservation report, the World Heritage Committee requested the State Party to invite a World Heritage Centre/IUCN reactive monitoring mission.

On 31 October 2011 and in accordance with paragraph 172 of the *Operational Guidelines*, the government of Australia informed the World Heritage Centre of all development proposals under assessment at the time for potential impacts on the World Heritage values of the property. The overview included 42 development proposals and a map of their locations. On 19 January 2012, the government submitted a report on the State of Conservation of the property as requested by the World Heritage Committee which included a summary of proposed developments within and outside the property. The summary included proposals for LNG processing facilities, port facilities and dredging, tourism, aquaculture, mining and extractive industries, processing facilities, transport infrastructure, pipelines and water treatment and supply infrastructure, and residential developments. On 14 March 2012, the government submitted to the World Heritage Centre a list of all proposals since the first official information of 31 October 2011 considered likely to have significant impact on World Heritage Values and requiring an assessment under the Environment Protection and Biodiversity Conservation Act (1999).

1.2 Objectives of the reactive monitoring mission

The World Heritage Centre and IUCN undertook a reactive monitoring mission to assess the state of conservation of the Great Barrier Reef World Heritage property and to contribute to the strategic assessment process, as requested by the World Heritage Committee at its 35th session (Decision 35 COM 7B.11).

The mission took place from 6-14 March 2012 and was undertaken by Fanny Douvere (World Heritage Centre) and Tim Badman (IUCN). The mission addressed the following key issues:

1. Assessment and conclusions on the state of conservation of the property as a whole, including key issues identified that have the potential to significantly impact on OUV;
2. Visit and assessment of key development areas, including those on Curtis Island, as well as elsewhere along the Great Barrier Reef (GBR) coast, with the aim to assess their impacts on OUV;
3. Review of planned and potential future developments that could impact OUV and assist the State Party to develop a long-term plan for sustainable development;
4. Contribute to the Strategic Assessment process being undertaken by the State Party; and
5. Work with the State Party to ensure that reporting under paragraph 172 of the *Operational Guidelines* to the Convention meet the requirements of the Committee.

A copy of the above mentioned decision and Terms of Reference are included in Annex I of this report. An overview of the itinerary and composition of the mission team is included in Annex II and III. A list of the people met during the mission is provided in annex IV.

2. ASSESSMENT OF THE STATE OF CONSERVATION

This section of the report provides an assessment of the state of conservation of the Great Barrier Reef World Heritage Area (GBRWHA) and is based on publicly available information such as scientific peer-reviewed articles and official documents from the Great Barrier Reef Marine Park Authority among others, the 2009 Great Barrier Reef Outlook Report[1], and information gathered throughout the mission (see Annex IV for an overview of people met) and visits made to the various parts of the property (see Annex IV for the itinerary of the mission). A detailed evaluation of the condition of the OUV of the property was carried out in 1997[2] and provides an additional and important source of information for this underlying assessment.

The proposed retrospective statement of OUV (SoOUV), which has been prepared by the State Party and reviewed by IUCN, together with the past Committee decisions at and since inscription, and associated documents, provides the framework for assessment of the state of conservation of the property. The components of the SoOUV include criteria (vii), (viii), (ix), and (x), integrity and protection and management of the property. The draft SoOUV is provided in Annex VI of this report. The date of inscription of the property, 1981 provides the principal benchmark against which the assessment has been made. In some cases information about the property's values are not necessarily available for the precise period of 31 years (since inscription), thus larger trends are referred to. It is further important to note that substantial and important knowledge about the status and trends of the values of the property has been acquired since the time of inscription.

2.1 Status and trends of the values of the property

2.1.1 Status and trend in relation to criterion (vii)

The submitted SoOUV emphasises that the Great Barrier Reef is of superlative natural beauty above and below the water, and provides some of the most spectacular scenery on earth. From the air, the vast mosaic patterns of reefs, islands and coral cays produce an unparalleled aerial panorama of seascapes comprising diverse shapes and sizes. Many of the cays contain spectacular and globally important breeding colonies of seabirds and marine turtles. Beneath the ocean surface, there is an abundance and diversity of shapes, sizes and colours while annual coral spawning, migrating whales, nesting turtles are other superlative natural phenomena of the property.

Throughout the visit, the mission had various possibilities to view the natural beauty and experience the scale of the property, including from the air and underwater. The mission had the opportunity to view the outer reef, the places such as the Whitsunday Islands and Shoalwater Bay, and spectacular scenery of the reef structures, and the underwater life on Lizard Island. The mission was provided with helpful data on changes in development areas in various development areas, including aerial photographs dating from around the time of inscription, and the present day, but is not in a position to make a systematic comparison of that information. Consistent with the conclusions made by Lucas et al. in 1997, the mission notes that an assessment of the concrete status and trends of this criterion is challenging since few guiding documents exist.

Considering the scale of the property and its status as a multiple use marine protected area, it is still mainly undeveloped except for the most southern part of the property. Aerial visits of the northern parts of the property (which consist of about 1/3 of the entire property) reveal an exceptionally well preserved tropical coral reef system, which is nearly pristine and largely spared from anthropogenic influence. There is evidently increasing human use of the property over time, but management interventions have helped to protect the aesthetic values in many areas, both in terms of managing use and limiting

[1] Commonwealth of Australia (2009) **Great Barrier Reef Outlook Report 2009.** Great Barrier Reef Marine Park Authority, Townsville. 192pp.

[2] Lucas, P.H.C., Webb, T., Valentine, P.S. and Marsh, H (1997) **The Outstanding Universal Value of the Great Barrier Reef World Heritage Area.** Great Barrier Reef Marine Park Authority, Townsville, 197pp.

development to a number of defined areas. The increased provision of visitor facilities to support sustainable tourism and enhance the appreciation of the property in itself is also an important contributor to the realisation of aesthetic values. The mission objectives include a specific focus to consider the impacts of development on the property, however does not have sufficient information to be able to make a full assessment in this regard. The mission was provided with helpful data on changes in development areas in various development areas, including aerial photographs dating from around the time of inscription, and the present day.

However, it appears clear that since inscription the impacts of development on this criterion have increased and a number of developments, approved under the EPBC Act, are likely to have had aesthetic impacts. The State Party's assessment of the recently approved development Curtis Island referred specifically to its impacts on the aesthetic of the property. Within the property, development is largely limited to major urban/port areas, together with a number of islands situated between Cooktown and the Southern boundary of the property. While already developed at the time of inscription in 1981, areas such as Gladstone have industrialized considerably. It is obvious in those areas that port developments have aesthetic impacts on the property. Superimposed on the local impacts of visible development within the property are the wider aesthetic impacts from uses such as ports activities, dredging and dumping of dredged material. Such impacts relate to the presence of increased shipping within GBRWHA, and include ship in transit in designated shipping lanes and in "*ship car-parks*" where vessels wait at anchor in large numbers in near proximity of port areas. In addition coastal development outside ports has also continued and impacts, as for example on Hamilton Island, clearly disturb the aesthetics of the area. The mission noted that aesthetic values, as with a number of other values are susceptible to the combined impact of a range of small developments, that individually may not make a critical impact, but together can add up to a significant degradation of values. The phrase "death by a thousand cuts" was invoked by a range of contributors to the mission, and is relevant to the consideration of impacts on the aesthetic quality of the property.

The mission considers the values for which the property was inscribed on the World Heritage List under this criterion are still clearly demonstrated in the property. The GBRWHA remains a display of enormous natural values at a grand scale and clearly fulfils criterion (vii). However, bearing in mind the trends and status of criterion (viii), (ix) and (x), upon which the beauty and abundance of the reef depends, together with the increased level of coastal development that has taken place, and increased use on the water, it is appropriate to consider that the status in relation to this criterion has degraded in the coastal and inshore areas of the property to the south of Cooktown. This progressive loss results from the many factors affecting the coastal and inshore areas in this part of the property, including water quality issues, climate change, extreme weather events, coastal development and port infrastructure. IUCN notes that more work is needed to evaluate the changes in this criterion and the mission's observations, whilst they should be considered preliminary, are of concern.

2.1.2 Status and trend in relation to criterion (viii)

The submitted SoOUV emphasises that the the Great Barrier Reef, extending 2,000 kilometres along Queensland's coast, is a globally outstanding example of an ecosystem that has evolved over millennia. Today, the Great Barrier Reef forms the world's largest coral reef ecosystem, ranging from inshore fringing reefs to mid-shelf reefs, and exposed outer reefs. One-third of the Great Barrier Reef lies beyond the seaward edge of the shallower reefs and comprises continental slope and deep oceanic waters and abyssal plains.

The mission had the opportunity to meet with a group of leading, well-respected scientists knowledgeable about the status of the Great Reef Reef coral system, coverage and growth within the property. It is also important to note that some data used to make this assessment typically makes comparisons against baseline years which precede the date of inscription of the property on the World Heritage List.

Coral reefs, while the best known aspect of the property, account for only 7% of the GBRWHA. It is estimated that coral cover on the Great Barrier Reef has been declining since at least the 1960s, by an

annual rate of approximately 0.3-0.4% per annum, and this has continued since inscription. It is important to note however, that declines in coral coverage are not consistent across the property and are mostly occurring in the inshore areas between Cooktown and the southern boundary of the property. Broad-scale surveys by the AIMS Long Term Monitoring Program (LTMP) from 1986 to 2004 show that between one fifth and one quarter of the coral cover present in 1986 has been lost from inner and mid shelf reefs. These declines are partly a result from direct anthropogenic effects. Coral declines occur due to extreme weather events (cyclones and hot weather), outbreaks of coral-eating starfish and the cumulative impact of reduced water quality of which the extent was not known at the time of inscription of the property on the World Heritage List.

Despite this decline however, the property's reef remains the world's largest barrier reef system with all types of reefs still present. The range of reefs and marine habitats from inshore fringing reefs to mid-shelf reefs, and exposed outer reefs, including examples of all stages of reef development are all still present in the property. The property clearly displays values that relate to this criterion, through the continued presence and functioning of the Great Barrier Reef system and its associated marine and coastal areas as a major geological structure, driven by continued function of the physical and ecosystem processes that create and maintain the area.

The mission concludes that the property clearly continues to demonstrate the values related to criterion (viii), but that aspects of its values, notably those related to fringing and inshore reefs have declined since inscription.

2.1.3 Status and trend in relation to criterion (ix)

The submitted SoOUV emphasises the globally significant diversity of reef and island morphologies reflects ongoing geomorphic, oceanographic, and environmental processes. The complex cross-shelf, longshore and vertical connectivity is influenced by dynamic oceanic currents and ongoing ecological processes such as upwellings, larval dispersal and migration. Biologically, the unique diversity of the Great Barrier Reef reflects the maturity of an ecosystem that has evolved over millennia. Globally significant marine faunal groups include over 4,000 species of molluscs, over 1,500 species of fish, plus a great diversity of sponges, anemones, marine worms, crustaceans, and many others. Human interaction with the natural environment is illustrated by strong ongoing links between Aboriginal and Torres Strait Islanders and their sea-country.

Due to the complexity and the many interacting factors relevant in assessing this criterion, the interpretation of the status and trends is largely based on the 2009 Outlook Report and scientific information provided to the mission. Regarding the perspective of Traditional Owners, the mission received differing views from different groups, according to the location of their seacountry (the term used for traditional marine lands in Australia). In some areas the process of establishing native title, and the provision of support to re-establish sustainable traditional use was seen as positive in restoring the relationship of indigenous people with their traditional lands. However in other areas, notably at Gladstone, traditional owners reported that through lack of access and disturbance of species important to their traditional use, such as dugong and marine turtle as a result of port development, that there had been a loss of values that has taken place within living memory.

The physical processes of the Great Barrier Reef are changing, in part as a result of direct anthropogenic influences. Further changes in factors related to the physical processes such as sea temperature, sea level rise and sedimentation are expected because of climate change and extreme weather events. Specific assessment of factors related to the evaluation of physical processes include:

- Water temperatures in the GBR have increased steadily during the second half of the 20th Century and are now warmer by 0.8 Celsius. Wide-spread coral bleaching was observed in 1998 and 2002 associated with anomalously warm sea temperatures.
- There is a key human induced input of sediment to the system of 14 million tonnes per annum, (assessed as 5 times the natural load), sourced mainly from erosion in grazing lands across the entire catchment but especially south of Cooktown. This is not a recent pressure and a 250 year

record from a large coral core near Townsville shows a decrease in water quality (increased terrigenous sediment in river run-off) soon after European settlers started grazing large herds of sheep and later cattle in the Burdekin catchment in the 1870s.

- Particulate materials are trapped relatively close to the coast (generally within 10 km from the coast) though fine colloidal material which can travel hundreds of kilometres from river mouths. Resuspension and further northward transport of particulate materials is also common.
- The cumulative paths of multiple cyclones in the last seven to ten years have covered an unusually large 'footprint' on the GBR especially because Cyclone Hamish followed an unusual path parallel, and not perpendicular, to the linear GBR. Severe tropical cyclones generate very strong wave forces on exposed reefs and generally lead to a bloom of ephemeral algae fuelled by the release of nutrients from benthic sources.

The chemical processes in the Great Barrier Reef, including nutrient cycling, pesticide accumulation, ocean acidity and ocean salinity, have deteriorated, in particular in the area between Cooktown and the southern boundary of the property. This situation is most obvious in highly developed areas. The trend is expected to continue and is largely a result of both climate change and human activities in the catchments. Acidification of all Great Barrier Reef waters as a result of increased concentrations of atmospheric carbon dioxide is an emerging issue which is likely to worsen and which is visible in almost all major ocean basins on the planet.

The ecological processes of the property are considered to remain intact and healthy, but further declines in physical and chemical processes are expected to affect them in the future. Populations of large herbivores (such as dugongs) are reduced, however populations of herbivorous fish remain intact. Large colonies of Dugongs in the Northern part of the property are in place and have been considered largely safe from direct anthropogenic influences.

Based on the assessment of these processes, it appears clear that values relevant to this criterion remain present within the property, with functioning ecosystems throughout much of the property. However significant impacts and decreases of the healthy functioning of the property are present, but are not occurring consistently across the entire property. Various aspects of the above mentioned processes have declined in the inshore and coastal areas south of Cooktown, notably through the long term driver of poor water quality. A positive trend in increased water quality which appears to be being observed very recently following the investments of Reef Plan provides optimism about the future possibilities to see improvements in the status of values related to this criterion, although such trends will take time in the order of decades to become fully established.

Coastal and port development has impacts on the values associated with this criteria, notably through the cumulative additional pressures on nearshore species such as marine turtle, dugong, and seagrass habitats. The mission was not able to quantify the degree of impact that may have occurred since 1981, but considers this of high concern, in particular taking into account the rapid pace of development and the many development proposals currently awaiting determination.

2.1.4 Status and trend in relation to criterion (x)

The submitted SoOUV emphasises that the enormous size and diversity of the Great Barrier Reef means it is one of the richest and most complex natural ecosystems on earth, and one of the most significant for biodiversity conservation. The reef contains some 400 species of corals in 60 genera. The shallower marine areas support half the world's diversity of mangroves and many seagrass species. The waters also provide major feeding grounds for one of the world's largest populations of the threatened dugong. Six of the world's seven marine turtle occur in the Great Barrier Reef and contains the world's largest green turtle breeding site at Raine Island.

Most of the assessment for this criterion is based on information received from scientists met during the mission, and the Outlook Report. It is important to note that the declines indicated below cannot consistently be compared to 1981. Often, the decline of species, their habitats as well as the threats posed to them was not known at the time of inscription.

The mission was informed that there is evidence of significant improvements related to ecosystem functioning and the abundance of species resulting from the 2003 rezoning of the GBRMPA, and the parallel inshore initiatives by the Queensland government, the restructuring of the fishing industry, the replacement of shark nets for bather protection by drum lines in most areas, and the introduction of other reforms such as mandatory turtle excluder devices are reported to have had very significant benefits to the World Heritage values of theproperty, particularly for species targeted by commercial fishing such as coral trout and some shark species and for species caught as incidental by-catch such as dugongs. Some disturbed populations and habitats have demonstrated recovery after disturbance (for example coral reefs, lagoon floor, coral trout, humpback whales). For some species recovery has been very slow (for example loggerhead turtles) or not evident (black teatfish, dugongs) and is dependent on the removal of all major threats. Increasing frequency and extent of threats are likely to reduce the resilience of species and habitats. Spatial zoning rebuilds stocks of targeted reef fish, and increases larval connectivity. In a 1,000km^2 study area, populations resident in three reserves exported 83% (coral trout – *Plectropomus maculatus*) and 55% (stripey snapper – *Lutjanus carponotatus*) of assigned offspring to fished reefs, with the remainder having recruited to their natal reserves or other reserves in the region. Reserves, which account for just 28% of the local reef area, produced approximately half of all juvenile recruitment to both reserve and fished reefs within 30km. This is commensurate with an observed two fold greater adult biomass within reserves. However, spatial zoning was also noted to have limitations, for instance it does not improve water quality, nor prevent coral bleaching, and small zones have only minimal benefit for most mobile megafauna.

Most of the Great Barrier Reef habitats appear to be intact. Some inshore habitats (such as coral reefs) have deteriorated, caused mostly by reduced water quality and rising sea temperatures. This is likely to have affected species that rely on these habitats. Little is known about the soft seabed habitats of the lagoon, open waters or the deep habitats of the continental slope, but since little activity is taking place in these areas, they can be expected to be in good condition. Scientific information suggests that:

- massive *Porites* coral colonies show a 13% decline in linear growth rates, and a 14% drop in calcification from 1990-2005, with no precedent for any similar decline for at least the past 400 years . Slower rates of colony growth contribute to the observed declines in coral cover;
- Coral cover on the GBR has been declining since at least the 1960s, by an annual rate of approximately 0.3-0.4% per annum, representing a loss of roughly half the coral cover over the past 50 years;
- Broad-scale surveys by the AIMS Long Term Monitoring Program (LTMP) from 1986 to 2004 show that between one fifth and one quarter of the coral cover present in 1986 has been lost from inner and mid shelf reefs in this 19 year period. These declines have been due to the cumulative effects of reduced water quality, outbreaks of coral-eating starfish and extreme weather (coral mortality from anomalously hot years causing coral bleaching, and physical damage from severe tropical cyclones);
- Overall extent/status of mangroves appears to be generally stable except where there is significant coastal development potentially affecting the ecological functions of affected systems.

According to the 2009 Outlook Report, populations of almost all known Great Barrier Reef species or groups of species appear to be intact, but some populations such as dugongs, as well as some species of shark, seabirds and marine turtles, are known to have declined. At the same time, many species are yet to be discovered and for many others, very little is known about their status. The additional information provided to the mission noted that:

- a >90 per cent decline in dugongs is suggested in waters soutwards of Cairns especially in the early 1960s-mid 1980s. Aerial survey estimates indicate that the population was stable from mid 1980s-2005, presumably as a result of significant reduction in netting effort in major habitats. The aerial surveys indicate that there has been another major decline of dugongs in this area between 2005 -2011, presumably linked to the decline in the abundance of seagrass meadows south of Cairns since 2007. Stranding records indicate a record mortality of dugongs in 2011 and anecdotal evidence suggests that large numbers of animals moved to the northern GBR as a

result of the seagrass loss. Aerial surveys indicate that dugong numbers in the northern GBR were stable mid 1980s-2006;

- there are significant range contractions and population declines for freshwater and green sawfish from the southern and central section of the Great Barrier Reef north to at least Cooktown.
- populations of some formally listed threatened species have stabilised but at very low numbers; other potentially threatened species continue to be identified.
- it is possible the speartooth shark has become extinct from waterways on the east coast of Australia (the species is listed as critically endangered under the EPBC Act).
- there are concerns for the northern green turtle breeding stock include poor nesting success at Raine Island. Consequential changes already evident in the genetic makeup of juveniles in Torres Strait. Southern green turtle stock in good condition prior to 2011 when record numbers of carcasses recovered in stranding program, presumably associated with seagrass loss.
- Loggerhead turtle population is recovering well after introduction of Turtle Excluder Devices in trawl fleet from mid 1990s.
- The overall status assessment of the 20 seabird species known to breed in GBR remains poor due to the cumulative impacts of climate variability (ENSO variability on Coral Sea productivity) in combination with increased pressure on resilience from commercial and recreational fishing, direct disturbance by visitors to islands, and activities on the mainland coastline, breeding habitat destruction, the introduction of exotic plants and animals to breeding habitats, and pollution and water quality degradation with associated trophic disturbance.
- Three important populations of the endemic Australian snubfin dolphin are threatened by port development.

Overall there do not appear to have been any total losses of habitats or species since inscription, with the possible exception of speartooth shark, and management measures for some species have led to the improvement of status for some values of the property. However there are significant concerns regarding the long term prospects for a number of key habitats and species, notably in the nearshore zone, such as to dugong, seagrass, fringing and nearshore coral reefs, and locally specific threatened populations such as the Australian snubfin dolphin. The status of values since inscription varies across the reef, with some areas apparently stable, some improvements through the introduction of zoning and management, and some significant decreases due to a combination of factors including long-term system wide impacts, and the cumulative impacts of inshore development. Overall the serious drivers of decline within the system lead the mission to conclude that the overall values in relation this criterion are diminished and declining. As with other criteria, in detail the pattern of change is complicated, with the situation much more serious in inshore areas, and more stable both further offshore and to the north of Cooktown.

Coastal and port development reduces the status of the values for this criterion, notably through the cumulative additional pressures on nearshore species such as dugong, and seagrass habitats. The mission was not able to quantify the degree of impact that may have occurred since 1981, but considers this of high concern, in particular taking into account the rapid pace of development and the many development proposals currently awaiting determination.

2.1.5 Summary: Status and Trends of Values

The mission considers that the property clearly retains the values that warranted its inscription on the World Heritage List under all four natural criteria. Since the time of inscription, the values for which the property is recognised appear to have declined, notably in the coastal and inshore areas south of Cooktown. This is a result of both natural factors such as extreme weather events, global impacts such as climate change and anthropogenic impacts such as water quality from catchment run-off and coastal infrastructure, including port development. The mission notes, however, that it is has not been possible to determine the exact degree of decrease due to the lack of consistent, quantified information available of the status of the property at the time of inscription.

The mission concludes that significant improvements toward the conservation of many aspects of the values of the property have been accomplished as a result of concerted management interventions to conserve the property, and address threats from outside its boundaries. The decline in values in inshore

areas to the south of Cooktown, reinforces the crucial importance of the largely pristine, undeveloped environment of the inshore and coastal areas north of Cooktown to the OUV of the property. The mission concludes that it is critical to maintain these areas in their pristine state in view of the long-term conservation of the property as a whole, as well as to take measures to restore areas where values have been degraded.

2.2 Assessment of integrity

The *Operational Guidelines* to the World Heritage Convention define "integrity" as a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes. Examining the conditions of integrity therefore requires assessing the extent to which the property:

a) includes all elements necessary to express its OUV;
b) is of adequate size to ensure the complete representation of the features and processes which convey the property's significance;
c) suffers from adverse effects of development and/or neglect.

Consistent with this definition, the assessment of the integrity includes a review of the boundaries (with regard to the wholeness of the property, the adequacy of size), and the current and potential threats facing the property. The elements necessary to express the OUV of the property are included in the mission's considerations regarding the status and trends relative to its values as described above.

2.2.1 Boundaries

The proposed SoOUV notes that the ecological integrity of the property is enhanced by the unparalleled size and current good state of conservation across the area. At the time of inscription it was felt that to include virtually the entire Great Barrier Reef within the property was the only way to ensure the integrity of the coral reef ecosystems in all their diversity. The property was inscribed as a whole to ensure the long-term conservation of the reef and its supporting ecosystems and includes five major types of habitats: coral reefs (7%), seagrasses, shoals and sandy or muddy seabed (61%), continental slope (15%), deep oceanic waters (16%), and islands (1%)
The SoOUV also notes that some of the key ecological, physical and chemical processes that are essential for the long-term conservation of the marine and island ecosystems and their associated biodiversity occur outside the boundaries of the property and thus effective conservation and management programs across the adjoining catchments, marine, coastal and land areas are essential.

The mission notes that the boundaries of GBRWHA have been a matter of discussion since the property was inscribed. Comments were included in the Lucas et al. (1997) review on the OUV of the property, which concluded that "*any reduction in the spatial extent of the GBRWHA would severely reduce its OUV*". The review also noted the potential for extensions to the property to be considered.

During the mission suggestions were made, primarily through the media, regarding a reconfiguration of the boundaries of the property that would result in the exclusion of the industrial areas of Gladstone Harbour and Curtis Island. No official proposals from the State Party were received by the World Heritage Centre to reduce the boundary of the property and no support from State Party representatives was expressed in favour of such alteration of the boundaries, nor was such a suggestion put to the mission in its meeting with the Port of Gladstone. A range of stakeholders spoke against the suggestion of any amendment in boundaries. Based on the assessment made of the trends and values of the property, the threats posed to it as well as its protection and management system, the mission considers it would be inappropriate to reduce the boundaries of the property, particularly considering that the area of Gladstone Harbour clearly contains natural features that are intrinsically part of the OUV of the property. In addition, while already limited port development was in place at the time of inscription, the current port operations in Gladstone Harbour are far from optimal and thus their inclusion is important to ensure their protection and management as an integral part of the property.

The mission noted that the boundaries of the property are defined in relation to low water mark, but that reclamation has taken place in some port areas within the property. The mission noted that the defined boundary of the property clearly remains the low water mark at the date of inscription of the property on the World Heritage List, and considers as part of the assessment of development since inscription, more information is required on the specific extent of reclamation that has taken place within the property. It also noted that continued reclamation is a specific concern in relation to integrity.

The mission was further informed about the steps taken toward the conservation of the Coral Sea and the establishment of a multiple use marine protected area which is adjacent to the property. In view of strengthening the integrity of the property, a case could be made for further extensions of the boundaries of the property either offshore (to include the Coral Sea) or northward (as was suggested at the time of inscription) or inland to include a range of coastal areas that lie above low water mark and major natural intertidal habitats, wetlands and coastal landscapes. The envisioned designation of the adjacent Coral Sea as a protected area could increase the integrity of the property, specifically for migratory species and the potential threat from shipping in the immediate proximity to the property's current boundaries. The area is largely in pristine condition because of its remoteness.

The mission concluded that the integrity of the property relies on the recognition of its conservation in the planning and management needs both within its boundaries and in the areas that adjoin the GBRWHA. The most significant conservation issues beyond the boundaries of the property are intimately connected with the management of landuse in the State of Queensland. There are two main dimensions to this. First, and of fundamental importance is the relationship of the property with the adjacent catchments and the water quality impacts they generate, which has been noted at since 1999 as of key significance by the World Heritage Committee. It was recognized at the time of inscription, and reconfirmed throughout the mission that the most effective way to conserve the property's integrity is through an integrated management involving both State and Commonwealth governments. Second, the wider planning and management of the coastal zone also lies outside the boundaries of the GBRWHA, and the Great Barrier Reef Marine Park, which both stop at low water mark. This has been identified as a limiting factor in the effectiveness of the protection of the World Heritage Area, and of GBRMPA, since the time of inscription of the property on the World Heritage List. IUCN notes that in terms of integrity the creation of a coastal buffer zone, or in some cases a coastward extension of the property should be considered by the State Party as a priority, in order to ensure that coastal development adjacent to the property would specifically consider impacts on its OUV, including the integrity of the property.

It is further important to note the problems that arise from the difference in coverage between the Greate Barrier Reef World Heritage Area and the slightly smaller area of the Great Barrier Reef Marine Park (GBRMP). This difference results in the fact that about 1 % of the property is not covered by the Great Barrier Reef Marine Park and therefore does not fully benefit from the conservation benefits as constituted elsewhere in the property and for which good results have been achieved since the time of inscription of the property on the World Heritage List. As a protection and management issue, rather than an issue of the integrity, this is commented on further below.

Finally, the mission also noted the ongoing discussion regarding the possible nomination of the Cape York Peninsula for World Heritage status, which adjoins the property, and indicated that the World Heritage Centre and IUCN would be pleased to advise the State Party in support of this nomination, if required. The mission also noted the location of the Wet Tropics of Queensland World Heritage Area that touches the boundaries of the property in a number of places between Townsville and Cooktown.

The mission concludes that the boundaries of the property are adequate as presently defined. There could be possible benefits in extensions of those boundaries to include the Coral Sea and Torres Strait. However, the more pressing issues relate to ensuring that the areas adjacent to the property and which support activities that impact on the OUV of the property are adequately managed in view of the overall long-term conservation of the property.

2.2.2 Threats

At the time of inscription on the World Heritage List, the property was considered a multiple use marine area, supporting a wide range of uses, including commercial marine tourism, fishing, ports and shipping, recreation, scientific research and Indigenous traditional use. Threats to the property have been outlined in a range of assessments, plans and reports before and since its inscription on the World Heritage List, including most recently in the 2009 Great Barrier Reef Outlook Report. The assessment of threats to the property as described below is based on this report and is further complimented and updated with information collected through the mission.
In comparison to the time of inscription, knowledge and understanding of the characteristics of the property, the degree of threats posed to it, as well as the effectiveness of management responses to deal with them, has improved considerably. Today, climate change, catchment runoff, coastal development, ports and shipping and direct extractive use pose the most serious threats to the long-term conservation of the property. Three of these threats are due to factors external to the property and are playing an increasing role in determining its condition. The extent of the threat from catchment run-off has only recently become fully understood while the effects from climate change and their potential for rapid, system-wide decline of the property's features remain highly uncertain. Additionally and perhaps most importantly, none of the threats posed to the property can be viewed in isolation but need to be considered for their cumulative and/or combined effect on the property as a whole. Both the cumulative and combined effect of threats to the property, and particularly to the integrity of the property, is poorly understood at the moment which is of concern.

Previously identified and resolved threats since inscription of the property

Both commercial marine tourism and commercial fishing are currently no longer considered as high risks to the OUV of the property. At the time of inscription, the IUCN evaluation of the property noted concern over possible oil exploitation but this is also no longer a threat to the property, as it is legally prohibited.

Commercial marine tourism in the Great Barrier Reef is focused on delivering high quality tourism experiences which have significant economic value to the local communities and to Australia. Plans and permitting arrangements targeting commercial marine tourism have been systematically implemented and an array of policies, position statements and guidelines has been developed and are communicated in a clear and transparent manner to the public. As a result of this concerted action, and primarily through the establishment of industry partnerships, commercial marine tourism is now planned and managed sustainably, with minimal environmental and social impacts such as crowding. Through this continuous, effective management, commercial marine tourism is no longer considered as a major threat the OUV of the property, provided current management measures continue.

Fishing is the principal extractive use of the Great Barrier Reef and is done both on a commercial and recreational basis. The major commercial fisheries are net, trawl, line and pot. Management responses at both Commonwealth and State level, as well as changes in practice within the commercial fishing industry, have substantially reduced the threat from commercial fisheries to the property. The overall environmental footprint of fishing has decreased as a result of substantial reduction in fishing effort and fleet size, and an increase of 33% of the property as no-take zones which are representative of the major ecological regions in the property and for which overall compliance is satisfactory. The actual spatial distribution of trawling activity is currently estimated at approximately only 6% of the total area of the property. The impact from fisheries is further reduced as a result of significant improvements in research and understanding about the biodiversity and ecosystem processes within the property, the ecological connectivity among the various components of the property, the introduction of a satellite-based vessel monitoring system and associated surveillance and compliance system, as well as targeted actions such as the mandatory use of turtle excluder and other bycatch reduction devices. The Great Barrier Reef Marine Park Zoning Plan 2003, and associated management measures, has proven successful in rebuilding fish stocks of targeted reef fish and indicates positive trends in habitat connectivity among the components of the protected network. However, bycatch in the commercial inshore net fishery continues to impact a number of species of conservation concern, including turtles, dugong, dolphins, sharks and sawfish. Furthermore, based on information received during the mission, catch from recreational fisheries

may be increasing as the population in the adjoining areas is increasing, and could potentially undermine the effectiveness of the zoning plan and associated management measures (see below under section 'direct use and extraction of resources'). It is further important to note the improvements made regarding traditional use of marine resources in the property, including traditional hunting of turtle and dugong.

Current threats

Climate change

Both the causes of climate change and the effects it has on coral reef systems are global phenomena from which the property does not escape. Considering the global temperature increases (reported and projected), regional models about climate variability and observations made within the property, climate change factors are expected to pose the greatest threat to the long-term conservation of the property. Unlike other threats, climate change is predicted to have system-wide implications which cut across the entire property. The rate at which changes will occur is strongly dependent on the influence of other factors such as the intensity of storms and anthropogenic induced pressures that increase the vulnerability of the reef and therefore limit its capacity to adapt to the impact.

Specific climate change threats that present a risk to all coral reefs including the Great Barrier Reef ecosystem include:

Increased seawater temperature: Temperature is critical to reef building and controls the latitudinal limits of both corals and coral reef growth. As seawater temperature rises, the property is becoming increasingly exposed to the possibility of a catastrophic mass bleaching event. Currently, the two warmest five-year average sea surface temperatures have been recorded in the last decade. A further increase of average sea temperature will increase the frequency of coral bleaching and could lead to annual bleaching, and almost certainly regular large scale mortality. Coral bleaching affected over 50% of the reefs in both 1998 and 2002 but there was minimum mortality of corals. The 2009 Outlook report indicates that the average annual sea surface temperature of the property is likely to continue to rise over the coming century and will likely warm more in winter and in the southern part of the property. Increasing sea temperature is a significant risk factor for the Great Barrier Reef over the short to medium term (calculated in decades) because of its effect on coral reef habitats, with flow-on effects throughout the entire ecosystem. Coral reefs and coastal habitats are particularly vulnerable to increasing sea temperatures with most organisms becoming more susceptible to disease and predation.

Increased sea level: The sea level in the Great Barrier Reef region has already risen by about 3mm annually since 1991 and poses and increasingly serious threat to islands and cays which are important for nesting seabirds and marine turtles. Rises in sea level are significant ecologically as many habitats are shallow and strongly influenced by sea level. Small changes in sea level are predicted to causing significant changes in tidal habitats such as mangroves and saltwater intrusion into low lying freshwater habitats;

Increased weather variability: Tropical cyclones, dependent on their severity, can be among the most important structuring forces, influencing coral cover, species diversity, productivity and reef morphology. Extreme intense cyclones (category 4-5) are especially important in shaping coral reef communities, having the potential to cause severe damage to benthic reef communities and the underlying reef structure over hundreds of square kilometres. While storms of this magnitude are relatively rare, the property has experienced six severe intensity cyclones since 2005. The two most severe storms on record in 2009 (tropical cyclone Hamish) and 2011 (tropical cyclone Yasi) caused damage to the southern part, in particular the coastal and inshore areas, of the property. According to the assessment of damage to the reef by cyclone Yasi (Great Barrier Reef Marine Park Authority), approximately 15% of the total reef area in the Marine Park sustained some coral damage and 6% was severely damaged. Most of the damage occurred between Cairns and Townsville although effects were also reported in the southern part of the property. Long-term monitoring of reefs following previous cyclones indicates that severely damaged reefs can show strong signs of recovery within 5-

10 years, but this natural resilience is highly dependent on the degree of other stresses upon them. Particularly good conditions of water quality are key as processes of reef recovery are highly vulnerable to elevated levels of nutrients, sediments and pollutants.

Projected long-term changes such as droughts, floods, storms and rainfall intensity have a range of implications for the healthy functioning of the ecosystem of the property, including elevated risks of sedimentation, algal blooms, storm damage and more frequent crown-of-thorns starfish outbreaks. Heavy rainfall associated with cyclones can lead to extensive flood plumes and lowered salinities that stress or kill sensitive organisms such as corals and seagrasses, while waves and current generated by extreme cyclones can cause severe widespread physical damage. The summer of 2010-2011 was the second wettest on record for Australia. The unusually intense rainfall caused extrensive flooding in many coastal areas of southern Queensland. A large expanse of the inshore areas to the south of Mackay was exposed to persistent flood plumes from the Fitzroy, Burnett and Mary Rivers, causing wide spread distribution of catchment run-off. Climate models do not predict an increase in the amount of rainfall, but it is likely that there will be increased intensity in both high rainfall and drought events.

Increasing ocean acidification: In the long-term, ocean acidification is likely to be the most significant climate factor affecting the ecosystem of the property. While the chemistry of acidification is well understood, its effect on marine life is much less well-known as the risk has only been recognized for less than a decade. Even relatively small increases in ocean acidity lowers the capacity of corals to build skeletons, which in turn decreases their capacity to create habitat for reef biodiversity in general.

The ways, and the speed at which climate change will impact on the Great Barrier Reef are unclear. It is predicted that degradation of the ecosystem caused by climate change will not be linear and the ecological responses to the effects will occur in a series of abrupt steps separated by intervals of relatively minor change. A critical aspect of predicting the overall threat of climate change to the property is highly dependent on the exposure and sensitivity of the habitats/species to a potential impact as well as the capacity to adapt to the impact. It is commonly accepted that building resilience -- through reduction of and/or elimination of other pressures -- is crucial to ensure habitats area capable to adapt to a changing climate without going extinct. Based on discussions with a variety of scientists throughout the mission, it is clear the reef is currently still capable of some level of adaptation to a changing climate. The actions the State Party takes in view of building resilience for the reef were recognized by the World Heritage Committee at its 35th session (Decision 35COM 7B.10).

Finally, it is also important to recognize the social and economic impact climate change will likely cause. The property provides a substantial foundation for economic activity, including traditional use of marine resources, and social well-being and changes to the ecosystem resulting from climate change will likely have serious implications for dependent industries and communities, including those dependent on income from commercial marine tourism, fishing, scientific research, ports and shipping. Traditional Owners are concerned about rising sea temperatures altering the seasonality and availability of marine resources upon which they are dependent as well as the potential loss of totemic species, such as dugongs and marine turtles which are intrinsically linked to their traditional believes and practices.

Catchment runoff and water quality

The threat of declining water quality to the OUV of the property was not known at the time of inscription, although is a long standing impact. Just over a decade ago, it became recognized that increased concentrations of suspended sediments, nitrogen, phosphorous and agricultural chemicals are having significant effects on the ecosystem of the inshore areas of the property. Despite considerable improvements in local land management (see section 2.3 of this report) in recent years, and a first positive trend in 2010 in reduction in sediment and nutrient inputs from some catchments, the quality of catchment runoff entering the property requires continuous dedicated planning. It will likely take decades before the full benefits of these initiatives are visible.

The property receives runoff from 35 major catchments which drain 424,000 km2 of coastal Queensland. Most nutrients flowing into the property are from the wetter, more intensively cropped catchments (Barron, North Johnstone and O'Connell Rivers). While river flows into the property naturally provide nutrients to the marine environment, the total nutrient load is now greater than before agricultural development. Nitrogen and phosphorus are the most ecologically significant nutrients flowing into the property and are both at greatly enhanced levels in comparison to pre-European settlements. The load of total nitrogen is mainly derived from high intensity land use, fertilized cropping and urban areas (for example, the area around Cairns and the Mackay/Whitsunday region). Dissolved inorganic nitrogen is immediately available to marine organisms and historically only small quantities have entered the marine environment. Today, the main source of dissolved inorganic nitrogen is fertilizers from runoff.

Over the past 150 years, sediment inflow has increased as a result of extensive forest clearing, in particular the clearing of lowland rainforests and wetlands for sugar cane and the clearing of dryland forest for cattle. The increase in sediment load discharged into the property results mainly from soil erosion in areas cleared to establish pasture, and are exacerbated by overgrazing. A large proportion of both nutrients and sediments are also delivered into the property during flood events in the wet season.

The use of pesticides continues within the catchments most importantly in areas under crop cultivation. Pesticides are widely detected in the water and animals of the property and in waters in its catchment. Their impacts are still largely unknown, but of concern because they are slow to break down and can accumulate in the marine environment all year round with implications for fauna and flora.

Increased concentrations of sediments, nitrogen, phosphorous and agricultural chemicals are having significant effects on the ecosystems of the inshore areas of the property close to agricultural areas. Due to the high concentration of agricultural areas and large catchments in the southern part of the property, the impact of degraded water quality is highest in the inshore areas between south of Cooktown and the southern boundary of the property. The effects of degraded water quality include the (a) reduction of hard coral cover at inshore reefs (b) the increase of diseases and crown-of-thorns starfish outbreaks, (c) the incorporation of pesticides into issues of invertebrates, marine turtles and mammals, and (d) a reduced ability for coral reefs to recover from bleaching or crown-of-thorns starfish outbreaks. Recent flooding from the Great Barrier Reef catchment has resulted in elevated nutrient concentrations in river plumes reaching mid-shelf reefs.

In general, persistent higher concentrations of nutrients can cause serious shifts in the overall functioning of the ecosystem while increased sediments cause damage to critical habitats by reducing light penetration. Added to the individual effects of nutrients, sediments and pesticides, there are cumulative effects that magnify the immediate impacts of catchment runoff and contribute significantly to a reduced ability of the reef to adapt to change.

It is further important to note that the decline in inshore habitats as a result of polluted water may have social and economic implications for communities and Traditional Owners that depend on them. These can range from reduction in fish catch, decrease in recreational visitation or enjoyment of the reef affected by algal bloom for example.

Coastal development

Changes in the use of the coastal area of the property are mainly driven by factors such as global economic conditions, regional economic development and population growth. Patterns of catchment land use are changing rapidly because of varying global economic conditions, shifting global markets and technological developments such as biofuel and coal-gas projects.

Present development affects still only a relative small portion of the coast. The large majority is concentrated in the coastal area between south of Cooktown and the southern boundary of the property, and on some of the islands present in this area (for example Hamilton island). In comparison to 1981, the development footprint has increased and is highly expected to further augment considering a projected population growth in the coastal area along the reef of 40% by 2026. The increasing number of people

living close to the property also implies increased recreational use, increased tourism facilities such as marina's or hotels/resorts, as well as infrastructure/services such as roads, water, sewerage and power. If poorly planned, all of these can further modify the coastal environment and cause sedimentation, water quality and drainage impacts.

According to the 2009 Outlook report, the predominant impact of coastal development on the Great Barrier Reef ecosystem is the loss of both coastal ecosystems and connectivity between ecosystems. These habitats are crucially important as feeding and breeding grounds for marine species and as sediment traps and nutrient filters from water entering the property. Compared to pre-European settlement (early 1800s), important coastal habitats have been infilled, modified or cleared for the purpose of allowing coastal development and are largely lost in the more developed catchments such as the Mulgrave-Russell (around Cairns), Tully-Murray (around Innisfail) and Pioneer (around Mackay). It is unclear what the exact condition of these habitats was at the time of inscription of the property on the World Heritage List in 1981. During the mission, it was pointed out that an increased development footprint spreading along the entire coastline might have significant negative impacts on future visitation to the reef. Considering that most people make the trip to admire and enjoy the natural features of the property and ecotourism is a valuable asset in the promotion of the reef with high economic return, industrial and developed areas become no-go areas for tourists and could ultimately reduce significantly the income and job creation from tourism activities if development is not planned strategically.

Of considerable concern is the rapid increase of coastal development both within the property and in areas adjacent to it and where development has potential impacts on the OUV of the property. Tables 2, 3 and 4 provide an overview of proposals which triggered the need for an EBPC/Environmental Impact Assessment of its potential impact on the property and were either approved, refused or withdrawn, based on information provided by the State Party. Proposals refer to development located both in and outside the property and include LNG processing facilities and associated infrastructure, port facilities and dredging, tourism developments, aquaculture development, mining and extractive industries, processing facilities and infrastructure, transport infrastructure (excluding port facilities), pipelines, water treatments facilities and water supply infrastructure, tourism developments, agricultural developments, residential developments. The information provided by the State Party indicates that, to date, about 70% (41 out of 61 proposals since 1999) of all coastal development with potential impact on the OUV of the property proposed over the past decade (1999-2011) has been approved, presumably with a range of attached conditions.

The information also clearly illustrates the rapid acceleration of proposals for development. More than 65% all development proposals were made in the last 5 years, with a substantial, unprecedented and consistent increase since 2008. Of the 45 proposals currently awaiting determination, 35 applications are seeking determination before the end of 2013. This figure illustrates clearly the unprecedented scale of development affecting the property. Considering the high rate of approvals over the past 12 years, this development poses serious concerns over the long-term conservation of the property. Concerns about potential threats arising from the overall scale of development is at an all-time high, and is superimposed on the impacts of previous development.

Apart from loss and fragmentation of habitat coastal development causes, the rapidly expanding development of the area is further threatening considering its cumulative and combined effect and the absence of any strategic vision or target that defines up to which point coastal development jeopardizes the natural beauty and integrity of the property.

Table 2: Number of proposals triggered for impacts on the Great Barrier Reef World Heritage Area either approved, refused or withdrawn under the EBPC Act. Source: SEWPAC document supplied 12 March 2012, updated 29 May 2012.

	Year of application												
Applications determined (by type of development)	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**
LNG									2	1			
Port facilities and dredging	2			1	1				3	2			3
Tourism developments	1	2	2	2	1					1			
Aquaculture development		5											
Mining and Extractive Industries				1									
Processing facilities/intrastructure	1	3	1			2			1		1		
Transport infrastructure (not ports)						1			5				2
Pipelines									2				
Water treatment/water supply											3	1	
Residential developments					1	2	1	2	3	1	1		
Defence activities			1		1								
Total determined EPBC Applications (all types of development)	**4**	**10**	**4**	**4**	**4**	**5**	**1**	**2**	**17**	**5**	**5**	**1**	**0**
EPBC applications not yet determined.				1		2	2	2	8	8	5	12	7
Total EPBC Applications	**4**	**10**	**4**	**5**	**4**	**7**	**3**	**4**	**24**	**13**	**10**	**13**	**7**

Table 3: Decisions on proposals triggered for impacts on the Great Barrier Reef World Heritage Area either approved, refused or withdrawn under the EBPC Act. Source: SEWPAC document supplied 12 March 2012.

Type of development	**Approved**	**Refused**	**Withdrawn**
LNG	3	0	0
Port facilities and dredging	7	0	2
Tourism developments	5	2*	2
Aquaculture development	4	0	1
Mining and Extractive Industries	1	0	0
Processing facilities/intrastructure	5	0	4
Transport infrastructure (not ports)	1	0	5
Pipelines	2	0	0
Water treatment/water supply	3	0	1
Residential developments	8	0	3
Defence activities	2	0	0
Totals	**41**	**2**	**18**

*one approval subsequently revoked, one refused and then withdrawn.

Table 4: Applications awaiting determination under the EPBC Act which are triggered for impacts on the Great Barrier Reef World Heritage Area. Source: Australia State Party Report to UNESCO, Chapter 3. January 2012, and other documents supplied.

Type of development	**Awaiting determination**	**Total applications determined 2000-11**
LNG	1	3
Port facilities and dredging	11	9
Tourism developments	8*	9
Aquaculture development	1	5
Mining and Extractive Industries	6	1
Processing facilities/intrastructure	2	9
Transport infrastructure (not ports)	3	6
Pipelines	1	2
Water treatment/water supply	9	4
Residential developments	2	11
Defence activities	0	2
Agricultural developments	1	0
Totals	**45**	**61**

* two tables in the State Party report mention tourism developments, with four entries in each table.

It is further important to note that the mission did not consider any developments that do not currently require an Assessment under the EPBC Act for their potential impact on the OUV of the property.

Concerns were also raised during the mission regarding the number of “sleeping permissions” that were given in the past, but have not been activated. The Government of Queensland informed the mission that past development approved by the State in the coastal zone which have not been acted upon include a number of major projects. Among those are the resort development project at Hummock Hill Island south of Gladstone (which has not received approval under the EPBC Act), Gladstone Nickel (a Nickel processing facility 8km west of Gladstone with a proposed stage 1 throughput of 63,000 tonnes per annum), and the Townsville Ocean Terminal. A number of other smaller approved developments include canal development and marina near Innisfail, and a range of tourism and/or marina developments at Magnetic Island, East Point, Mackay, Stone Island, Wild Duck Island, Keswick Island, Shute Harbour, and Hamilton Island. Although the mission has not been able to review any of these already consented developments, it considers that they need to be assessed both in terms of evaluation of the overall cumulative, combined and consequential impact of development that has taken place, has been permitted or is expected to be permitted in the property.

Direct use

Direct use of the property includes activities related to commercial, recreational fishing and traditional use of marine recourses.

For thousands of years, Traditional Owners have visited and maintained connections with their traditional sea country, including traditional hunting and fishing, ceremonies, stories and conservation. Little is known about the impact of Traditional Owners, but briefings throughout the mission indicated that the threat to the property is considered low.

As indicated above, commercial fisheries have reduced within the property and are no longer considered a high risk to the conservation of the property. During the mission, however, it was pointed out that growing recreational fisheries have the potential to undermine the effectiveness of the zoning system and associated management actions. Recreational fishing is popular throughout the property but does not require a permit and is not subject to the Total Allowable Catch measures which limits extraction for commercial fisheries. While the mission was not provided with concrete figures and was informed that the threat posed by recreational fishing is difficult to calculate, the 2009 Outlook Report estimates recreational fishing is responsible for about one-third of the total catch by weight but retains only about 11% of the total catch. The report further illustrates that the retained catch of commercial fisheries is about twice that of recreational retained catch. It was further pointed out that the increase in coastal population and its affluence may lead to an increase of catch from recreational fishing due to larger, more powerful boats which are used more frequently and the introduction of sophisticated technology previously limited to commercial fishing. Little is known about charter fishing but these also pose potential risk of increased boat strike for marine turtles and dugongs.

Port development and shipping

The abundant availability of coal and gas in the State of Queensland and the rapidly growing international demand for this resource is the primary driver for the development of port infrastructure along the coast of the Great Barrier Reef. Based on the State of Conservation report received from the State Party in January 2012, the current four major export ports (Townsville, Abbott Point, Dalrymple Bay/Hay Point and Gladstone Port) have a total export capacity of 256 million tonnes. This capacity is proposed to increase about four-fold (up to nearly 1 billion tonnes) before the end of the decade (see Table 5).

Table 5. Actual export, current port export capacity and proposed capacity along the coast of the Great Barrier Reef coast within next decade

Location	Actual Exports 2010-11 (Mtpa)	Current Port Export Capacity	Proposed capacity within the next decade (Mtpa)
Abbot Point (Offshore Berths T0-T3)	15	50	205
Abbot Point (T4-T9) Multi Cargo Facility	0	0	180
Dalrymple Bay	54.7	85	85
Hay Point	33.1	44	55
Dudgeon Point	0	0	180
Balaclava Island	0	0	35
Fitzroy River	0	0	22
Gladstone Port	53.3	77	190
Wongai Project	0	0	1.5
Total	**156.4**	**256**	**953**

Source: State of Conservation Report, Government of Australia, 2012

The mission received a range of different views regarding the scale of coal export demand and associated port capacity. Development proponents with whom the mission met indicated that the capacity estimates above provided by the State Party are maximum capacities and do not necessarily reflect what the actual capacity will look like due to both market constraints, and capacity to build facilities. The information provided by proponents to the mission suggested that actual port export capacity will likely grow at 6% per year until 2020, resulting in a total maximum capacity of about 350 million per year by that date. However, considering that permit approvals are currently sought for the figures indicated in the above table, and no mechanism exist to extract a permit once given, it is sensible to take into account the figures provided above in determining the potential threats from port development on the OUV of the property.

Increased port export capacity is expected to increase shipping vessel voyages. Different figures were provided to the mission about the expected increase in ship vessels movements. Over the past 10 years there has been a gradual increase in the number of ship voyages in the property. In 2010, 5,000 ships transited the property and arrived at ports along the Queensland coast. According to the State Party's State of Conservation Report, an increase of 20% in ship traffic is expected in the property in the coming 5 years. A study undertaken by Greenpeace and of which the results were presented to the mission, estimates that a 4-fold increase in port capacity equals a total amount of ships over 10,000 vessels a year before the end of the decade. This is the equivalent of more than one ship departing a port every hour of the day, 365 days a year. While the majority of the proposals have not yet been considered for approval by state or Commonwealth governments, their potential is significant for reasons described in earlier sections of this report. Both proponents and the State Party indicated that the Greenpeace estimates are "theoretical maximums" and do not correspond with actual increase of port capacity. According to information received from the Government of Queensland, ship traffic is estimated to increase up to nearly 7,000 vessels by 2020 (Table 6). Both the Maritime Safety Queensland and Australian Maritime Safety Authority (AMSA) record ship movements but do not have 'official' forecast numbers available. A North East Australia Shipping Projection Model, developed by AMSA, is expected to be completed in August 2012.

Table 6: Preliminary forecasts of ship calls to ports in Queensland, based on Port Government owned corporations estimates and industry forecasts (2020).

Port	2011	2020
Abbot Point	190	985
Townsville	681	920
Lucinda	0	21
Hay Point (coal)	892	1630
Cairns	755	898
Mackay	173	305
Cape Flattery	39	45
Mourilyan	25	26
Gladstone	1,316	1,938
Quintell Beach	15	40
Port Alma	89	90
Bundaberg	21	20
TOTAL	**4,196**	**6,818**

Notes: numbers are ship calls, for movements multiply by 2.
Source: Queensland Government submission to the mission.

While both port development and shipping took place in the property at the time of inscription in 1981, the magnitude of projected increases is of high concern. Such rapid increase, if it were to occur, pose serious questions about the threats to several values for which the property is inscribed on the World Heritage List. Its contribution to the degradation of the overall OUV of the property could be significant considering not only the individual impact, but most importantly the cumulative and combined impact on exactly those parts of the property that are already most heavily degraded. As described above, the impacts from climate change and extreme weather effects (severe cyclones), the loss of habitats from coastal developments, as well as degraded water quality from catchment runoffs are all major factors which contribute to the decay of the inshore and coastal areas along the coast of the property.

As noted in the 2009 Outlook Report and confirmed by scientific experts during the mission, a key impact of port developments on the property's ecosystem is the direct loss of coastal ecosystems and connectivity between ecosystems. Port developments, as well as supporting activities such as dredging and some dumping of dredged material takes place in the near shore areas which are areas of high biodiversity and contain habitats essential for the future health of the reef's ecosystem.

Some of the current proposals include port development in highly sensitive areas which are of critical ecological importance to the conservation of the property as a whole. While a comprehensive overview is beyond the scope of this report, three port development projects that currently await determination were noted by the mission as being of high concern according to the input of people met during the mission:

- Balaclava Island Coal Export Terminal: Fitzroy Terminal Project: The location of both these proposals has potentially serious impacts on one of three important populations of the endemic Australian snubfin dolphin. The areas affected are also wetlands of national significance that provide important refuge areas for important flagship species such as turtles, dugongs and migratory birds. The area is in excellent condition at this moment. Potential spills in the area would be particularly difficult to mitigate and have potential disastrous effects in case of accidents considering the degradation of the coastal and inshore areas in the southern part of the property;
- Bathurst Bay/Princess Charlotte Bay: The area is major hotspot for dugongs, green turtles, three species of inshore dolphins and an important area for migratory birds. The

area is currently undeveloped and lies within a unique bioregion of which the ecological and biological composition is found nowhere else in the property. This area is currently in near pristine condition.

Shipping traffic linked to increasing port activity is an additional indirect source of threat. Vessel accidents and vessel strikes are among the most important threats arising from increased shipping. Collisions or grounding of ships have caused damage in the property over the past years and are likely to increase as more ships transit. In 2010 the Chinese-registered coal carrier Shen Neng 1, for example, caused a small fuel leak after being grounded on the reef due to fatigue of its operators, but risked a much larger impact. An increased number of ship movements heightens the potential for such accidents and increases the possible serious effects of oil and chemical spills. The magnitude of such threats is difficult to estimate as it is currently not always clear what chemicals are on board of ships entering the property Both during the construction and the actual operation of the port increased movement of ships heightens the potential for ship strikes with important species, such as marine turtle or dugongs and inshore dolphins. Finally, industrial areas along the coast of the property have attracted ships that wait for cargo. In areas around Hay and Abbott point, vessels are "*in waiting*" often for days in a row as a result of a non-optimal functioning of the supply chain system**.** Other potential negative impacts from shipping include introduction of invasive species, waste disposal and anchor damage.

Finally, threats to the property also arise from associated activities such as dredging and dumping of dredged material. Several estimates have been made about the considerable increase of dredging necessary for port development and new or deeper ship lanes, although these have not been verified during this mission.

Cumulative impact of threats and combined effect

None of the threats to the Great Barrier Reef ecosystem operate in isolation from one another. Each is present at the same time and affecting the same ecosystem. Some threats also may have a synergistic effect, where the impact of two or more threats acting together is much worse than that expected from the sum of their individual impacts. For example, and as described above, the ability of coral reefs to recover from bleaching or major cyclones is considerably reduced if it is living in degraded water where ecological processes have been compromised as a result of water quality issues or port developments.

A detailed analysis of the various aspects of cumulative impacts has not been made for the property yet and is a highly challenging task considering the many variables, their responses and interactions that would need to be taken into account when making such analysis. It was pointed out throughout the mission however, that while the details are largely unknown, threats will be further exacerbated by predicted effects of climate change, including more frequent events (mass bleaching, severe cyclones and runoff), compromised growth rates of skeletal strength (ocean acidification) and disease outbreaks. Climate change and coral reef experts who informed the mission, indicated that even small changes in a range of key physical, chemical or ecological processes may result in sudden widespread deteriorations on a scale not observed previously – which would in turn reduce further the resilience of the ecosystem.

2.3 Assessment of the protection and management of the property

2.3.1 Introduction

The section provides an assessment of the effectiveness of the protection and management system for the conservation of the property. This section starts with a brief overview of the protection and management system at the State, Commonwealth and international level and is followed by a summary of the mission findings related to (a) assessment of the overall protection and management of the property, (b) assessment of management action to reduce water quality impacts; (c) assessment of regulation for coastal development with impacts on the OUV of the property; (d) Assessment of the management of ports and shipping. Considering the mission objectives to assess impacts of key coastal developments on the OUV of the property, including those specifically related to Gladstone Harbour and on Curtis

Island, conclusions on these issues are described in more detail than other aspects of protection and management.

2.3.2 Overview of management and institutional arrangements for the protection of the property

2.3.2.1 International protection measures

In addition to the World Heritage Convention, the property is protected through a range of international conventions and programmes, including:

1971 Convention on Wetlands of International Importance Especially as Waterfowl Habitat
(Bowling Green Bay listed in 1993; Shoalwater and Corio Bays listed in 1996)
1973 International Convention for the Prevention of Pollution from Ships
1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora
1979 Convention on the Conservation of Migratory Species of Wild Animals
1982 United Nations Convention on the Law of the Sea
1992 Convention on Biological Diversity

The property is further designated as:

- Particularly Sensitive Sea Area under International Maritime Organization in 1990

2.3.2.2 National and State protection measures

The conservation of the property is ensured through a wide range of management plans and legislation. The property is managed as a multiple-use protected area for which the responsibilities are shared jointly between the Commonwealth and State governments.

The GBR Marine Park covers approximately 99 % of the property. The Great Barrier Reef Marine Park Authority (GBRMPA), an independent Australian Government agency, was established through the 1975 Great Barrier Reef Marine Park Act and is responsible for the protection and management of the GBR Marine Park. The Act was amended in 2007 and 2008, and now provides for "*the long term protection and conservation of the Great Barrier Reef Region*" and mentions specifically "*Australia's responsibilities under the World Heritage Convention.*" The GBR Marine Park's legal jurisdiction ends at low water mark along the mainland (with the exception of port areas) and around islands (with the exception of 70 Commonwealth managed islands which are part of the Marine Park).

The State of Queensland is responsible for the management of the Great Barrier Reef Coast Marine Park, established under the Marine Parks Act 2004. This area is contiguous with the GBR Marine Park and covers the area between low and high water marks and many of the waters within the jurisdictional limits of Queensland. The jurisdiction of Queensland further covers the 900 islands, about half of which are declared as 'national parks', as well as the internal waters of Queensland that occur within the World Heritage boundary (including a number of long-established port areas).

The Queensland Government is further responsible for natural resource management and land use planning for the islands, coast and hinterland adjacent to the property. Other Queensland and Federal legislation also protects the OUV of the property by addressing such matters as water quality, shipping management, sea dumping, fisheries management and environmental protection.

The Federal Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) provides an overarching mechanism for protecting the World Heritage values from inappropriate development, including actions taken inside or outside the property which could significantly impact on its heritage values. This requires any development proposals to undergo rigorous Environmental Impact Assessment (EIA) processes, including public consultation, after which the Federal Minister may decide, to approve, approve under conditions designed to mitigate any significant impacts, or reject the development proposal. A recent amendment to the EPBC Act makes the GBR Marine Park an additional 'trigger' for

matters of National Environmental Significance (NES) which provides additional protection for the values within the GBR.

The overlapping jurisdictional arrangements mean that complementary legislation and complementary management of islands and the surrounding waters is highly important. Cooperative partnerships and formal agreements exist between the Australian Government and the Queensland Government. In addition, partnerships have been built between governments and commercial and recreational industries, research institutions and universities. The Great Barrier Reef Intergovernmental Agreement, signed between the Prime Minister and Queensland Premier in June 2009, provides a framework for the Australian and Queensland governments to work together to protect the Great Barrier Reef. The Agreement recognises that key pressures on the Reef cannot be effectively addressed by either government on their own and replaces an earlier version dating 1979. A Great Barrier Reef Ministerial Forum is established to oversee the implementation of this agreement.

Within the overall management approach, the support and empowerment of stewardship of indigenous people of their country and seacountry within and adjacent to the property is actively promoted, supported and facilitated by the progressive identification of Native Title for traditional owners. It is further supported through management agreements, including Traditional Use of Marine Resources Agreements (TUMRAs), Indigenous Land Use Agreements (ILUAs) and Memoranda of Understanding (MOUs). In the Great Barrier Reef Region, there are four TUMRAs in place (covering more than 19,000km2), two MOUs and two ILUAs. In addition, some Traditional Owner groups have agreed arrangements within their communities for sea country management, but have chosen not to formalise these arrangements with government agencies. (Source: GBRMPA website accessed 7 May 2012).

2.4 Assessment of Overall protection and management of the property

2.4.1 Successful management initiatives

The management arrangement in place for the protection of the property has led to a number of successes in managing threats which were previously of high concern.

The existence of a coherent and functioning management system that underpins protection at such large scale is remarkable. Key positive outcomes include the capacity and resources to apply strong scientific and technical judgement to decision making, the potential for broad-scale public engagement, and the ability to provide understanding about technically challenging issues such as climate change and cumulative impacts. The 2009 Outlook report, for example, is a five-yearly, high quality analysis of the state of conservation of the property produced in an innovative format enabling clear communication its finding to all partners involved. The establishment of a regular and peer-reviewed reporting cycle on the condition of the Reef provides a fundamentally important means of underpinning the objective evaluation and development of policy and action on a long-term basis by all parties. The management standard of many aspects of the property demonstrates a very high degree of functionality, quality and capacity. Benchmarked against global standards, management practice in the Great Barrier Reef is a leading example for many components and is considered by many to be the “gold standard” for large-scale marine protected area management.

As mentioned in earlier parts of this report (section 2.2.2), concerted action has led to a successful management of commercial marine tourism which is now dealt with sustainably. It has further led to a sustainable management of most forms of commercial fisheries. Significant management improvements include the 2003 rezoning of the Great Barrier Reef Marine Park which led to an increase of no-take zones up to 33% of the property, the introduction of 16 dugong protection areas along the coast, and a refining of size and bag limits of important fish and crab species. New spatial and temporal closures have been introduced along the coast to safeguard important nursery areas for fish and prawn stocks. The overall compliance and surveillance of the no-take zone is highly sophisticated. Further successful management actions include the regulation of shipping and marine safety as implemented through the Australian Marine Safety Authority. Positives outcomes have also been achieved for improvements in water quality from catchment run-off through an ambitious Reef Water Quality Protection Plan (Reef Plan)

and are described in more detail a subsequent sections of this report. The mission also noted the high degree of commitment to the protection of the property among all stakeholders involved, including Commonwealth, State and local authorities, traditional owners, representative from NGO's, private sector and the wider community which is reflected in the many contributions and clarifications provided to the mission team. The GBRMPA Reef Guardian Schools Programme, for example, is highly successful in encouraging schools to commit to the protection and conservation of the property. At least 285 schools are actively engaged in on-the ground projects and educations of the wider community while strengthening links between schools, the community, government, businesses, environmental groups and the government agencies responsible for the conservation of the property. As noted below sustaining and building on this success is required. The mission considers that the leadership role of the property within the World Heritage Convention could further strengthen capacity in other properties with similar conservation issues.

Based on these findings, the mission encourages the State Party to:

Strengthen the sharing of its best practices and success stories, in particular those related to the spatial and temporal management for tourism, recreation and fishing, the framework developed for surveillance, compliance and monitoring of the property as well as the community engagement programmes, with other World Heritage sites facing similar management challenges but lacking the capacity to deal with them. Recognising the excellence of many aspects of the management of the property that is derived from over 35 years of experience, this support should enhance the leadership role of the State Party to support World Heritage Sites to be drivers for positive change globally, and in excellence in marine protected area management in particular.

While success has been achieved in many aspects of the management of the property, the current institutional arrangement contain a number of weaknesses. These include weaknesses of the management system that are particularly apparent in light of the rapidly accelerating pace of coastal development in recent years. The sections below discuss those areas that require further strengthening to secure the long-term protection and management of the Great Barrier Reef and provide recommendations toward this end.

2.4.2 Effectiveness of the integration of the OUV concept in the protection and management system

The SoOUV for the property details the reasons for which the property is inscribed on the World Heritage List (see Annex VI). The mission reviewed how the OUV components of the Great Barrier Reef are incorporated and applied through the legal and institutional mechanisms in place to protect the property. While specific mention is made of World Heritage Values in both the revised 1975 GBMP Act and the 1999 EPBC Act, the mission noted that there is no clear use of the term "OUV" in plans and decision taking processes.

The language of the EPBC Act, as the principal means considering World Heritage in relation to development proposals, is framed around the "significant impact on the world heritage values of a declared World Heritage property". The mission was able to consider rapidly a range of planning documents and documents produced in decision taking processes. It noted that in general terms there is an indication that the World Heritage Status of the property is acknowledged in plans and decisions, and that consideration of the values of the World Heritage Area is being undertaken. Some of these values, such as threatened species and communities, and migratory species, are considered separately as matters of national environmental significance under the EPBC Act. However it is not clear whether all of the aspects that make up the OUV of the property are being considered, nor is the approach consistent in considering them and therefore it is also not considered transparent, nor effective.

In detailed terms it appears that the level of detail and precision regarding consideration of OUV is variable. In some cases assessments are at a generalised level, in others they are approached in relation to each criterion for inscription, and it is not clear that there is a consistent understanding of the attributes to be considered. The precision of practice does however seem to be improving over time,

with, for instance, some briefs for Environmental Impact Statements and supporting information for EPBC decision taking including more consistent detail. More detailed consideration of the decision taking process regarding Curtis Island, including the consideration of OUV is provided later in this report. Further analysis is required, including a detailed level of review of planning documents and documents related to assessment of developments to determine the overall current level of practice and different approaches. In detail it appears to the mission that, for example, the aesthetic values of the property, the associated traditional uses and the values that are susceptible to cumulative impacts are less well understood than other aspects of the property.

The connection between "OUV" and "World Heritage values" is more than a semantic issue and is a substantive area which may affect judgements of the appropriateness or otherwise of particular activities and developments. It is also in the interests of all parties including regulators and prospective developers that the definitions and expectations of OUV, including the integrity of the property as a key component, are clearly and transparently defined, including ensuring that the requirements of the EPBC Act can be met. Without such a clear connection being made between OUV and the management system, it is unclear how development proposals for example are assessed against the different OUV components and how consistency in this regard is provided. The most critical concerns arise in light of the rapid coastal development of the property, including port development, and are described in the relevant sections below. However, due to the complexity of the site and its values, as well as the many partners involved in the long-term conservation of the property, it is essential that the values for which the property is recognized are documented and communicated in a way that can be easily understood and against which assessment of impacts on the OUV of the property can be made transparently and consistently.

Considering the substantial amount of information available on the property on all components of the OUV, the mission considers there is the opportunity to provide an example of leading practice within the World Heritage Convention with respect to an adequate integration of the OUV into existing management arrangements. The mission considers further work is needed in relation to identifying and documenting the attributes related to the aesthetic values of the property, as well as the relationship with Traditional Owners and their use and conservation of the property. The mission considers it important that all attributes conveying the OUV are defined and translated consistently into:

- High-level oversight and reporting systems by the Commonwealth and State Governments, necessary to assure the long-term protection and conservation of the property;
- Key policy and strategy documents guiding the use, protection, planning and management of the Reef, as well as the areas that adjoin and/or can affect it;
- Regulation of coastal and marine development, including within the Strategic Assessment, Environmental and Social Impact Assessment of proposed development affecting the Reef, and within the determination of applications to undertake and regulate development;
- The statutory Outlook Report processes for the Great Barrier Reef, and other monitoring and evaluation of the state of conservation of the property.

The Outlook Report provides a key mechanism for reporting about the ecosystem health and functioning of the property in a way that can be communicated effectively. Such reporting supports the long-term protection and management of the property and provides a key reference for strategic planning and the incorporation of scientific findings into decision-making. Taking into account the existing decision of the State Party to review the Outlook on a 5-yearly basis, the mission concludes that this exercise can provide a reliable means for detailed reporting on the conditions, trends, threats and prospects of all components of the OUV of the property and benchmarked where possible against the date of inscription of the property in 1981. It further concludes that the next Outlook Report, expected in 2014, could provide a leading example for other properties on the World Heritage List.

With this assessment, the Outlook Report would be able to be used directly to underpin reporting to the World Heritage Committee in relation to the State of Conservation of the property, beginning with the second edition of the report, which would be available to be reported for the Committee's 39th Session in 2015.

Based on these findings, the mission recommends the State Party to:

Ensure the OUV, including integrity of the Great Barrier Reef is a clearly defined and central element within the protection and management system for the property as well as the catchments and ecosystems that surround it. The OUV of the property should be a principal reference for all plans and legislation relating to the protection and management of the property as a whole, and in particular for legislation in relation to development within or in areas adjacent to the property. All the elements that constitute the OUV of the property should be included in the framework for future monitoring and reporting on the State of Conservation of the property to the World Heritage Committee.

Include, in the future editions of the Outlook Report for the Great Barrier Reef, and commencing with the version to be published in 2014, a specific assessment on the condition, trends, threats and prospects for the OUV of Great Barrier Reef World Heritage Area. The assessment should be benchmarked at the date of inscription of the property in 1981, and its results should be reported to the World Heritage Committee for consideration at its 39th session in 2015.

2.4.3 Establishment of targets regarding the conservation of the property

As noted above a range of threats previously considered of high risk to the property have dealt with through effective management actions and provide benefits to the local economy, through, for example, the strong sustainable tourism sector. Despite this positive work, however, the 2009 Outlook for the Great Barrier Reef assessed the overall future outlook of the reef as poor by stating that *"Despite the introduction of significant protection and management initiatives, the overall outlook for the Great Barrier Reef is poor. Even with the recent initiatives to improve resilience, catastrophic damage to the Great Barrier Reef ecosystem may not be averted. Building the resilience of the Great Barrier Reef ecosystem will give it the best chance of adapting to and recovering from the serious threats ahead, especially from climate change. Given the strong management of the Great Barrier Reef, it is likely that the ecosystem will survive better than most other reef ecosystems around the world*".

While climate change is a key threat to the property, its source is global and lies outside the direct control of the management of the property. It is commonly understood that building resilience, through the reduction of other pressures, is a means to maximize the capacity of the ecosystem to adapt to the impact of climate change. The World Heritage Committee, at its 35th session (UNESCO, Paris), welcomed the State Party's commitment to improve the property's resilience and its ability to adapt to climate change (see Annex I).

The mission discussed the practical means to address this situation, and noted that the success of a number of the most important initiatives to tackle threats to the Great Barrier Reef has relied on setting and monitoring targets (for example, Reef Plan targets for water quality). Building on this success, and considering the ongoing high quality projects on the effects of climate change the property is undertaking, the mission considers that defining clear, and potentially statutory targets for the future condition sought for the OUV of the Great Barrier Reef could be beneficial to the overall improvement of resilience for the property. Such targets should be supported by sound and objective scientific analysis regarding the various activities taking place in the property that contribute to the vulnerability of the reef and therefore limit its capacity to adapt to the impact.

Such targets could provide a new and positive paradigm for considering the long term future of the property and its needs to adapt to climate change. In the context of clear and transparent documentation of OUV, and the rich information base that exists on the property, there would be the potential to include targets tied clearly to the values of the World Heritage Area, that are connected to the overall management objectives. The potential to do this would need further consideration, but could involve for example targets for enhancing the resilience of the Great Barrier Reef in the face of predicted climate change, and the restoration of the diminished ecosystems in the inshore areas. A strong and agreed set of targets could provide a means to seek to drive positive change within the Great Barrier Reef and track progress, including via the Outlook Report. Considering the essential need for joint management of the

property among State and Commonwealth governments, the Ministerial Forum appears to be the appropriate level of governance to adopt and monitor the implementation of such targets. Despite the existence of a 25 year Strategy (1994-2019), it is unclear – due to the many regulations and institutional arrangements – how the coordinated responsibility for protection and management of OUV/World Heritage Values is expected to be translated into the relevant institutional responsibilities, and their plans and strategies for the area, and how these plans connect to each other. The mission considers that the Ministerial Forum could be a relevant mechanism for establishing clear expectation regarding the recognition of OUV in all relevant plans affecting the property adopted by either Federal or State government, and also ensure that plans adopted follow those expectations.

In relation to resilience, such targets should build upon the existing Climate Change Action Plan 2007-2012 which is currently being reviewed and updated.

Based on these findings, the mission recommends the State Party to:

Develop and adopt, at the level of the Ministerial Forum, clearly defined and scientifically justified targets for improving the State of Conservation of the OUV of the Great Barrier Reef World Heritage Area, including for enhanced resilience of the property, and in particular for the conservation, and where necessary restoration, of the inshore areas of the property that are under greatest pressure. All plans, policies and development proposals affecting the property should demonstrate a positive contribution to the achievement of those targets.

2.4.4 Effectiveness of the overall institutional and legal protection of the property

The mission considers that comprehensive protection and conservation of the property as a whole requires integrated management of all areas where activities can potentially impact on the OUV of the property. These include (a) areas within the property but outside the management of the GBRMP, (b) areas immediately adjacent to the property (coastal zone) and lie under the jurisdiction of the State government, and (c) land and sea areas which lie beyond the boundaries of the property but which could impact on the OUV of the property or are intimately connected to it.

First, and as noted above, the GBRMP covers approximately 99% of the property. The State of Queensland is responsible for the management of the area between low and high water marks, the 900 islands as well as the internal waters of Queensland that lie within the World Heritage area. The areas covered by the State of Queensland, although small in comparison to the overall size of the property, contain essential habitats and species that are invaluable to the OUV of the property and vital in maintaining its integrity. The overlapping jurisdictional arrangements together with the scope of impacts from activities in these areas require complementary legislation and management agreements. which is often confusing to stakeholders, industry and the wider public. Based on the many discussions throughout the mission, the mission noted that the complexity related to the overlapping of jurisdictions is not always well understood, and result in the assumption that the GBRMP and GBRWHA have the same boundaries and thus are managed comprehensively. This confusion has also led to the belief from some stakeholders that areas not included in GBRMP are not part of the World Heritage Area.

Second, the majority of current threats posed to the property, including degraded water quality from catchment run-off, coastal development and port development, result from activities taking place in areas adjacent to and within the property that are governed by the State of Queensland. Simultaneously, these areas contain coastal habitats and species that are vital to the overall functioning of the ecosystem of the property. This underlines the importance of Federal level input regarding coastal zone planning and management arrangements led by Queensland, including the Queensland Coastal Plan, as well as other plans and policies that can affect the conservation of the property, given the national responsibilities under the World Heritage Convention. Considering the impact of activities on the conservation of the property located in the coastal zone and the importance of the coastal ecosystem to the overall functioning of the Great Barrier Reef, it is essential the Federal government has adequate means to provide input to those plans and ensure they are consistent with the overall long-term conservation of the property as a whole.

Third, the mission recognizes the fundamentally significant importance of the relationship between the GBRWHA and its surrounding areas, both on land and sea. The mission was informed about the creation of a major new Marine Protected Area (MPA) in the Coral Sea that is currently consulted upon. As described above, the Coral Sea could improve the overall integrity of the property because of the migratory species and the potential threats posed by shipping activities which are currently unregulated but operate in the immediate proximity of the property's outer boundary. While detailed analysis is beyond the scope of this report, the multiple-use zonation designed for the Coral Sea MPA does not seem optimal and a better consistency between the GBRWHA conservation could be envisioned.

The mission sees it as highly important that there is an established mechanism to provide shared Federal and State (Queensland) oversight of the property in the form of the Great Barrier Reef Intergovernmental Agreement (GBRIA).

Given the importance of the effective overall protection and management system for the property, and a supporting and effective legal and institutional framework, the mission recommends an independent review on these matters is undertaken. Detailed observations in this regard are noted in Annex IX of the report.

Ministerial level attention is also required specifically on the question of climate change impacts on the property, identified as the most significant threat to it. The mission noted that the World Heritage Convention has adopted a policy at the level of the General Assembly of its States Parties (Decision 16 GA 10 taken at the 16th General Assembly meeting in 2007 - see: http://whc.unesco.org/archive/2007/whc07-16ga-13e.pdf and http://whc.unesco.org/uploads/activities/documents/activity-393-2.pdf), which provides a framework for State Parties in considering the issue of mitigation in relation to World Heritage property's. Key principles of this policy include:

(i) In addressing the impacts of climate change on the OUV, integrity and authenticity of World Heritage properties, the World Heritage community will work in cooperation with other partners that also have responsibility, resources and expertise related to this challenge.

(ii) The World Heritage Committee will be an advocate for relevant climate change research, and work to influence and support partners that are mandated and resourced to carry out such research.

(iii) World Heritage properties will be used wherever appropriate and possible as a means to raise awareness about the impacts of climate change upon World Heritage to act as a catalyst in the international debate and obtain support for policies to mitigate climate change, and to communicate best practices in vulnerability assessments, adaptation strategies, mitigation opportunities, and pilot projects.

(iv) Climate change will be considered in all aspects of nominating, managing, monitoring and reporting on the status of these properties.

(v) In considering the threat posed by climate change to the OUV, authenticity and/or integrity of a World Heritage property, the World Heritage Committee will use the existing tools (e.g. List of World Heritage in Danger) and processes (e.g. Reactive Monitoring, Periodic Reporting) of the Convention and its *Operational Guidelines*. When the *Operational Guidelines* are revised, the Committee will consider whether specific references to climate change need to be included.

Considering the current health of the reef and its recognized current capability to adapt to climate change, the property is a prime example to *"raise awareness about the impacts of climate change upon World Heritage to act as a catalyst in the international debate and obtain support for policies to mitigate climate change",* in line with point (iii) of the policy, as quoted above. The mission considers it appropriate that the Federal Minister responsible for World Heritage, working in the framework of the Ministerial Forum, take responsibility to ensure the connection between the need for mitigation of climate change impacts and wider national and international climate change mitigation policies is made.

Based on these findings, the mission recommends the State Party to:

Commission an independent review, undertaken by internationally recognized and widely respected scientific experts, of the overall institutional and legal mechanisms that provide coordinated planning, protection and management of the Great Barrier Reef World Heritage Area as a whole. The results of the review should be reported to the Great Barrier Reef Ministerial Forum and provide input to the Strategic Assessment to which the State Party as committed. The review should address enhancement of the implementation of the Great Barrier Reef Intergovernmental Agreement, assessment of the effectiveness of legal protection, institutional and management planning arrangements for the property, and include specific attention to the areas of the property which are not managed by the Great Barrier Reef Marine Park Authority, as well as all adjacent marine, coastal and land areas. This review should be provided for consideration at the 37th session of the World Heritage Committee and subsequently lead to the implementation of concrete measures to address identified weaknesses, under the scrutiny of the Great Barrier Reef Ministerial Forum.

2.4.5 Maintenance of adequate resources for the overall conservation of the property

The size and scale of the Great Barrier Reef requires a significant investment of resources to secure its long-term conservation. Whatever future requirements are needed, maintaining the effectiveness of the various management arrangements entails ongoing sustainable financial resources. The mission did not undertake a systematic assessment of the financial needs for the property, but was provided with indications that financial means are decreasing because of higher costs.

The Queensland Government provided information suggesting its agencies are well placed to respond to the growing demand for assessment and regulation of development projects. It stated that a new fee structure to cover costs of managing its assessment of EIAs. In 2010-11, the relevant State Department, Department of Environment and Resource Management (DERM) employed 10 additional professional staff to assess and manage EIAs for major resource development projects across the state. In relation to compliance and enforcement, DERM has increased the number of its environmental compliance officers by 300 percent in the last four years. DERM currently has approximately 180 environmental officers involved in frontline environmental compliance work and invested AU$23.4 million for such services in 2010-2011. In 2011-2012, this funding increased further to AU$29.6 million, in recognition of the extra resources required regarding the expanding mining, coal seam gas and liquefied natural gas sectors. In addition, DERM added 32 staff to form a joint enforcement unit, tasked with monitoring the emerging coal seam gas to liquid natural gas industries in Queensland. Despite these increases, it appears that the overall scale of applications is highly challenging in terms of the capacity of the public sector, in particular at the relevant Federal department charged with considering applications under the EBPC Act. An independent review for the Fitzroy Basin Association provided to the mission, for example, notes that infrastructure associated with the resources boom is placing development systems under pressure.

Further, financial resources available to the Great Barrier Reef Marine Park Authority have increased from AU$25m in 1999 to circa AU$46m in 2008 which at that level until 2011. However a decreasing budget is projected by more than 10% to AU$39m in 2014. While the mission was not able to consider budget matters in detail, such decrease is of concern considering that existing management needs become increasingly expensive, new management challenges such as climate change arise and coastal development potentially irreversibly affecting the property is moving rapidly. Considering that existing management responses need to be maintained, and there are a range of increasing threats and increasing demands from a growing population for the use of the property, financial resources for GBRMPA should expect to move upward.

The mission was further informed about the importance of adequate funding for ongoing research and monitoring in view of maintaining the high quality of informed decision-making. One of the strengths of the property is its strong research and science base, which is the result of a large and long-term investment of efforts, and the involvement of many scientists and institutions. Continued support for

strong science is fundamentally important not only for the future of the property itself, but for all large-scale MPAs that learn from the property's investments and successes. The mission noted concerns regarding adequate funding for ongoing monitoring that is necessary to detect change, and recommends this aspect of research and monitoring is maintained an supported.

Finally the mission notes that the Strategic Assessment which both Commonwealth and State governments have committed to will require adequate financial resources to deliver a solid basis for the long-term sustainable development of the property. The Department of Sustainability, Environment, Water, Population and Communities established a Great Barrier Reef Taskforce to deliver the strategic assessment, and it is essential that this has adequate resources at its disposal.

Based on these findings, the mission recommends the State Party to:

Ensure increased resources from both State and Federal Governments for the protection and management of the property, in particular to cover growing costs associated with effective responses to key threats and both within the property and in areas that affect it. Resources allocated to the research, monitoring and surveillance of the property should consistently reflect the actual increase of costs associated with such activities.

2.5 Assessment of management action to reduce water quality impacts

As indicated in section 2.2.2 of this report, water quality poses a major threat to the conservation of the property. Through concerted management action the negative trend in water quality has recently been reversed and shows positive signs of restoration. The Reef Water Quality Protection Plan (Reef Plan) is a collaborative programme of coordinated projects and partnerships designed to improve the quality of water in the property through improved land management in reef catchments and is implemented jointly between State and Commonwealth. While other activities contribute to the degradation of water quality, Reef Plan focuses on pollution from diffuse agricultural sources which contribute 90% of the pollutant load to the reef.

Through specific targets for both land management practices and water quality, the programme aims at halting and reversing the decline in water quality entering the reef by 2013, and 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 property. Initially established in 2003, the plan was updated in 2009 and details specific actions and deliverables to be completed by 2013 when Reef Plan will be reviewed.

Two major initiatives have been implemented since 2009:

- The Australian Government's Caring for Our Country Reef Rescue Initiative;
- The Queensland Government Reef Protection Package, which includes new regulations.

The programme is supported by significant investment, of AU$375 million over the last five years to support improved land management by agricultural, monitor water quality, land condition and reef health, and undertake research and development. Reef Plan and its associated land management investments benefits from strong and positive industry support, which translates in good cooperation among sugar cane growers among other farmers in reducing agrochemical inputs and runoff as well as significant accompanying investments for the purchase of new equipment and technology necessary to introduce more precise applications of crop treatments.

Preliminary results available from the Second Report Card of the programme indicates progress towards Reef Plan targets. According to information from the Queensland Government, nitrogen running off from regulated farms has reduced by approximately 14% since 2010. These encouraging results are a combination of both State and Commonwealth investments as well as improved land use practices by sugarcane growers and horticulture producers. As a result of this change, results are likely to show average annual reductions in pollutant loads entering the reef, including nitrogen, phosphorus, sediment and pesticides. All partners involved in the implementation of the Reef plan measures indicated,

however, that it will take decades to see the full benefits of the investment in terms of coral and seagrass health in the marine environment. In addition to Reef Plan, an additional AU$500 million investment is made to tackle point source pollution through upgrades sewage treatment plants.

The continuation of the Reef Plan initiative and its associated regulatory and incentives packages is essential to reach the targets set for 2020 and the overall long-term conservation of the Great Barrier Reef. Funding for these programmes is available until 2013. At the time of the mission's visit, the continuity of the financial investments in Reef Plans beyond 2013 was unclear and no commitments were made to maintain the programmes.

In addition, the mission noted views from stakeholders regarding the consideration of water quality impacts from mining. The Collective of Regional Natural Resource Management Groups for Queensland noted that impacts such as from the pollution/sedimentation of waterways (aquifers, rivers, creeks and wetlands) is one of the noted environmental risks from mining in the region's catchments. Information provided to the mission by the Queensland Government provides a detailed analysis of impacts from mining, and notes that, to date, mine discharges are not as significant a threat to reef water quality compared to nutrients and pesticides from agricultural sources, which have been identified as the key pollutants likely to cause environmental harm to the reef in Scientific Consensus Statements in both 2003 and 2008. In addition, a risk assessment undertaken in 2009 found that the highest risk catchments in terms of water quality impacts on the reef were not the main catchments impacted by mining. The mission considers that all uses within the catchments need to be considered within future plans for action to tackle water quality issues.

Based on these findings, the mission recommends the State Party to:

To sustain beyond 2013, and on a long-term basis, the current financial investment in the progressive and highly important Reef Water Quality Protection Plan and associated Reef Rescue measures, and where necessary increase this investment, to address impacts of water quality in the catchments that drain into the Great Barrier Reef, and ensure that these programmes and related planning policies consider water quality impacts from all uses within the catchments.

2.6 Assessment of regulation for coastal development with impacts on the OUV of the property

2.6.1 Effectiveness of the 1999 EPBC Act

The EPBC Act 1999 provides an overarching mechanism for protecting the World Heritage values from inappropriate development. The EPBC Act provides two pathways to assess actions that are likely to have a significant impact on matters of national environmental significance. The first is project-by-project assessment. The second is a strategic assessment process. Findings of the mission related to regulation of coastal development and impacts on the OUV through the SA process is discussed further in this section. The State Party indicated that it acknowledges the weaknesses of individual project assessments and in response to WHC Decision 35 COM 7B.10 has commenced a comprehensive strategic assessment of the entire property, which is expected to be completed within the next 18 months, and is discussed further below.

The EPBC Act requires that proposals for development that are likely to have a significant impact on matter of national environmental significance, including World Heritage values, undergo a rigorous assessment and approval process. Potential impacts on the OUV of the property are assessed regardless of whether the proposed action is within or outside the boundary of Word Heritage area. The assessment approach is dependent on the complexity and magnitude of the proposal and is decided by the Federal Minister of Environment. Different assessment methods include:

- Accredited assessment (including via bilateral agreement);
- Assessment on referral information (assessment done solely on information provided in the referral form);

- Assessment of preliminary documentation (referral form and any other relevant material identified by the minister as being necessary to adequately asses a proposed action);
- Assessment by environmental impact statement (EIS) or public environment report (PER);
- Assessment by public inquiry

Once an assessment is complete, the Federal Minister may decide to approve the proposed action, refuse the proposed action or approve the proposed action with conditions designed to mitigate any impacts or agree to offsets where the impacts of the action cannot be mitigated.

As described in section 2.2.2 of this report, over the past 13 years c.108 proposals were triggered for impacts on the OUV of the Reef under the EPBC Act. Of these proposals, 45 are currently waiting determination with 35 of them seeking approval before 2013.

Based on discussions held throughout the mission, and considering the rapidly increasing pace of proposals for coastal development in recent years, there are serious concerns whether the current procedures used under the EPBC Act are adequate to respond to the large number of applications on a case-by-case basis. The key concerns were expressed by stakeholders who met the mission are noted as follows:

- **Volume and speed of approvals**: *The overall volume and speed at which development is taking place is a matter of serious concern to the general public. The volume of the proposals as well as the speed at which proposals are assessment and approved provides limited time for public consultation and engagement and reduces public confidence in the government's decision-making over the long-term conservation of the property; Short time periods for consultation on Environmental Impact Statements, for example, coupled with the scale, volume and complexity of applications and associated information is clearly beyond the current capacity for civil society to respond and participate;*
- **Lack of adequate strategic thinking and oversight**: *Some development applications are overlapping and appear to conflict with one another. The regulatory system is essentially reactive and acts by means of response to individual assessments without a clear idea of the overall bigger picture for the reef. This oversight is further reduced because of insufficient guidance in coastal planning at the State level through which "off-limits" areas should be identified and legally binding to all when they are critical to the health and functioning of the reef's ecosystem. There are no limits to the amount of development considered to maintain a sustainable reef, so major developments may come forward simultaneously in new locations which were previously undeveloped. There is insufficient consideration of cumulative, combined and consequential impacts of coastal development within approval processes. Development approaches are leading to progressive loss of values from the impacts of multiple smaller and larger developments, referred to by many as "death by a thousand cuts" and without any idea where the appropriate limits to the development footprint lies;*
- **Reactive decision-making driven by short-term economic benefit:** *Major development projects are pushed forward from the perspective that delay may lose economic opportunities. Proponent-led proposals are assessed on a project-by-project basis, without considering the actual need for infrastructure in mid to long-term when global markets and demand shifts, nor any reflection of large-scale development on other industries that contribute substantially to the country's GDP, such as tourism. Development proposals and assessments funded by the developers, with funding in excess of the budgets of the government to assess them and provide sound decision making on their approval.*
- **Shifting baselines for conservation:** *Few developments are refused and the system appears to approve developments with large numbers of conditions; Approvals are perceived to often not take into account all concerns related to the development processes, such as for example dredging and dumping of dredged material. Once approved, there is a regularly a lack of enforcement of the conditions attached to the approval and envisioned to mitigate any damaging effects, and few or no penalties for non-compliance*.

- **Complex legislation, conflict of interest and perceived non-transparent decision-making:** *The overall regulatory system is highly complex for development in areas outside the authority of the GBRMPA, with too many overlapping and different routes for developments. From the point of view of businesses, regulatory systems are strong relative to most global comparisons, and possibly over-specified regarding the conditions applied, but may not be adequately addressed to defining outcomes or responding to risks in relation to regulation. The independence of the Coordinator General (CG) at the State of Queensland attracted particular comment, with contributors considering his regulatory role combined with a role to secure the economic development of the State of Queensland through the identification of developments of State Significance to be conflicting. This double role of the CG reduces the power of local government in the decision-making process and is perceived to result in a "fast track" for some cases. While the perceptions were acknowledged Queensland Government did not agree there was a "fast-track" and provided timelines indicated that periods of upwards of 455 days were taken to assess all "significant projects" in Queensland during the last five years. Once approved, some developers do not adequately and transparently respond to the conditions to mitigate threats to the property upon which the approval was based. Monitoring of the environmental conditions and measures in place to mitigate threats are perceived as done by the proponent with insufficient, fully independent oversight and perceived conflicts of interest between commercial objectives and environmental duties.*

Concerns were also raised regarding the overall coastal development planning system and its capability to avoid coastal development in areas essential to the healthy functioning and long-term conservation of the property.

Despite the existence of many plans and regulations, a sufficient planning framework to guide patterns of development appropriate for the conservation of the Reef, and which would enable the EPBC Act to respond to developments more strategically does not appear to be in place, so that applications in any location may proceed to advanced consideration for approval. The current planning framework is based on Statutory Regional Plans for the coast of Queensland (except for Cape York where such a plan is not currently in place but appears to be required), the Queensland Coastal Plan, Land Use Plans produced by the Local Authorities and Land Use Plans produced separately for port areas. The Queensland Coastal Plan uses the concept of "areas of ecological significance" (AES) as a means to spatially depict biodiversity values in the landscape. While the areas are based on assessment of biodiversity interests in the coastal zone and include protected areas, they do not appear to provide adequate guarantee that areas critical for the conservation of the reef and its ecosystem functioning will not be developed and negatively impact the overall OUV of the property. The mission notes, for instance, in the State Party report it is noted (p.64) that some of the current proposed coal export expansions are "not currently supported by the relevant ports corporations, and thus may not proceed". The mission is surprised in such circumstances that the appropriate ports planning framework is not put in place first, and as a precondition, before a major development would be permitted to advance to a detailed level of application and evaluation. This seems to amount to strategic planning driven by individual development applications, rather than a sound approach to set a strategic approach following appropriate reflection, analysis and consultation, and to then proceed to implementation.

This process also does not appear to be in tune with clear and consistent analysis regarding what an appropriate policy regime could entail, for instance in relation to port development. Despite a strong apparent consensus that a rational approach to planning and managing development would be to manage this within existing major ports areas, such guidance does not appear to be established in policy, encouraging development applications in locations that appear to be inappropriate. An approach which would seek to avoid such situations would seem to be both more strategic in terms of achieving both better results for conservation, and shaping and encouraging appropriate development. This would also appear to provide greater business certainty regarding where development could be located. Thus this would also seem to be an appropriate focus in relation to the achievement of an approach to more effective sustainable development related to the Great Barrier Reef.

Due to time constraints, the mission could not review in detail the entire coastal planning system, nor all or the many past and current EPBC proposals, but has reviewed a number of assessments on developments with potential significant impact on the property and which are regarded as Matters of National Environmental Significance (MNES) and subsequently triggered for consideration under 1999 EPBC Act. A case example considered by the mission is noted in Annex X of the report.

The mission considers greater clarity shoould be provided regarding the degree of significance of impact that should trigger a referral. As noted above the mission considered that whilst the concept of World Heritage values appears in legislation and decisions, and has led to some refusals of past development proposals, that this is not a consistent or transparent implementation of OUV including integrity within the planning and consenting of development affecting the property, It is obvious that the components of the OUV of the property are not yet fully understood, including in relation to the means to assess "impact on integrity" and "impact on the value of the reef as a iconic natural phenomenon of outstanding beauty", as well as the cumulative impacts of development.

The mission further notes that, aside from the impact of coastal development on the actual conservation of the Great Barrier Reef, the current reactive consenting process risks to create conflicts among economic benefits derived from the reef. While short-term development associated with new markets for coal is the main driver for the accelerating demand for space along the coast at present it is important to realize the reef derives a substantial economic return from its ecosystem services largely derived because of the Reef's health and natural beauty. Tourism visitors to the reef, for example, generate an annual contribution of AU$5bn to the GDB of the country and result in employment of over 54,000 jobs that is not matched by any other sector. The tourism sector relies on a healthy Great Barrier Reef ecosystem to provide a high quality environment and experience to visitors, and currently holds a strong reputation for delivering such service - a reputation that is supported by its World Heritage status. The lack of sound strategic planning about the spatial allocation of coastal development threatens to result in a patchwork of infrastructure and industrial development and put pressure on the asset of the Great Barrier Reef as an iconic tourism destination.

Based on these findings, the mission recommends the State Party to:

Ensure that no development project is approved which may impact negatively on the OUV of the property, either on an individual basis, but equally importantly from the perspective of its cumulative, consequential and combined impacts. The State Party should further ensure that the overall development footprint within the property is minimized through sound strategic spatial distribution of coastal and marine development, infrastructure, shipping routes and associated activities, and take fully into consideration alternative locations for development and associated activities outside the boundaries of the property.

Ensure that any determination made for applications under the EPBC Act, considering this is the principal legislation to ensure development does not negatively impact the values and integrity of the property, includes for each application:

a) **A thorough assessment, supported by a detailed statement of reasons and appropriate independent review input, on how the proposal will ensure conservation of each of the components that make up the OUV of the property, and avoid impacts upon it;**
b) **A thorough consideration of the combined, cumulative and possible consequential impacts of development, infrastructure and associated activities on the OUV as material considerations in determining all applications, benchmarked on the date of inscription of the property in 1981;**
c) **Detailed assessment of alternative options for all aspects of a development proposal, including supporting infrastructure and activities. This assessment should consider in detail the environmental, social and economic costs and benefits and lead to a clear indication of the net benefit of the development to the values and integrity of the property.**

2.6.2 Notification of proposals for development to the World Heritage Committee

The Terms of Reference for the mission included to provide advice on the reporting requirements for the State Party in relation to paragraph 172 of the *Operational Guidelines* to the World Heritage Convention. This reporting requirement aims at providing the World Heritage Committee the opportunity to assist the State Party with appropriate solutions toward securing the OUV of the property is fully preserved. Paragraph 172 states:

> *"The World Heritage Committee invites the States Parties to the Convention to inform the Committee, through the Secretariat, of their intention to undertake or to authorize in an area protected under the Convention major restorations or new constructions which may affect the OUV of the property. Notice should be given as soon as possible (for instance, before drafting basic documents for specific projects) and before making any decisions that would be difficult to reverse, so that the Committee may assist in seeking appropriate solutions to ensure that the OUV of the property is fully preserved."*

The current wording of paragraph 172 has existed in the *Operational Guidelines* since 2005, and similar wording was also previously in the 1999 version of the *Operational Guidelines* as paragraph 56: thus these reporting requirements were thus in place at the time of enactment of the 1999 EPBC Act. The mission notes, however, that, for the past 13 years, none of the 61 proposals for development which triggered potential impacts on the OUV of the property under the 1999 EPBC Act none have been submitted to the World Heritage Committee. Notification of the 45 proposals currently awaiting determination is now being done by the State Party after request from the World Heritage Centre and following the concerns raised over Gladstone Harbour/Curtis Island. Considering the large number of approvals that were granted over the past years, the mission considers there is a long-term and systemic disconnect between the request for reporting to the World Heritage Committee and actual practice by the State Party for the GBRWHA. It appears that the expected level of reporting on coastal development to the World Heritage Committee did not take place. If adequate notification would have taken place, solutions regarding environmental and other concerns large-scale developments such as Gladstone Harbour/Curtis Island could have been proposed.

In response to Decision 35COM 7B.10 in which the World Heritage Committee expressed its regret about the lack of reporting conform paragraph 172 of the operation guidelines, the State Party has developed an administrative procedure which will inform the World Heritage Centre on a quarterly basis of assessments of major projects that have been identified as likely to have significant impacts on the OUV of the property. The State Party indicates that information will be provided early in the assessment consistent with paragraph 172. The State Party provided a list of development proposals in their 2012 State of Conservation report and provided the mission with updates prior, during and after the visit.

Considering the large number of new proposals as well as the size and complexity of environmental assessments, the mission concluded that the proposed Strategic Assessment could provide a new framework toward a more effective reporting system. Based on a framework that identifies limits and standards for "acceptable" development in certain locations, the reporting of new proposals could be limited to those developments that do not correspond to those requirements. However until those requirements are defined, in the absence of the SA, and until the World Heritage Committee has considered the resulting long-term plan, any new proposal potentially impacting on the OUV of the property should be reported to the World Heritage Committee for its consideration, and with specific information enabling an assessment in relation to OUV to be made.

Based on these findings, the mission recommends the State Party to:

Report to the World Heritage Centre any new plans and proposals for developments that may impact the OUV of the property, consistent with paragraph 172 of the *Operational Guidelines* to the World Heritage Convention, and prior to their determination. This report should include an executive summary detailing the outcomes of the assessments mentioned in Recommendation 9 of the mission report and confirming that the proposal will not individually or cumulatively impact

on the OUV of the property. This measure should be applied until the World Heritage Committee has considered the completed Strategic Assessment and the resulting long-term plan for the sustainable development of the property at its 39th session in 2015.

2.6.3 Development of a plan for the long-term sustainable development of the reef

In addition to the project-by-project review, the 1999 EPBC Act offers the possibility of a second, more comprehensive way to assess the impact of activities on the OUV of the property. This can be done through a Strategic Assessment (referred to below as SA), and this exercise is regarded as synonymous with the Strategic Assessment referred to in the Committee decision, and Terms of Reference for the mission.

An essential problem arising from the current project-by-project approval process for coastal development (including ports) is the lack of consideration for their cumulative, combined and consequential impacts. The current approval procedures, despite the fact they often take many months to complete, are not suitable to adequately take into account cumulative, combined and consequential impacts. Despite the many existing planning arrangements and legal mechanisms, neither the State nor the Commonwealth government appear to have sufficient guidance and legal mechanisms available to ensure the spatial distribution of coastal and port development maximizes simultaneously ecological, economic and social returns for the property as a whole. Additionally and equally importantly, the State Party has not adequately considered the overall capacity for development affecting the property at present. As new coastal development (ports as well as others) add further stress to areas already degraded by other pressures, a mechanism is required which will ensure that the overall outcome of all factors in combination results in a net-benefit for the property as a whole, benchmarked against the date of inscription in 1981. The currently applied "offsets" to the development of Gladstone Harbour and on Curtis Island were reviewed briefly by the mission, and the approach involved is not one that has the support by the World Heritage Committee. Furthermore, the offsets that have been proposed do not appear to compensate for the losses resulting from these developments.

Any future proposal that could potentially impact on the OUV of the property should take into account:

- **Combined impacts of development on the property**: *The impact of individual coastal developments (including ports and any other major infrastructure) should be assessed in the context of other developments, either existing or proposed, both in or outside the property and which can adversely affect the OUV. Currently, some proposals for development, for example for coal export infrastructure in Abbot Point, are overlapping with one another. Consideration should be given to all proposals in each location as well as with respect to the overall amount of development of the property and the long-terms conservation of its OUV. The need to consider combined impacts has been recognized by developers and regulators as a matter that will need to be addressed; Assessment of development, and in particular port development must clearly and comprehensively take into account both direct impacts, and the indirect impacts arising from their supporting activities such as dredging, dumping of dredged disposal, or shipping;*
- **Cumulative impacts of development of the property:** *Cumulative impacts arise not only from development but the combination of development with other pressures. The assessment of cumulative impacts is challenging and in an early stage both in the property and internationally. Consideration of cumulative impacts is further complicated because of the uncertainties related to the effects of climate change and extreme weather events which are not easily predictable. It is however crucial for the property to seriously consider the cumulative impact of any new development, considering that the large majority of development takes place in areas which contain important habitats and species related to the OUV of the property and are areas already impacted by past development and a suite of other pressures. The impacts of new threats from coastal and port development t are not only significant in their own right but are superimposed on a range of other threats posed to the long-term conservation of the OUV of the property;*
- **Consequential impacts of development of the property***: these are not part of the application being considered but could be facilitated by it. An example of this would be the construction of a road or bridge, which by itself has a certain impact, but is likely to facilitate access for further*

developments that would have a much greater impact. Such impacts are likely to be more predictable in currently developed areas, than in those areas that are undeveloped.

Finally, a central issue refers to the baseline year used to assess any of these impacts. At the time of inscription of the property in 1981, the property was recognized as a multiple-use MPA and port and other types of developments were already in place. A series of aerial photos, provided to the mission show comparisons of the current status of a number of those areas, and their condition at, or near, the date of inscription on the World Heritage List. These comparisons show significant changes in a number of areas since inscription. The mission considers that establishing a clear analysis of where the Great Barrier Reef is now, in relation to the footprint of development, relative to its condition at the date of inscription is an important requirement for informed decision-making on any future development. It is further important to recognize that some of the major threats, including water quality from catchment run-off and climate change, as well as the concrete impacts from weather events were not known at the time of inscription.

The mission recognizes the already high standards for many aspects of the management of the property, including scientific understanding of the components of the OUV of the property and considers that relevant targets and guidance for sound strategic and sustainable development for the reef could be established without substantial new research and despite the large size and complexity of the property. This viewpoint is supported by the large amount of detailed and high quality information the mission received. The State Party could, for example, build from pioneer work it has already undertaken through the bioregionalization exercises of the property as well as bioregional profiles and plans established for all other six marine bioregions in Australia, among others, and could set a leading example for other World Heritage sites that are equally challenged to provide in a long-term sustainable development, supporting the continued protection of the OUV of their properties in the face of growing challenges.

The mission notes that a central issue is to ensure that the proposed plan for sustainable development maintains as a central goal the protection of the OUV of the property.

Based on the findings and conclusions outlined above, the mission considers that the SA should:

a) Be timely and completed as soon as possible to ensure a positive outcome is not pre-empted by the threat from current coastal, port and other developments that could impact OUV and which are seeking determination at present;
b) Be spatially explicit, taking into account the most significant and sensitive areas critical to the long-term conservation of the reef;
c) Result in a long-term plan for the sustainable development of the reef, capable of ensuring a practical, legally binding framework to guide future coastal development consistent with the findings of this mission and capable of maximizing its long-term ecological, social and economic goals and objectives;
d) Clearly integrate all components of the OUV and provide explicit guidance on how to interpret them in view of assessing individual development or other types of activities that can potentially impact upon them;
e) Ensure a full, transparent and effective engagement of all stakeholders concerned, as well as civil society as a whole. Such participation should be conducted in a manner consistent with similarly high quality standards in terms of timeframes and feedback to reviewers as were applied in previously successful major public consultation processes such as the 2003 re-zoning process;
f) Effective toward incorporating all scientific and other relevant information about the long-term conservation of the reef, as well as the threats posed to it, into any future decision-making about new coastal and port developments along the coast of the property;
g) Fully consistent across the two levels of government that lead the SA, notably the State of Queensland and the Commonwealth government through the GBRMPA, and have joint oversight of the overall SA by both Federal and State ministers, potentially via the Ministerial Forum;
h) Taking into account the review of concerns related to both the inadequacies of the 1999 EPBC Act and those related to the optimization of the development and operationalization of Gladstone Harbour and on Curtis Island;

i) Developed in a manner that can provide leadership to other World Heritage properties that face similar challenges and are also seeking to establish a plan for the long-term sustainable development of the OUV of their properties;
j) Presented to the World Heritage Committee for consideration at its 39th session in 2015;

Based on these finding, the mission recommends the State Party to:

Complete the Strategic Assessment and resulting long-term plan for the sustainable development of the property for consideration by the World Heritage Committee at its 39th session in 2015. The assessment and long-term plan should be completed in a coordinated and fully consultative process, against a number of defined criteria for success, and considering the conclusions and recommendations of the mission as set out in this report. Expectations of the Strategic Assessment include that it will lead to:

- **A long-term plan with agreed leadership at Federal and State levels, that addresses the entire property and the adjacent areas where activities can affect the OUV of the property, and ensures that any development that is approved results in an overall net-benefit for the property;**
- **Explicit incorporation of all elements that make up the OUV of the property, and in particular the long-term conservation of the integrity of the property, into the decision making process regarding all development and use that may negatively impact the property, both within the boundaries of the World Heritage area and in areas adjacent to the property;**
- **Improved effectiveness of the overall protection, planning and management of the OUV of the property as a whole, and the catchments, and coastal and marine areas that are intimately linked to it, including if necessary legal/statutory reforms to strengthen protection and management;,**
- **A clear and target-driven framework to support planning and assessment of development proposals to protect OUV, and restore it where necessary, and to ensure resilience of the site, including the consideration of cumulative impacts;**
- **A clear analysis and related policies and strategies that will sustain long-term sustainable development, compatible with the protection of OUV, including consideration of the all economic sectors, including sustainable tourism and recreation and commercial fishing, as well as coastal development;**
- **Spatial policies that will identify appropriate and limited locations and standards for coastal development, and also identify areas that should not be subject to development, and which will provide greater business certainty regarding development proposals and community confidence and understanding of future development scenarios;**
- **Increased public confidence in their ability to engage with and influence policy and development decisions, including independent mechanisms to scrutinize and advise on the assessment of impacts of development;**
- **Support for new and enhanced policies and measures to regulate and manage shipping, and provide appropriate emergency planning and response;**
- **Appropriate systems to secure that, where development and use is permitted it will lead to net benefits to the property as a whole, including from contributions from developers to mitigate impacts of development;**
- **Measures, such as legislative change to enhance compliance, that may increase the results achieved from the funding available for management, and to also increase overall levels of funding where required to provide for effective protection and management.**

2.6.4 Interim measures for coastal development in the absence of the SA and resulting long-term plan for the property

Based on the current lack of guidance and mechanisms to ensure that combined, cumulative and consequential effects of coastal, port and any other type of developments are addressed, as well as the

absence of any view about the carrying capacity of the reef in light of its exceptional values the mission considers it absolutely critical to establish interim measures as to not pre-empt a positive outcome of the SA and its resulting plan for the long-term sustainable development of the property as a whole. This viewpoint is further supported considering:

- The rapid development pace already taking place in the property;
- The c.35 proposals awaiting determination by 2013 of which some are entirely unprecedented in location, scope and scale;
- The well documented and widely supported view on the risks for development in currently still pristine areas which are likely to jeopardize the long-term future and sustainable development of the reef; and
- The overall fact that most development proposals are made for areas which are currently already most degraded within the property due to other pressures.

Such interim measures should take immediate effect and be applied until the SA and its resulting long-term plan has been considered by the World Heritage Committee. Any development proposal that would jeopardize a positive outcome of the SA clearly provides a basis to consider inscription of the property on the List of World Heritage in Danger.

Based on these findings, the mission recommends the State Party to:

Adopt the highest level of precaution in decision-making regarding development proposals with potential to impact the property, and to prevent any approval of major projects that may compromise the outcomes of the Strategic Assessment, until the Strategic Assessment is completed and its resulting plan for the long-term sustainable development for property has been considered by the World Heritage Committee. During this period, the State Party is requested to ensure no developments are permitted which create individual, cumulative or combined impacts on the OUV of the Great Barrier Reef World Heritage area and its long-term conservation.

2.7 Assessment of the management of ports and shipping

As mentioned in section 2.2.2 of this report, the rapid increase in new port development, expansion of port export capacities, associated dredging and dumping of dredged material as well ship vessels is of high concern to the conservation of the property. A large majority of this development is taking place in the already most degraded part of the property. The concern is exacerbated by the many environmental and other concerns related to the current port developments in Gladstone Harbour and on Curtis Island.

This section details specific concerns over port developments and associated measures. However, the wider concerns raised in relation to the use of the 1999 EPBC Act to prevent coastal development from affecting the property are entirely relevant and applicable to port development,. They are summarized in the previous section and should be read together with the following paragraphs.

Apart from the volume and speed of development (see previous section), the most pertinent concerns over port development relate to:

- Effectiveness of the spatial distribution of port developments;
- Effectiveness of standards used for port operations ;
- Effectiveness of management of increased ship movements

2.7.1 Effectiveness of the spatial distribution of port developments

Considering the many discussions with a wide variety of stakeholders and the consensus opinions derived from them, there is clearly great concern over proposals for new coal ports in areas that currently have either very minor or no port activity in place. As mentioned in section 2.2.2, new coal port

developments are being proposed in a range of locations, including some that are highly sensitive and contain critical habitats essential for the functioning of the reef's ecosystem.

The mission noted a clear consensus among nearly all stakeholders and people met that, if port developments were to be consented, they should be located within the existing major ports along the coast of Queensland. These include Gladstone (but not Port Alma/north of Curtis Island), Hay Point, Abbot Point and Townsville. Such a strategy appears to allow a minimisation of impacts from ports development on the property. Evidence from scientists presented to the mission suggests that fewer well-managed mega-ports would pose substantially fewer risks to the OUV of the property because this would result in:

- Localisation of the inevitable associated deterioration in the chemical environment and the consequential risks to the biota;
- Localisation of the risk of introduced pests;
- Localisation of the inevitable habitat loss associated with land reclamation and dredging;
- Reduced risk of habitat fragmentation;
- Reduced risk of vessel strike to megafauna that is part of the OUV of the property;
- Reduced risk of scope creep: small ports inevitably expand into larger ports and an exponential growth of supporting activities;
- Reduced capacity of small isolated ports to deal with acute threats to the OUV of the property.

The high degree of consensus for concentration of port development in major existing areas is compelling and was contested only by proponents directly involved in port developments outside of these areas. Thus there appears a strong basis to conclude that opening new ports in currently undeveloped parts of the coastline of the property will create much greater immediate and long-term impacts on the property as a whole. Additionally, opening up such new areas is expected to create unpredictable risks from, and encouragement of, consequential development that contributes to the degradation of the natural beauty and integrity of the property in the long term.

Despite this high degree of consensus, it is obvious that the institutional and legal arrangements currently in place are not adequate to ensure such spatial concentration of port development takes place. Proposals for developments can be submitted and are being considered for determination in many areas, including areas which are currently still entirely pristine and highly sensitive. A majority of stakeholders, including all scientific experts, expressed clear concerns, for example, over port developments proposed in pristine locations at Wongai and the Fitzroy River Estuary (Balaclava Island and Fitzroy Terminal Project). A review provided to the mission by the Fitzroy Basin Association (*Fitzroy River Estuary Development Proposals – A Review of Issues, April 2012*) notes that two additional developments potentially affecting the Fitzroy River have been proposed by the Gladstone Ports Corporation, including a further expansion of the proposal on Balaclava Island to 5 berths (two are proposed at present) and the development of a major port facility to the north of Curtis Island. The review notes that the latter was outlined on maps released in 2009 but does not appear in the current land use plan nor the 50 year strategic plan developed by the Gladstone Ports Corporation.

At Wongai a coal export facility is proposed in a pristine and remote location -- a part of the property tat is currently in optimal natural condition and contains unique ecosystems found nowhere else in the property. The mission noted that the development at Wongai, unlike others, is proposed by a small group of Traditional Owners and is considered as a way to improve their employment and well-being. The mission received a written statement, however, indicating that other groups of Traditional Owners oppose the development. The mission was not in a position to consider the degree of support for this development, nor to consider the degree to which such a development would lead to the creation of benefits or disadvantages to all Traditional Owner communities concerned.

The mission also noted presentations from some coal export proponents regarding opportunities to develop less impacting techniques for transhipment of coal using barges and avoiding dredging activities (specifically the proposals at Wongai and Fitzroy involving Mitchell Ports). Despite the innovative nature of these proposals, the overriding concern with both the proposals is their location in pristine, or near-

pristine areas of importance to the OUV of the property, and the increase in the overall footprint of ports that would result. The mission was not able to assess the viability of such techniques but considers that, where new bulk cargo facilities are being considered within existing port areas, recommends that such alternatives that could reduce or eliminate dredging requirements should be evaluated within the relevant Environmental Impact Assessment process as a potential means to reduce the impacts of port development.

The mission also noted that work is underway to develop a Ports Strategy for Queensland, as well as several initiatives related to assessing and responding to shipping growth in the area. The mission requested information on the timing for the Queensland Ports Strategy, and how it will integrate with other processes. The Queensland Government confirmed that the development of the Queensland Ports Strategy (QPS) commenced in mid 2011. They note that this strategy covers all Queensland ports, not just those adjacent to the Great Barrier Reef, and that Strategy will define the appropriate role and function of each port in Queensland particularly with respect to the type and quantities of specific commodities and cargoes that the port will manage for the specific life of each Ports Master Plan. It is currently intended to have a draft QPS released by end-June 2012 for extensive consultation between Government, industry, key stakeholders, non-government organisations and the general public. Queensland noted that following consultation the QPS will be finalised for consideration by the Queensland Government by late 2012. Whilst the mission has not been able to consider the draft of the Ports Strategy, given its focus, it would appear that the Ports Strategy is also both a material consideration in deciding on EPBC applications in relation to ports, and also that as a key delivery mechanism for forward planning, it should be connected clearly to the Strategic Assessment, in relation to the ports on the Great Barrier Reef coastline. The Ports Strategy should consider the protection of the OUV of the Great Barrier Reef as a factor in determining future priorities.

The mission noted that there is a system of port planning in Queensland that is not part of the local government planning system or the Federal planning system despite being in the GBRWHA. The Queensland Government noted that port sites are managed under the Transport Infrastructure Act 1994 while urban land uses are generally managed under the Sustainable Planning Act 2009 (given effect through planning schemes). The Queensland Government noted a result, there are some slightly different arrangements that apply in ports compared to local government plans, but that ports work closely with the local government to minimise inconsistencies as far as possible. At least every eight years, a port authority must prepare a land use plan (LUP) that specifies details of how the port authority's land is proposed to be used, and must detail any land the port authority proposes to become strategic port land. The port authority must also undertake public consultation. The plans are subject to consultation and the responsible Minister in Queensland may only approve a draft LUP if the Minister is satisfied that no local government has a substantial objection to the draft plan.

It appears to the mission that it would also be appropriate that, as part of the consideration of Port Land Use Plans, these plans would be required to include specific and transparent assessment in relation to how they would protect OUV, including in relation to the requirements of the EPBC Act. As they amount to specific development plans, they should also be considered in the Strategic Assessment being proposed for the property.

Considering the current practice regarding port proposals, the existing and established planning framework does clearly not support nor integrate adequately existing scientific information into decision-making about spatial location of port development that is least impacting on the reef. Based on the large consensus on the solution for port development, that is supported by all scientific evidence provided to the mission, it appears there is a strong basis to recommend the State Party to adopt a policy that prevents new port development outside the existing long-established port areas. Such policy should take immediate effect and be further refined into a long-term sustainable development plan through the SA process, in conjunction with the Queensland Ports Strategy, and other relevant land-use planning instruments.

Based on these findings, the mission recommends the State Party to:

Not permit any new port development or associated infrastructure outside of the existing and long-established major port areas within and adjoining the property, and also to ensure that development within major port areas is not permitted if it would impact individually or cumulatively on OUV, including integrity, of the property. This measure should apply both within and in the adjacent areas to the property. This measure should take immediate effect and requires full application until the Strategic Assessment and the resulting long-term plan for the sustainable development of the property has been completed, and has been considered by the World Heritage Committee at its 39th session in 2015.

2.7.2 Effectiveness of standards used for port operations

Consistent with its objectives specified in the Terms of Reference, the mission assessed in detail the approval procedures and operations of port and LNG processing facilities in Gladstone Harbour and on Curtis Island. As indicated in section 1.1 of this report, the infrastructure developments provoked extreme concern by the World Heritage Committee at its 35th session in 2011 (UNESCO, Paris). Based on a review of the Environmental Impact Assessment for the facilities, the State Party concluded that the impacts on the Great Barrier Reef's world heritage values are acceptable if the projects are implemented in accordance with extensive, detailed and rigorous conditions. The conditions include measures to minimise impacts on water quality, minimise light and noise, reduce vessel speeds and limits on vessel movements, mandatory use of marine mammal observers and implementation of quarantine measures to control weeds and feral animals. Proponents were also required to make substantial contributions to maintaining the values of the World Heritage Area, including financial contributions to support field management and environmental research with the property. The Queensland Government imposed over 1,800 conditions on the three approved LNG projects and the Western Basin Dredging and Disposal project. Environmental conditions made up the vast majority of the conditions, including requirements for a dredge management plan, a water quality management plan, a flora and fauna management plan, an acid sulfate soils management plan and an offsets package. In its 2012 State of Conservation report, the State Party indicates that key elements of the management plans, particularly those focusing on water quality and seagrass impacts, are overseen by a technical reference panel.

While the State Party considers the developments do not have unacceptable impacts on the OUV of the property, the mission was presented with a wide range of concerns about the actual facilities as well as the mitigation of impacts resulting from it, and the wider management of the port. These can be summarized as follows:

- **Health and mortality of fish impacting local communities dependent on the resource:** *Prior, during and after the mission, evidence was presented to the mission asserting serious impacts on the health of large predatory fish and resulting in spreading fish diseases and increases in fish stranding. While the actual cause of the diseases are not fully understood, stakeholders asserted that they are likely a result of degrading water quality link to large amounts of dredging in the area. Both fish health and increase of mortality rates for top predators influence negatively the livelihoods of local communities, including Traditional Owners and commercial fishermen;*
- **Lack of transparency in port decision making:** *Environmental organisations, Traditional Owners, as well as scientific experts and individuals provided the mission with numerous expressions of dissatisfaction and mistrust regarding the port and its regulation. Apart from the actual threats to the environment, concerns related to the haste of development taking place, the lack of separation between institutions and individuals responsible for port development, its regulation and the programmes in place to monitor effects and mitigate impacts from development as set out in the conditions associated with the approvals. It was suggested, for example, that construction equipment had started operations within hours of permit approvals as indicating that decisions on applications are know by industry in advance;*
- **Lack of independent, transparent and well communicated scientific oversight in monitoring water quality:** *While the State Party indicated in its 2012 State of Conservation report that port operations and monitoring of its impacts is overseen by scientific advisors, it was suggested to the mission such oversight is not effective, in particular for the major water quality and dredging programmes associated with the development. The indicators for the monitoring of*

water quality from dredging activities and the communication of information to the public that results from it were criticised. Meetings with the main actors responsible for monitoring dredging and water quality in the area revealed that thorough understanding of the ecological functioning of the reef is lacking and are further supported by comments such as "port development impacts are neglegible since the the reef is 40km away from the development area." The presentation provided to the mission by the Port Authority also indicated that the actual port and dredging companies are part of the membership of the panel established to provide independent oversight to the monitoring of dredging effects and water quality;

- **Lack of government response when water quality targets are exceeded:** *Prior, during and after the visit, the mission was informed regularly about assertions of non-compliance with water quality standards and for which accountability was lacking.*
- **Impact on aboriginal practices of local Traditional Owners**: *Traditional owners with long-term roots in the area termed the development in Gladstone Harbour and on Curtis Island "environmental vandalism" accentuating the impact on the values of the area for traditional use and the resulting long-term damage done to their livelihoods and cultural access. The mission was further informed by a stakeholder at one meeting that Curtis Island was an Aboriginal burial site, and requested this matter be investigated;*
- **Lack of integration and consideration of public commentson the location and operation of port development and facilities:** *Prior, during and after the visit, the mission received letters from civil society about possible alternative locations for port developments and alternative routes to prevent dumping of dredged material to other locations outside the property that were sent to government officials. It was stated by some stakeholders that submissions provided by individuals, NGO's and Traditional Owners to EIS as part of the public consultation process and conform its procedures, had been disregarded without any feedback on how some of the major concerns were being addressed.*
- **Lack of sufficient time for adequate public consultation:** *The mission was informed various times about the very short time frames provided to civil society to make sound contributions tot he public consultation process. This situation is particularly impaired because of the large amount of new proposals, the large volumes of associated assessment document, as well as their complexity.*

As part of the conditions for the consent of approvals in Gladstone Harbour and on Curtis Island, a set of offsets were required to be provided for by the developers. The mission noted that such approach is not supported by the World Heritage Convention, especially considering the dubious nature of compensation for the loss of values that results. It is not clear, for example whether the scale of impacts such as those of the dredging impacts on water quality, and reported levels of boat strike on turtles are as they had been expected to be, is equivalent and comparable to the outcomes and benefits provided from the offsets. As noted, the mission considers an approach to secure net benefits to OUV from development that may impact the property needs to be developed, including through the overall targets for the property recommended above.

The mission was further informed about disposal of dredged materials within the Great Barrier Reef. The mission understood that dredging is a long-term element of some port operations within the Great Barrier Reef, and that disposal at sea is considered the last resort option following consideration of either beneficial reuse of dredging, or disposal on land. The mission considers that the Strategic Assessment should consider this issue and consider the practicability of options to minimise dredging, and to reduce or eliminate dumping from within the Great Barrier Reef World Heritage Area. Other concerns relate to the extent of land reclamation that has taken place within the World Heritage Area since inscription, and consider that this should be documented as part of the analysis of cumulative development impacts since inscription within the SEA process. A number of reclamations that have taken place, including those taking place in Gladstone Harbour associated with the dredging relate to Curtis Island, are substantial and clearly impact directly attributes of OUV.

Information submitted by the Government of Queensland following to the mission detailed the State's responses on several of the points of concern raised and summarized above. In relation to concerns raised by representatives of traditional owners, the Queensland Government noted that the Port Curtis

Coral Coast (PCCC) native title claim group had provided submissions on Fishermans Landing and other key projects.

With regard to the specific issues raised by PCCC in their submissions, which were provided to the mission, Queensland Government noted that:

- PCCC and proponents have now signed detailed Cultural Heritage Management Plans
- no bridge to Curtis Island is proposed (the mission notes this statement is partially contradicted by the statement of Port of Gladstone that a road may be considered in their future plans)
- all relevant State and Commonwealth legislative requirements has been complied, including respect to the protection of cultural heritage and native title rights
- In addition to the ILUAs, a Deed of Understanding has been signed off by the project proponents and PCCC regarding ongoing consultation with traditional owners and funding of particular indigenous projects; and
- All proponents have work guidelines which prohibit workers and contractors from fishing or crabbing in the Narrows.
- There has been no official report of damage to a cultural heritage site on Curtis Island, and Queensland confirmed that that claim is being investigated and any damage or breach must be reported to DERM, and that all proponents must have an agreed Cultural Heritage Management Plan (CHMP) with the indigenous claimants at the time of commencement of works, which includes remedies under these agreements if any damages to cultural heritage or breaches occur under the Aboriginal Cultural Heritage Act 2003.

In relation to the question of the independence of Gladstone scientific information for the community, the Queensland Government noted that it considers it has endeavoured to maximise the transparency and scientific rigour of monitoring data in relation to Gladstone Harbour through a comprehensive and detailed range of actions. It noted this includes transparent development approvals and conditions, citing the approval issued to the Gladstone Ports Corporation for dredging which sets limits for turbidity during dredging operations, requirements to maintain water quality in Gladstone Harbour to protect fish habitat and allow for the recovery of seagrass, and the establishment of a Dredge Technical Reference Group to provide high-level advice to ensure dredging meets all of the required water quality and seagrass approval conditions.

On water quality monitoring, Queensland Government notes the work of PCIMP, as mentioned above, and notes fish health and water quality monitoring is continuing, with publicly available reports, which it considers indicate that key water quality parameters in Gladstone Harbour are within acceptable levels and comparable monitoring data appears to validate the monitoring undertaken for Gladstone Ports Corporation. The Queensland Government indicated to the mission that it is aware of criticism of the water quality results, but notes that no evidence has yet been provided which indicates this monitoring information is invalid. They also note the formation of the Gladstone Fish Health Scientific Advisory Panel, as noted above. It also notes it recently became aware of possible discharges to Gladstone Harbour which may have exceeded regulatory limits for cyanide, and that this matter is being investigated. It notes Scientific Advisory Committee has also been established to provide independent scientific advice, evaluate data and interpret results on turtle and dugong strandings in Queensland.

The response also outlines a range of monitoring initiatives undertaken by the DERM department, which is peer reviewed and publicly available. The Queensland Government also notes the overarching importance to the Great Barrier Reef is the joint Queensland/Commonwealth Reef Water Quality Protection Plan and the comprehensive Paddock to Reef water quality monitoring program that supports it.

Queensland Government noted that the concerns regarding fish health have been investigated through an independent expert panel which was established in response to concerns, and the report is available at the following address: http://www.derm.qld.gov.au/gladstone/pdf/gladstone-sap-report.pdf?bcsi_scan_F3293F689D82B9C2=0&bcsi_scan_filename=gladstone-sap-report.pdf. The mission considers that the report is an clear independent statement produced by appropriately qualified

persons, and the mission is not in a position to make any further independent assessment of the underlying scientific evidence. In principle it considers the type of approach represented by the independent report is an appropriate management response under the circumstances. Equally if there is additional and new information provided, it is important that it be evaluated further. Aside from the position that will be concluded via legal action, this situation appears to illustrate a lack of appropriate and trusted independent mechanisms to provide confidence in the ongoing monitoring.

The mission also noted that the above report was requested to comment on the fitness for purpose of the monitoring of the harbour and concluded that "*Given the focus of the monitoring programs, the Panel discussed whether the available water quality data is fit for purpose. The Panel noted the current parameters measured may not provide an appropriate trigger for ecosystem health problems that may be responsible for the observed fish health issues in Gladstone Harbour. Water quality parameters need to be selected on the basis that they will provide a trigger for biological investigations at the chronic (or if possible sub-chronic) level."*

The Queensland Government noted further that *"best practice communication and community engagement strategies are critical in addition to ensuring the release of assessment reports and environmental monitoring results."* It notes: *"there are a number of barriers to establishing community understanding including the sheer volume and extent of some assessment material, the complexity and detail of monitoring data and the need to communicate with multiple audiences requiring different levels of detail. The Government continues to consider opportunities to improve engagement on these matters and [...] would welcome further discussion with you in relation to your views on best practice in this regard."*

The meeting met separately, at a meeting held in Townsville, with the proponents of the LNG plants, who fully recognised the challenges regarding the communication and perceptions regarding information associated with developments, and the development approval process. They also acknowledged the concerns being raised on water quality which they consider have been addressed by the regulatory bodies. They consider, benchmarked on global experience, that the Queensland regulatory system is mature and well regulated, although as noted above and expressed that attention to detail and reporting requirements might risk seeing larger issues, and that an outcome- or risk-based approach to port development might be a better way forward.

Based on the many consultations the mission conducted throughout its visit and its review of the relevant environmental assessments, the mission considers that the developments in Gladstone Harbour and on Curtis Island, and associated dredging activity, do have a negative impact on the OUV of the property. The mission bases this conclusion on the scale and location of the developments and the limited nature of the mitigation with regard to the values that are affected. The direct impact is significant at the scale of Gladstone Harbour, and the Curtis Island area of the property. However at the scale of the property as a whole, the developments are of particular concern in view of their cumulative and consequential impacts, notably in stepping up the development footprint with limited mitigation of the impacts they bring . The mission was informed that the level of some impacts may be larger than anticipated, such as, for example, the impacts associated with the dredging activity and on death of turtles through boat strikes, and considers further assessment of those matters is required.

The mission concludes that the current approach to the development and construction of Gladstone Harbour and on Curtis Island are not consistent with the highest standards of best practice, commensurate with status of an iconic World Heritage property, and those applied to other management challenges both within and outside World Heritage property's in Australia. Apart from the actual nature and causes of the concerns raised and described above, the lack of public confidence in the institutions involved in the management of the Gladstone area is a serious concern in its own right, and exacerbates greatly the concerns over new major port developments along the coast that await determination by 2013. Considering the reputation of the property as setting a gold-standard for many aspects of its management in response to environmental challenges, such aspirations are clearly not met in Gladstone Harbour and Curtis Island at present time.

The mission also recalls the Committee's position that exploration and development of oil and gas should not take place within World Heritage properties. They note that the State Party has a firm commitment to not permit extractive industries inside the property. The mission does however note that the development on Curtis Island does not appear to conform to the leading industry commitment (http://www.shell.com/home/content/environment_society/environment/biodiversity/protected_areas/) to not explore for, or develop, oil and gas resources in natural World Heritage properties.

Based on these findings, the mission recommends the State Party to:

Commission an independent review of all environmental concerns of consented developments in Gladstone Harbour and on Curtis Island, and the implications of the consented developments in Gladstone Harbour and on Curtis Island for Traditional Owners and the local community dependent on the resources of the area. The review should be undertaken by internationally recognized and widely respected scientific experts and conducted in an independent and transparent manner. The review should:

a) Consider all previous review findings and all information used as a basis for the current approvals for development in Gladstone Harbour and on Curtis Island;
b) Address the current and future planning and management of the Port of Gladstone and development of Curtis Island;
c) Lead to clear recommendations for the optimization of port development and operation, including supporting activities and infrastructure, and according to the highest internationally recognized standards for best practice;
d) Provide lessons learned for the development and operation of other port areas within and adjacent to the property;
e) Lead to the implementation of concrete action to address issues identified in the review, as soon as possible and before any other major port development is commenced.

Ensure that any development, including ports and other types of development, as well as all associated infrastructure and supporting activities are carried out consistent with the highest international standards of best practice, commensurate with status of an iconic World Heritage property, and enabling the State Party to continue to provide global leadership for the conservation and sustainable development of multiple use marine protected areas.

2.7.3 Effectiveness of management for increased shipping

As noted above, the question of ports development cannot be separated from the consideration from shipping impacts that arise associated with ports. The predicted growth in ports activities will lead to increased shipping within the property which has the potential to create a range of issues that require attention. The mission was able to review the strong work that is being done to advance the regulation of shipping in the property. It noted the significant and developing system of regulation and management being achieved, giving strong evidence of competent and effective leadership at National and State levels, including through the Reef VTS (Vessel Traffic System) and related systems for reporting and compulsory pilotage of shipping that is transiting or taking on cargo in the ports within the property. It was also notable that Australia is taking an active role in pursuing international regulation of shipping activities, and the possibilities to manage vessel traffic, including through the use of international instruments such as the International Maritime Organisation (IMO) Particularly Sensitive Sea Area (PSSA) scheme. The mission considers it important that States Parties to the World Heritage Convention support Australia in its implementation of stronger regulation of international shipping, including the regulation of shipping traffic and its environmental impacts.

The specific impacts of shipping on the GBRWHA require increased attention within planning and assessment, including integrated consideration of a number of factors including those associated ports development, dredging (including dredging disposal and reclamation), and the regulation of shipping traffic including the very noticeable "boat parks" where large numbers of large vessels sit at anchor waiting for cargo near to the ports. In addition measures related to provision of compulsory and voluntary

reporting and pilotage, emergency and pollution response preparedness, assurance of ship safety, further consideration of traffic management measures and the threats from invasive species imported in ballast waters. The mission understood that the Strategic Assessment being led by GBRMPA was intending to consider this issue. It appears a revised and adaptive strategy to the management of shipping within the Great Barrier Reef is required which would be given effect through the integrated efforts of AMSA, Marine Safety Queensland, harbour authorities and GBRMPA in relation to overall shipping management within the property, and also via the Queensland Ports Strategy and the associated plans for individual ports. In relation to OUV, such a revised approach to shipping should seek to minimise risks originating from shipping to the property, and limit the marine footprint within the property (including in relation to shipping routes, boat parks, dredging and reclamation).

Based on these findings, the mission recommends the State Party to:

Develop a fully integrated approach to the planning, regulation and management of ports and shipping activity affecting the property, including via Shipping Policy for the property, the proposed Ports Strategy of Queensland, and individual Port Plans, that will ensure that ports and shipping activity does not negatively impact the OUV, including the integrity of the property, and meets the highest international standards in its planning, regulation, assessment and operation.

3. CONCLUSIONS

The World Heritage Centre and IUCN undertook a reactive monitoring mission to assess the state of conservation of the Great Barrier Reef World Heritage property and to contribute to the strategic assessment process, as requested by the World Heritage Committee at its 35th session (Decision 35 COM 7B.10).

The mission took place from 6-14 March 2012. The mission addressed the following key issues:

6. Assessment and conclusions on the state of conservation of the property as a whole, including key issues identified that have the potential to significantly impact on Outstanding Universal Value (OUV);
7. Visit and assessment of key development areas, including those on Curtis Island, as well as elsewhere along the Great Barrier Reef (GBR) coast, with the aim to assess their impacts on OUV;
8. Review of planned and potential future developments that could impact OUV and assist the State Party to develop a long-term plan for sustainable development;
9. Contribute to the Strategic Assessment process being undertaken by the State Party; and
10. Work with the State Party to ensure that reporting under paragraph 172 of the *Operational Guidelines* to the Convention meet the requirements of the Committee.

The mission concludes that the Great Barrier Reef continues to demonstrate OUV. The property is iconic as the world's largest coral reef ecosystem of which the size, beauty, composition and biodiversity rate remain exceptional. The property is one of the largest multiple use marine areas included on the World Heritage List, and the efforts of the State Party to conserve the area as a whole over the 31 years it has been inscribed on the World Heritage List are remarkable. Since the listing of the Great Barrier Reef as World Heritage, the property has tackled a series of threats effectively, notably through the successful zoning system which increased no-take zones up to 33% of the property and covers a representative selection of the marine ecosystems present in the property. Threats that had been noted previously and range from oil and gas development inside the property to recreation, fishing and tourism, and most recently water quality from catchment run-off are being dealt with effectively and indications are such that they will likely be further improved in the future. The planning framework for surveillance, and the monitoring and evaluation of the property are highly sophisticated.

Despite these positive trends, the future conservation of the Great Barrier Reef World Heritage area is at crossroads and decisions that will be taken in the immediate future will be decisive for the long-term health of the property as a whole. The mission concludes that the property is affected by a number of current and potential threats and that decisive and immediate action is required to secure its Outstanding Universal Value over the long-term. Climate change, catchment runoff, coastal development, ports and shipping and direct extractive use pose the most important threats to the long-term conservation of the property. Considering the rapid increase of coastal developments, including ports infrastructure, and the fact that circa 35 new development proposals are awaiting determination by 2013, including in highly sensitive or already pressured areas, the mission concludes that this is of high concern to the conservation of the OUV for which the property is inscribed on the World Heritage List. The property further lacks an overall plan for the future sustainable development of the reef that will protect its OUV and ensure its ecological integrity while simultaneously achieving sustainable economic and social goals. The continuation of investments for improving water quality beyond 2013 also requires confirmation. The overall outcome of the management of the property should result in a net-benefit for the long-term health of the property as a whole.

Based on the many consultations the mission conducted throughout its visit, it concludes that the environmental quality of parts of the Great Barrier Reef ecosystem, and most notably the inshore areas of the reef south of Cooktown, has declined since the time of inscription in 1981. Considering the overarching importance of water quality to the reef's health, it is indispensable that the current level of investment in measures to tackle this threat is maintained and the recent positive trends are sustained. It is further essential to reduce development and other pressures on the property as much as possible to

enable an increase in the reefs resilience to adapt to climate change. The mission further concluded that the practice related to port development within and in areas adjacent to the property is not carried out consistently with the highest international standards of practice commensurate with status of an iconic World Heritage property.

The mission considers that developments and operations in Gladstone Harbour and on Curtis Island impact on the OUV of the property. An independent review of the environmental concerns of the developments in Gladstone Harbour and on Curtis Island is essential and recommendations from the review need to propose measures that will ensure future management, development and operations in the harbour and its surroundings are consistent with the high standards for conservation of the Outstanding Universal Value as applied in other parts of the property. Resulting recommendations and measures need to have the confidence of stakeholders involved and be in place prior to consenting further developments. The mission also notes that developments on Curtis Island are not consistent with the leading industry commitment to not develop oil and gas resources in natural World Heritage properties.

In the immediate future the mission considers that it is clear that the scale of coastal development currently being proposed and consented presents a significant risk to the conservation of the OUV and integrity of the property, and that the scale and pace of development proposals appear beyond the capacity for independent, quality and transparent decision making. The Strategic Assessment is a vital response to this situation. Highly precautionary decision making consistent with the recommendations of the mission is required until the Strategic Assessment is completed, and its findings have been considered fully by the World Heritage Committee at its 39th session in 2015. The mission considers that the development of new ports or other types of large infrastructure, ahead of addressing demand through strategic planning and management within the existing port facilities could create a significant and largely irreversible negative impact on the OUV of the property. The mission considers further that an extension of the footprint of development outside of currently industrialized areas would clearly present a significant threat to the OUV and integrity of the property. Such decisions would entirely pre-empt the Strategic Assessment the State Party has committed to put in place, and thus undermine its effectiveness.

The mission makes additional recommendations to review and improve the recognition of OUV in the management system of the property, the institutional and legal system for the property, and the availability of resources.

The mission considers that the property does not currently meet the requirements for inscription on the List of World Heritage in Danger, but risks meeting those requirements if remedial measures are not undertaken. The mission notes that development pressures, reduction in water quality, and climate change are clearly impacting on the values of the property. It also notes that the property was inscribed as a large multiple-use area, that there are recent positive trends in restoring water quality, and that the State Party has committed to ensure a solid strategic planning framework for future developments will be put in place in a timely manner. However, should any of the most threatening developments proceed further towards consent and water quality measures do not continue to show a positive trend, the mission concludes that the World Heritage Committee should consider the possibility of listing the property as being in danger. The consent of such developments would directly risk irreversible impacts on the OUV of the property, and, as noted above, would pre-empt an effective outcome of the Strategic Assessment and its envisioned plan for the long-term sustainable development of the reef. Improved water quality is essential to the health of the reef and requires a continued investment to ensure continuation of the positive trend. It is further recommended that the State Party undertakes regular evaluation of the OUV via its existing 5 yearly Great Barrier Reef Outlook Report cycle. It is recommended the second report, due in 2014, is presented to the World Heritage Committee for consideration at its 39th session in 2015. It is suggested the report includes an assessment of the long term prospects for the OUV of the property, threats to OUV, and the effectiveness of protection and management measures to address such threats. They recommend the Committee should also seek further information from the State Party regarding its progress at its 37th and 39th sessions, to confirm that the necessary actions to address the threats to the OUV have been taken.

4. RECOMMENDATIONS

Based on the assessment of the State of Conservation of the property, considering its values, integrity and protection and management, the mission proposes 14 recommendations.

The mission considers that the State Party should take urgent measures to implement the following recommendations immediately to prevent a further erosion of the OUV and address important threats to the property:

R1: Sustain beyond 2013, and on a long-term basis, the current financial investment in the progressive and highly important Reef Water Quality Protection Plan and associated Reef Rescue measures, and where necessary increase this investment, to address impacts of water quality in the catchments that drain into the Great Barrier Reef, and ensure that these programmes and related planning policies consider water quality impacts from all uses within the catchments.

R2: Not permit any new port development or associated infrastructure outside of the existing and long-established major port areas within and adjoining the property. It is essential that development is not permitted if it would impact individually or cumulatively on OUV, including the integrity of the property. This measure should apply both within and in the adjacent areas to the property. This measure should take immediate effect and requires full application until the Strategic Assessment and the resulting long-term plan for the sustainable development of the property has been completed, and has been considered by the World Heritage Committee at its 39th session in 2015.

R3: Commission an independent review of all environmental concerns of consented developments in Gladstone Harbour and on Curtis Island, and the implications of the consented developments in Gladstone Harbour and on Curtis Island for Traditional Owners and the local community dependent on the resources of the area. The review should be undertaken by internationally recognized and widely respected scientific experts and conducted in an independent and transparent manner. The review should:

f) Consider all previous review findings and all information used as a basis for the current approvals for development in Gladstone Harbour and on Curtis Island;
g) Address the current and future planning and management of the Port of Gladstone and development of Curtis Island;
h) Lead to clear recommendations for the optimization of port development and operation, including supporting activities and infrastructure, and according to the highest internationally recognized standards for best practice;
i) Provide lessons learned for the development and operation of other port areas within and adjacent to the property;
j) Lead to the implementation of concrete action to address issues identified in the review, as soon as possible and before any other major port development is commenced.

R4: Ensure that any development, including ports and other types of development, as well as all associated infrastructure and supporting activities are carried out consistent with the highest international standards of best practice, commensurate with status of an iconic World Heritage property, and enabling the State Party to continue to provide global leadership for the conservation and sustainable development of multiple use marine protected areas.

R5: Complete the Strategic Assessment and resulting long-term plan for the sustainable development of the property for consideration by the World Heritage Committee at its 39th session in 2015. The assessment and long-term plan should be completed in a coordinated and fully consultative process, against a number of defined criteria for success, and considering the conclusions and recommendations of the mission as set out in this report. Expectations of the Strategic Assessment include that it will lead to:

- **A long-term plan with agreed leadership at Federal and State levels, that addresses the entire property and the adjacent areas where activities can affect the OUV of the property, and ensures that any development that is approved results in an overall net-benefit for the property;**
- **Explicit incorporation of all elements that make up the OUV of the property, and in particular the long-term conservation of the integrity of the property, into the decision making process regarding all development and use that may negatively impact the property, both within the boundaries of the World Heritage area and in areas adjacent to the property;**
- **Improved effectiveness of the overall protection, planning and management of the OUV of the property as a whole, and the catchments, and coastal and marine areas that are intimately linked to it, including if necessary legal/statutory reforms to strengthen protection and management;**
- **A clear and target-driven framework to support planning and assessment of development proposals to protect OUV, and restore it where necessary, and to ensure resilience of the site, including the consideration of cumulative impacts;**
- **A clear analysis and related policies and strategies that will sustain long-term sustainable development, compatible with the protection of OUV, including consideration of the all economic sectors, including sustainable tourism and recreation and commercial fishing, as well as coastal development;**
- **Spatial policies that will identify appropriate and limited locations and standards for coastal development, and also identify areas that should not be subject to development, and which will provide greater business certainty regarding development proposals and community confidence and understanding of future development scenarios;**
- **Increased public confidence in their ability to engage with and influence policy and development decisions, including independent mechanisms to scrutinize and advise on the assessment of impacts of development;**
- **Support for new and enhanced policies and measures to regulate and manage shipping, and provide appropriate emergency planning and response;**
- **Appropriate systems to secure that, where development and use is permitted it will lead to net benefits to the property as a whole, including from contributions from developers to mitigate impacts of development;**
- **Measures, such as legislative change to enhance compliance, that may increase the results achieved from the funding available for management, and to also increase overall levels of funding where required to provide for effective protection and management.**

R6: Include, in the future editions of the Outlook Report for the Great Barrier Reef, and commencing with the version to be published in 2014, a specific assessment on the condition, trends, threats and prospects for the OUV of Great Barrier Reef World Heritage Area. The assessment should be benchmarked at the date of inscription of the property in 1981, and its results should be reported to the World Heritage Committee for consideration at its 39th session in 2015.

R7: Ensure that any determination made for applications under the EPBC Act, considering this is the principal legislation to ensure development does not negatively impact the values and integrity of the property, includes for each application:

d) A thorough assessment, supported by a detailed statement of reasons, and appropriate independent review input, on how the proposal will ensure conservation of each of the components that make up the OUV of the property, and avoid impacts upon it;

e) A thorough consideration of the combined, cumulative and possible consequential impacts of development, infrastructure and associated activities on the OUV as material considerations in determining all applications, benchmarked on the date of inscription of the property in 1981;
f) Detailed assessment of alternative options for all aspects of a development proposal, including supporting infrastructure and activities. This assessment should consider in detail the environmental, social and economic costs and benefits and lead to a clear indication of the net benefit of the development to the values and integrity of the property.

R8: Adopt the highest level of precaution in decision-making regarding development proposals with potential to impact the property, and to Prevent any approval of major projects that may compromise the outcomes of the Strategic Assessment, until the Strategic Assessment is completed and its resulting plan for the long-term sustainable development for the property has been considered by the World Heritage Committee. During this period, the State Party is requested to ensure no developments are permitted which create individual, cumulative or combined impacts on the OUV of the Great Barrier Reef World Heritage area and its long-term conservation.

The mission considers that the following recommendations to further improve the conservation of the property and strengthen its management should also be implemented as soon as possible, and before the 39th Session of the World Heritage Committee:

R9: Ensure all components of the OUV of the Great Barrier Reef are a clearly defined and form a central element within the protection and management system for the property as well as the catchments and ecosystems that surround it. The OUV of the property should be a principal reference for all plans and legislation relating to the protection and management of the property as a whole, and in particular for legislation in relation to development within or in areas adjacent to the property. All the elements that constitute the OUV of the property should be included in the framework for future monitoring and reporting on the State of Conservation of the property to the World Heritage Committee.

R10: Develop and adopt, at the level of the Ministerial Forum, clearly defined and scientifically justified targets for improving the State of Conservation of the OUV of the Great Barrier Reef World Heritage Area, including for enhanced resilience of the property, and in particular for the conservation, and where necessary restoration, of the inshore areas of the property that are under greatest pressure. All plans, policies and development proposals affecting the property should demonstrate a positive contribution to the achievement of those targets.

R11: Commission an independent review, undertaken by internationally recognized and widely respected scientific experts, of the overall institutional and legal mechanisms that provide coordinated planning, protection and management of the Great Barrier Reef World Heritage Area as a whole. The results of the review should be reported to the Great Barrier Reef Ministerial Forum and provide input to the Strategic Assessment to which the State Party has committed. The review should address enhancement of the implementation of the Great Barrier Reef Intergovernmental Agreement, assessment of the effectiveness of legal protection, institutional and management planning arrangements for the property, and include specific attention to the areas of the property which are not managed by the Great Barrier Reef Marine Park Authority, as well as all adjacent marine, coastal and land areas. This review should be provided for consideration at the 37th session of the World Heritage Committee and subsequently lead to the implementation of concrete measures to address identified weaknesses, under the scrutiny of the Great Barrier Reef Ministerial Forum.

R12: Ensure increased resources from both State and Federal Governments for the protection and management of the property, in particular to cover growing costs associated with effective responses to key threats and increasing demand for use of both within the property and its adjacent areas that affect it. Resources allocated to the research, monitoring and surveillance of the property should consistently reflect the actual increase of costs associated with such activities.

R13: Develop a fully integrated approach to the planning, regulation and management of ports and shipping activity affecting the property, including via Shipping Policy for the property, the proposed Ports Strategy of Queensland, and individual Port Plans, that will ensure that ports and shipping activity does not negatively impact the OUV, including the integrity, of the property, and meets the highest international standards in its planning, regulation, assessment and operation.

R14: The mission recommends the State Party to strengthen the sharing of its best practices and success stories, in particular those related to the spatial and temporal management for tourism, recreation and fishing, the framework developed for surveillance, compliance and monitoring of the property as well as the community engagement programmes, with other World Heritage sites facing similar management challenges but lacking the capacity to deal with them. Recognising the excellence of many aspects of the management of the property that is derived from over 35 years of experience, this support should enhance the leadership role of the State Party to support World Heritage Sites to be drivers for positive change globally, and in excellence in marine protected area management in particular.

Finally the mission recalls the obligation of the State Party to report to the World Heritage Centre any new plans and proposals for developments that may impact the OUV of the property, consistent with paragraph 172 of the *Operational Guidelines* to the World Heritage Convention, and prior to their determination. This has been done regularly by the State Party since the 35th Session of the Committee, and the mission notes that in future, and at least until the World Heritage Committee has considered the completed Strategic Assessment and the resulting long-term plan for the sustainable development of the property at its 39th session in 2015, these reports should additionally include an executive summary detailing the outcomes of the assessments mentioned in Recommendation 9 of the mission report and confirming that the proposal will not individually or cumulatively impact on the OUV of the property. The report to the 39th session of the World Heritage Committee should be supported by a further World Heritage Centre/IUCN monitoring mission to the property.

Further consideration by the World Heritage Committee

The mission's recommendations are intended to contribute to a process of furthering improvement in the protection and management of the Great Barrier Reef as one of the most iconic World Heritage properties, based on the long-standing excellence of many aspects of its management. It therefore considers that this report should contribute to further consideration of the Great Barrier Reef by the World Heritage Committee, and foresees the "roadmap" of actions that could be taken in relation to the World Heritage Committee, according to the following timeline, and as also noted in Table 7.

a) a report by 1 February 2013, for consideration by the World Heritage Committee at its 37th Session in 2013, detailing progress in:

- **implementation of the recommendations made by the World Heritage Committee in its decision 35 COM 7B.11;**
- **implementation of the recommendations of the mission, and including the results of the completed independent reviews of the institutional and legal arrangements for the property (recommendation 2 of this report), and of the impacts of consented developments in Gladstone Harbour and on Curtis Island (recommendation 16 of this report);**
- **development of the Strategic Assessment and the long-term plan for the sustainable development of the property;**

b) a report to the World Heritage Centre by 1 February 2014, which should not need to be considered by the Committee at its 38th session in 2014 unless issues have arisen that are preventing progress, or are further threatening the property.

c) a report by 1 February 2015, for consideration by the World Heritage Committee at its 39th Session in 2015, detailing :

- **the conclusion of the Strategic Assessment, the resulting long-term plan for the sustainable development that will protect the OUV of the property, and the agreed programme and timeline for its implementation;**
- **an assessment of the State of Conservation and prospects for the OUV of the property, supported by the conclusions of the second Great Barrier Reef Outlook Report.**

The report to the 39th Session of the World Heritage Committee should be supported by a further World Heritage Centre/IUCN monitoring mission to the property.

Table 7: Suggested reporting schedule to the World Heritage Committee for the Great Barrier Reef

Year	2012	2013	2014	2015	2016
WH Committee	36COM	37COM	38COM	39COM	40COM
State Party Report to Committee	Yes, following mission.	Yes, on SEA initiation and response to mission recommendations.	No, unless significant conservation issues arise	Yes, on completion of SA, Outlook Report, and forward plan of action.	TBC
Committee deliberations	Mission report and World Heritage Committee decision	World Heritage Committee decision		World Heritage Committee decision	TBC
Documentation of OUV	Statement of OUV finalised	Definition of attributes of OUV.			
Strategic Assessment	Strategic Assessment		SA completion	Implementation	
EBPC decision taking regarding major projects	Interim planning arrangements		Post SA planning arrangements (following SEA completion)		
Outlook Report			Second Outlook Report published		
Review of overall management system	Independent Review of management system	Response to review and implementation	Implementation		
Gladstone Harbour	Independent review of Gladstone Port/Curtis Island	Response to review and implementation, and identification of wider lessons	Implementation		

ANNEXES

ANNEX I DECISION 35 COM 7B.10

Decision: 35 COM 7B.10

The World Heritage Committee,

1. Having examined Document WHC-11/35.COM/7B.Add,

2. Notes with extreme concern the approval of Liquefied Natural Gas processing and port facilities on Curtis Island within the property;

3. Urges the State Party to undertake a comprehensive strategic assessment of the entire property, identifying planned and potential future development that could impact the OUV to enable a long-term plan for sustainable development that will protect the OUV of the property;

4. Regrets that the State Party did not inform the Committee as per paragraph 172 of the *Operational Guidelines* and requests the State Party to report, in accordance with paragraph 172, its intention to undertake or to authorize any new development that may affect the OUV of the property before making decisions that would be difficult to reverse;

5. Also requests the State Party to invite a World Heritage Centre / IUCN reactive monitoring mission as soon as possible to consider the state of conservation of the property as a whole, and to contribute to the strategic assessment process;

6. Welcomes the State Party's commitment to improve the property's resilience and its ability to adapt to climate change and other forms of environmental degradation following the extreme weather events;

7. Further requests the State Party to submit to the World Heritage Centre, by **1 February 2012**, a report on the course of action taken in response to this decision for examination by the World Heritage Committee at its 36th session in 2012.

ANNEX II TERM OF REFERENCE OF THE MISSION

Terms of reference of the mission as provided in the letter from UNESCO World Heritage Centre to States Party of 22 December 2011.

The objective of this monitoring mission is to assess the progress made by the State Party against the decision of the Committee **(Decision 35COM 7B.10)** and in particular any activities that may have impacted the OUV (OUV) of the property. The mission team will be composed of Mr Tim Badman, Director of the IUCN World Heritage Programme, and Ms. Fanny Douvere, Coordinator of the UNESCO World Heritage Centre's Marine Programme.

In particular, the mission should address the following key issues:

1. Assess and make conclusions on the state of conservation of the property as a whole, including key issues identified that have the potential to significantly impact on OUV;
2. Visit and assess key development areas, including those on Curtis Island, as well as elsewhere along the Great Barrier Reef (GBR) coast, with the aim to assess their impacts on OUV;
3. Review planned and potential future developments that could impact OUV and assist the State Party to develop a long-term plan for sustainable development;
4. Contribute to the Strategic Assessment process being undertaken by the State Party; and
5. Work with the State Party to ensure that reporting under paragraph 172 of the *Operational Guidelines* to the Convention meet the requirements of the Committee.

ANNEX III COMPOSITION OF THE TEAM

Mission team:

Mr. Tim BADMAN
Director,
World Heritage Programme, IUCN

Dr. Fanny Douvere
Coordinator,
World Heritage Marine Programme, UNESCO

People who accompanied the mission team throughout the visit to the property:

Dr. Greg Terrill
Assistant Secretary,
Heritage and Wildlife Division
Department of Sustainability, Environment, Water, Population and Communities

Mr. Grahame Byron
Director,
Environment and Resources Policy
Department of the Premier and Cabinet

Mr. Andrew Skeat
General Manager,
Great Barrier Reef Marine Park Authority

ANNEX IV ITINERARY/PROGRAMME OF THE MISSION

Date	Key Location/s	Timing	Location	Address	Key Activities	Stakeholders	Description
Sat 3 March	***Sydney***	***21:00***	*Sydney Airport*		*Fanny Douvere to arrive in Sydney.*	*n/a*	*Late arrival. Check in at Sydney Intercontinental.*
Sun 4 March	***Sydney***	***22:30***	*Sydney Airport*		*Tim Badman to arrive in Sydney*	*n/a*	*Late arrival. Check in at Sydney Intercontinental.*
Mon 5 March	***Sydney***	***15:30 - 16:30***	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	*Meet with Greg Terrill, Grahame Byron and Andrew Skeat.*		*Opportunity to meet with the representatives who will accompany the mission team throughout the entire mission, and talk about upcoming activities and logistics.*
		16:30 - 17:00	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	*Briefing on Google earth layers*		*Cherie Malone to upload Google earth application onto computers and demonstrate how this tool can be used to look at developments sites, management layers and zoning.*
Tues 6 March	***Sydney***	***08:00 - 08:30***	*Chairman's lounge - Sydney airport domestic terminal 3*	*Sydney domestic terminal 3 - Qantas lounge*	***Meeting with Minister Burke (Commonwealth environment minister)***	***Minister Burke***	***Opportunity to talk with the Commonwealth environment minister about his role in the protection, promotion and celebration of GBRWHA and Australia's world heritage sites in general.***
		08:30 - 09:15	*n/a*	*n/a*	*Drive to Sydney Intercontinental to begin briefings.*		*Greg Terrill to provide verbal briefing on upcoming mission locations and activities.*
		09:30 - 09:45	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	*Indigenous 'Welcome to Country' by Donna Ingram of the Metropolitan Local Aboriginal Land Council*	*Donna Ingram (Metropolitan local Aboriginal land council), K Dripps, M Colreavy, P Murphy, R Reichelt, M Johnson, J Bradley, K Davies, P Kohn, C Andersen, J Lane, M Mohr, Chris Stamford (RET)*	*Briefings with all SEWPaC, GBRMPA and Qld Government officers begins with a welcome to country.*
		09:45 - 10:45	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	*Briefing: Overview of GBRWHA and its management*	*K Dripps, M Colreavy, P Murphy, R Reichelt, M Johnson, J Bradley, K Davies, P Kohn, C Andersen, J Lane, M Mohr, Chris Stamford (RET)*	*Overview only (Russell Reichelt of GBRMPA to lead but all agencies to contribute. John Bradley to present Qld issues.)* **GBRWHA (size/complexity), including OUV* **roles and responsibilities of agencies involved in GBRWHA management* ** overview of Traditional Owner groups* **brief overview of legislation* **State and Federal IGA on joint management* **Field management program*
		11:00 - 11:45	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	***Media briefing.***	***Media***	***A media briefing for the mission team to talk about the mission and to answer any questions the media may have. Also an opportunity for Federal and State agencies to highlight management initiatives for the GBR.***
		11:45 - 12:00	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	*Morning tea*		

Date	Key Location/s	Timing	Location	Address	Key Activities	Stakeholders	Description
Tues 6 March	**Sydney**	**12:00 - 13:45**	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	*Briefing: Overview of key management issues facing GBRWHA*	*K Dripps, M Colreavy, P Murphy, R Reichelt, M Johnson, J Bradley, K Davies, P Kohn, C Andersen, J Lane, M Mohr, Chris Stamford (RET), Mick Kinley (Deputy CEO AMSA)*	*Overview of key management issues(Russell Reichelt of GBRMPA to lead, but Qld to contribute. John Bradley to present Qld issues.)* **Water quality (QLD lead)* **Coastal development (Qld lead)* **Climate Change (GBRMPA lead)* **Extreme weather events (GBRMPA lead)* **Remaining impacts from fishing (Qld lead)* **Shipping (GBRMPA lead)*
		13:45 - 14:15	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	*Lunch*	*K Dripps, M Colreavy, P Murphy, R Reichelt, M Johnson, J Bradley, K Davies, P Kohn, C Andersen, J Lane, M Mohr, Chris Stamford (RET), Mick Kinley (Deputy CEO AMSA)*	*Light lunch – opportunity to informally chat*
		14:15 - 14:45	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	*Briefing: Update on response to World Heritage Committee Decision*	*K Dripps, M Colreavy, P Murphy, R Reichelt, M Johnson, J Bradley, K Davies, P Kohn, C Andersen, J Lane, M Mohr, Chris Stamford (RET)*	*Overview of status/progress re the WHC decision (Kimberley Dripps of SEWPAC lead but all agencies to contribute) *strategic assessment update/overview (will be discussed in more detail on the last day of the mission) * notification policy (paragraph 172)* state party report*
		14:45 - 15:45	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	*Briefing: Overview of current and future developments in and adjacent to GBRWHA*	*K Dripps, M Colreavy, P Murphy, R Reichelt, M Johnson, J Bradley, K Davies, P Kohn, C Andersen, J Lane, M Mohr, Chris Stamford (RET)*	*Overview of key developments underway and proposed (Keith Davies, Qld Coordinator General to lead but all agencies to contribute)* **Strategic and regional planning* **Location/status of current key development proposals* **How development proposals are managed / approved (EPBC, GBRMPA & Qld)*
		15:45 - 16:15	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	*Briefing: Introduction to Gladstone*	*K Dripps, M Colreavy, P Murphy, R Reichelt, M Johnson, J Bradley, K Davies, P Kohn, C Andersen, J Lane, M Mohr, Chris Stamford (RET)*	*Overview of status/progress at Gladstone (Keith Davies, Qld Coordinator General to lead)* ** provide overview of water quality and other issues prior to visiting the area*
		16:15 - 16:45	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	*Questions and discussion, and afternoon tea.*	*K Dripps, M Colreavy, P Murphy, R Reichelt, M Johnson, J Bradley, K Davies, P Kohn, C Andersen, J Lane, M Mohr, Chris Stamford (RET)*	*Opportunity for the mission to ask Qs (Facilitator TBA)*
		17:15 - 17:35	*Sydney Intercontinental*	*117 Macquarie Street Sydney*	***Meeting with Senator Larissa Waters - Qld Greens Senator***	***Senator Larissa Waters***	
		18:30	*WWF Sydney Offices*	*Level 13 235 Jones Street Ultimo*	*Meeting with ACIUCN, WCPA and ENGOs*	*R Kenchington (University of Woolongong, IUCN, WCPA, Commission on Ecosystem Management), G Lewellen (WWF Australia, IUCN, WCPA), R Leck (WWF Australia, IUCN WCPA), D Kindleysides (Australian Marine Conservation Society, IUCN, WCPA), C Smyth (Australian Conservation Foundation, IUCN, WCPA), I Zethoven (Pew Environment Group, IUCN, WCPA), L Sneiders (The Wilderness Society), D Pollard (WCPA), J Hepburn(Greenpeace), M Kennedy (Humane Society International).*	*Opportunity for the ACIUCN's Great Barrier Reef expert working group to engage with the mission team and to speak with ENGOs prior to visiting the GBRWHA.*
Stay overnight in Sydney at the Sydney Intercontinental hotel.							

Date	Key Location/s	Timing	Location	Address	Key Activities	Stakeholders	Description
Wed 7 March	**Gladstone - Heron Island**	**07:25 - 10:00**	*Sydney and Gladstone airports*		*Fly to Gladstone (via Brisbane) QF506*		*Travel.*
		10:30 - 11:00	*DERM offices*	*QPWS Marine Operations Base, Lot 223, Bryan Jordan Drive (Gladstone Marina)*	*Briefing regarding Gladstone Harbour issues.*	*J Reeves , P Dash, D Orgill (Operations Manager for Central Queensland Marine Region, Queensland Parks and Wildlife Services)*	*Jim Reeves (Director General, Qld Department of Environment and Resource Management) to provide briefing regarding Gladstone Harbour. Phil Dash (Deputy Coordinator General Queensland Department of Employment, Economic Development and Innovation) to provide additional briefing support.*
		11:15 - 13:15	*Gladstone Harbour, launching from Gladstone Marina.*		*Boat trip with senior DERM and GBRMPA officials, and officers from Qld Parks and Wildlife Services to inspect Curtis Island development area. Lunch to be provided on board.*	*J Reeves, P Dash, D Orgill*	*Following on from previous Gladstone briefings, a senior DERM official and a senior GBRMPA official will be on board the vessel as mission team travel through Gladstone Harbour to Curtis Island, to answer questions and provide a more detailed briefing on Gladstone environmental issues. This is also an opportunity to talk with officers from a key Qld agency (QPWS) regarding management of this area. Get a close up view of the Curtis Island development site.*
		13:45 - 14:45	*Central QLD Uni Campus*	*Bryan Jordan Drive, Gladstone*	*Meeting with recreational and commercial fishers.*	*Michael Garderer (commercial fisherman and ex Queensland Seafood Industry Association) Simon Wittingham (Gladstone Fish Markets), Nick Schulz (Urangan Fisheries), Chris Sipp (inshore net and live coral trout fisherman), Scott Hodgetts (trawler fisherman), Allan Holland (crab fisherman) Mark McMillan (net fisherman).*	*Stakeholder consultation.*
		15:00 - 16:00	*Central QLD Uni Campus*	*Bryan Jordan Drive, Gladstone*	*Meeting with ENGOs.*	*Toby Hutcheon (Queensland Conservation Council), Michael McCabe (Capricorn Conservation Council), Matt Landos (Australians for Animals), Bob Irwin (independant campaigner), June Norman (independant campaigner), Jan Arens (Gladstone Conservation Council), Shane Westley (Fitzroy Basin Association)* *Still to confirm: Gladstone Local Marine Advisory Committee, Keppel and Fitzroy Delta Alliance, Keppel Islands Conservation Community*	*Stakeholder consultation.*
		16:30 - 17:15	*Gladstone Airport and Heron Island*		*Helicopter flight to Heron Island.*	*D Orgill*	*Transport.*
		18:30 - 20:30	*Heron Island*		*Dinner with QPWS Heron Island staff and researchers from the University of Queensland research station.*	*D Orgill, Andrew Congram (Heron Island Ranger with Queensland Parks and Wildlife Services), Ken Anthony (Australian Institute of Marine Science)*	*Speak with researchers and QPWS staff regarding management and research.*
Stay overnight at Heron Island. Accommodation at QPWS facilities.							

Date	Key Location/s	Timing	Location	Address	Key Activities	Stakeholders	Description
Thurs 8 March	**Heron Island - Gladstone - S/water Bay - Mackay**	**07:30 - 08:30**	Heron Island		Snorkelling	A Congram, D Orgill	Opportunity to experience the reef underwater.
		09:05 - 09:50	Heron Island and Gladstone Airport		Travel: Helicopter flight to Gladstone.		
		10:15 - 11:15	DERM Offices	3rd Floor Centrepoint Building 136 Goondoon St Gladstone	Meeting with Traditional Owners	Kerry Blackman (Gidarjil Development corporation), Richard Johnson, Matt Cooke, Nat Minniecon, Michael Hill	Stakeholder consultation.
		11:30 - 12:00	DERM Offices	3rd Floor Centrepoint Building 136 Goondoon St Gladstone	Gladstone Regional Council	Gail Sellers (Mayor), Col Chapman (Councillor), Leisa Dowling (Director Planning & Environment)	Stakeholder consultation.
		12:10 - 13:30	DERM Offices Or Gladstone Ports Corporation offices	3rd Floor Centrepoint Building 136 Goondoon St Gladstone	Meeting with Gladstone Ports Corporation CEO	Leo Zussino (CEO), Gary Carter (A/g Port Planning & Development General Manager), John Sherriff (Safety, Environment & Risk General Manager) Peter O'Sullivan (Project Leader for the LNG Dredging project)	Stakeholder consultation.
		14:00 - 18:30	Gladstone Airport		Meet with Defence officers and Malcolm Mann at Gladstone airport and do a helicopter flight from Gladstone, over Curtis Island and on to Shoalwater Bay Defence Training Area. To end in Mackay.	Australian government Department of Defence officers and a Darumbal Traditional Owner/GBRMPA officer (Malcolm Mann)	Conduct an aerial inspection of Curtis Island. Will provide an opportunity to see Curtis Island as a whole, and inspect the development site from above. See the pristine Shoalwater Bay, which is a defence training area. Talk directly with Defence about management of this area. Speak with the Traditional Owner of the area, who also works for GBRMPA (formally with QPWS).
		18:45 - 19:45	Lanai Apartments	20 River Street Mac kay	Check in at Lanai Apartments.		Check in and time to prepare for dinner.
		20:00 - 21:30	Bridges restaurant	Lot 143 River Street Mackay	Evening meeting with Australian Heritage Councillors in Mackay.	Carmen Lawrence (Chair of Australian Heritage Council), Peter Valentine (Australian Heritage Councillor), P Murphy, G Terrill	
Stay overnight in Mackay at the Lanai apartments.							
Fri 9 March	**Mackay - Townsville**	**07:30 – 11:15**	Canegrowers Mackay Offices, then road trip to visit 2 cane farms in Mackay region	120 Wood Street Mackay	Visit cane farms with Canegrowers Mackay and Reef catchments NRM Group.	Canegrowers Mackay, a range of local cane farmers including Reef Guardian farmers and Reef Catchments NRM Group.	Stakeholder consultation. Briefing at Canegrowers Mackay Offices in the morning, then road trip to cane farms. Opportunity to talk with Canegrowers industry group and canegrowers themselves about farm practices and innovation in the industry. Opportunity to speak with NRM group about the work they have been doing to improve catchments in Mackay area.

Date	Key Location/s	Timing	Location	Address	Key Activities	Stakeholders	Description
Fri 9 March	**Mackay - Townsville**	**11:30 – 12:30**	Meeting room at Mackay Botanical Gardens	9 Lagoon Street, Mackay	Meeting with North Queensland Bulk Ports Corporation Limited, Queensland Resources Council and CQG Consulting.	Gary Campbell (North Queensland Bulk Ports Corporation Limited), Michael Roche (Queensland Resources Council), David Rynne (Queensland Resources Council), Patrice Brown (Company Director CQG Consulting), Gerhardt Pearson (with CQG - Traditional Owner), Ben King (with CQG - Business Development Manager Mitchell Ports)	Stakeholder consultation. Opportunity to meet business groups involved in development for Abbot Point, Hay Point, Mackay Port, Wongai and Fizgerald Terminal projects.
		12:45 - 13:30	Cafe at Mackay Botanical Gardens	9 Lagoon Street, Mackay	Lunch meeting with Mackay Council (Reef Guardian Council)	Col Meng (Mayor)	Stakeholder consultation. Opportunity to speak with local council about Reef Guardian Councils program and the issues facing the Mackay region.
		13:40 - 14:30	Meeting room at Mackay Botanical Gardens	9 Lagoon Street, Mackay	Meeting with ENGOs.	Patricia Julien (Mackay Conservation Council), Rory McCourt (Save Our Foreshore), Wendy Tubman (North Queensland Conservation Council), Ian Lee (independant campaigner), Jacquie Shiels, Maria McDonald, Tony Fontes, John Sweet, Les Todd	Stakeholder consultation.
		15:00 - 17:00	Mackay Airport		Charter flight over various destinations. Include Hay Point, Whitsundays, Abbott Point and Townsville Port.		Opportunity to see a mix of areas: developed, undeveloped and areas where there are proposed developments.
		17:00 - 18:00	Mariners North Apartments	7 Mariners Drive, Townsville	Check in at Mariners North Apartments		
		18:00 - 19:00	GBRMPA Offices	2-68 flinders Street Townsville	Meeting with Curtis Island LNG proponents in Townsville	*BG Group – Queensland Curtis LNG Project – Jim Knudsen, Senior Vice President *Santos GLNG (Santos, Total, Kogas, PETRONAS) – Gladstone LNG – Mark McFarlane, President *APLNG (Origin and Conoco Phillips) – Australia Pacific LNG – Page Maxson, Project Director *Arrow Energy (Royal Dutch Shell and Petrochina) – Arrow LNG – Andrew Faulkner CEO	Stakeholder consultation.
Stay overnight in Townsville at Mariners North apartments.							
Sat 10 March	**Townsville**	**08:30 - 09:15**	Vessel Traffic Service Centre	60 Ross Street Townsville	Visit Vessel Traffic Service Centre.	Grahame Peachey (CEO of AMSA) and Patrick Quirk (General Manager of MSQ)	See first-hand how these agencies monitor shipping throughout the entire GBRWHA.
		09:35-10:00	Reef HQ Meeting Room	2-68 flinders Street Townsville	Meetings and presentations at GBRMPA (Part A)	GBRMPA staff TBA, J Bradley	Briefings on key issues for GBRWHA e.g. climate change/extreme weather, water quality, coastal ecosystems
		10:00-11:00 media	Reef HQ Meeting Room	2-68 flinders Street Townsville	**Media slot – including phone linkup (conducted in same room as above)**	**GBRMPA staff TBA**	**Opportunity for southern and regional media to call in and speak with Fanny and Tim. Possibility of attendance by media also. Photo Opportunity in last 10 minutes at aquarium.**

Date	Key Location/s	Timing	Location	Address	Key Activities	Stakeholders	Description
Sat 10 March	**Townsville**	**11:30-12:30**	*Reef HQ Meeting Room*	*2-68 flinders Street Townsville*	*Meetings and presentations at GBRMPA (Part B)*	*GBRMPA staff TBA, J Bradley*	*Further briefings on key issues for GBRWHA e.g. biodiversity strategy, ports shipping, indig engagement, tourism and recreation*
		12:30 - 14:00	*Reef HQ*	*2-68 flinders Street Townsville*	*Visit Reef HQ Aquarium/turtle hospital – visit to include lunch and presentation by a Reef Guardian School*	*GBRMPA staff TBA, Clayton Carnes (principal of Hermit Park State School), J Bradley*	*Premier site for interpretation and celebration of the GBRWHA values. Presentation from a Reef Guardian school.*
		14:00 - 15:00	*Field Management Compliance Centre*	*2-68 flinders Street Townsville*	*Visit field management compliance centre and discuss field management program*	*GBRMPA staff TBA, Qld Parks and Wildlife Service, J Bradley*	*Discuss field management and see first-hand how agencies conduct field management including compliance in the GBRWHA.*
		15:00 - 18:30	*n/a*		*Time for mission to draft initial comments.*		
		18:30 - 21:30	*Reef HQ functions room*	*2-68 flinders Street Townsville*	*Evening event/dinner*	*GBRMPA Board members, SEWPaC, Qld, four Reef Advisory Committee Chairs, key researchers*	*Discuss what mission team have seen so far. Opportunity to ask questions and discuss management challenges with a representatives from a broad range of key stakeholders.*
Stay overnight in Townsville at Mariners North apartments.							
Sun 11 March	**Townsville - Cairns**	**08:00 - 10:30**	*Reef HQ Meeting Room*	*2-68 flinders Street Townsville*	*Meetings with key researchers in Townsville.*	*Prof Helene Marsh (James Cook University), Prof Terry Hughes (James Cook University), Dr Peter Doherty (Australian Institute of Marine Science), Dr John Brodie (James Cook University)*	*Reasearchers to talk with the mission team about: marine species (with a particular focus on turtles and dugongs), coral and fish, long term monitoring program and water quality. The presentations and discussion will centre around key changes since inscription.*
		10:30 - 13:00	*n/a*	*n/a*	*Drive Townsville to Carwell stopping at Hinchinbrook Channel on the way*		*View Hinchinbrook channel at lookout.*
		13:00 - 14:00	*Cardwell main street*	*235 Victoria St*	*Meeting with Girrungun Traditional Owners, including lunch.*	*Phil Wrist CEO Girringun*	*Stakeholder consultation. Opportunity to discuss Traditional Use of Marine Resources Agreement with Traditional Owners.*
		14:00 - 16:30	*n/a*		*Drive Cardwell to Cairns*		*See effects of Cyclone Yasi along the way.*
		16:30 - 17:30	*Mercure Harbourside Hotel Cairns*	*209 - 217 The Esplanade*	*Drive from airport and check in to Mercure Cairns hotel.*		
		17:30 - 18:30	*Mercure Harbourside Hotel Cairns*	*209 - 217 The Esplanade*	*Meeting with Cape York TOs in Cairns*	*Still to be confirmed: Noel and Gerhardt Pearson and Richie Ahmat*	*Stakeholder consultation.*
		19:00 - 19:30	*TBA*		*Pre dinner brief*	*Minister Burke, Madeline Fletcher, Paul Grimes (Secretary, SEWPaC)*	
		19:30 - 21:00	*Hilton Hotel Cairns (Meeting Room 3)*	*34 The Esplanade*	***Dinner with Minister Burke***	***Minister Burke, Minister Darling, Paul Grimes (Secretary, SEWPaC)***	***Opportunity to talk with the Commonwealth and Qld state environment ministers about their roles in the protection, promotion and celebration of GBRWHA. The secretary of SEWPaC will also be present to talk about the department's role in this work.***
Stay overnight in Cairns at the Mercure Harbourside.							

Date	Key Location/s	Timing	Location	Address	Key Activities	Stakeholders	Description
Mon 12 March	**Cairns - Lizard Island**	**10:00 - 13:00**	*Cairns Airport and Lizard Island*		*Charter flight over various destinations along the northern coast including Princess Charlotte Bay, Bathurst Head, Cooktown and proposed Wongai development location. To end at Lizard Island*		*See undeveloped areas, and get an idea of what the Northern section of GBRWHA is like. Opportunity to see Wongai proposed development site.*
		13:00 - 14:00	*Lizard Island*		*Lunch on Lizard Island*	*Anne Hoggett (Manager, Lizard Island Research Station)*	
		14:00 - 16:00	*Lizard Island*		*Lizard Island Research Station tour*	*Anne Hoggett (Manager, Lizard Island Research Station)*	*Tour led by Anne Hoggett to discuss the research that is being undertaken and running of the station. Opportunity to walk to Cook's lookout or go on a boat trip to snorkel.*
		19:00	*Lizard Island*		*Dinner at Lizard Island Resort*	*Delegation only.*	
Stay overnight at the Lizard Island research station.							
Tues 13 March	**Cairns**	**07:45 - 09:15**	*Lizard Island & Cairns Airport*		*Travel: Charter flight back to Cairns*		
		09:45 - 10:45	*Mercure Harbourside Hotel Cairns*	*209 - 217 The Esplanade*	*Meeting with local ENGOs*	*Sarah Hoyal (Cairns and Far North Environment Centres, Environment Defenders Office), Gavan McFadzean (Wilderness Society), Patrick Pearlman (Environment Defender's Office), David Hinchley (Terrain Natural Resource Management Group), Karl Goodsell (Positive Change for Marine Life)*	*Stakeholder consultation. Opportunity to talk with ENGOs.*
		11:10 - 11:30	*Mercure Harbourside Hotel Cairns*	*209 - 217 The Esplanade*	*Meeting with Getup!*	*Getup*	*Getup To deliver the mission team with a compilation of messages from GetUp members from across Australia who are concerned about the Reef.*
		11:30 - 12:30	*Mercure Harbourside Hotel Cairns*	*209 - 217 The Esplanade*	*Meeting with Cape York TOs*	*Larissa Hale + 1 TBC (Yuku Baja Muliku), Ray Wallis + 1 TBC (Wuthathi)* *Still to confirm: Arthur Wallis, Bernie Hart, Wayne Butcher and Johnson Chippendale.*	*Stakeholder consultation. Opportunity to talk with TOs from Cape York sea country about their concerns and discuss the programs they are undertaking to protect the environment.*
		12:45 - 13:45	*Mercure Harbourside Hotel Cairns*	*209 - 217 The Esplanade*	*Lunch meeting with Association of Marine Park Tourism Operators and Queensland Tourism Industry Council*	*Col McKenzie (Association of Marine Park Tourism Operators)* *Still to confirm: Queensland Tourism Industry Council*	*Association of Marine Park Tourism Operators are the peak industry body for marine tourism within the Great Barrier Reef Marine Park.*
		14:00 - 14:30	*Mercure Harbourside Hotel Cairns*	*209 - 217 The Esplanade*	*Meeting with Great Barrier Reef Foundation*	*Claire Hanratty (Managing Director), Dr Eva Abal (Chief Scientific Officer), Professor Paul Greenfield (Chair of GBR Foundation International Scientific Advisory Committee)*	*Stakeholder consultation.*
		14:45 - 15:30	*Mercure Harbourside Hotel Cairns*	*209 - 217 The Esplanade*	*Roundatable meeting with local fishers*	*Ryan Donnelly (Commerical collector, Cairns Marine & Pro-Vision), Richard Taylor (Prawn Trawler Operator), Gary Wicks (Seafood wholesaler), Bruce Batch (Net Fisherman), Geoff Tilton (Queensland Seafood Industry Association)*	*Stakeholder consultation. Opportunity to discuss commercial fishing in the Great Barrier Reef World Area and how this indusrty is managed.*

Date	Key Location/s	Timing	Location	Address	Key Activities	Stakeholders	Description
Tues 13 March	**Cairns**	**15:30 - 16:15**	Cairn Marine	114 Industrial Avenue	Field trip to commercial collector aquarium	Ryan Donnelly (Commerical collector, Cairns Marine & Pro-Vision), Richard Taylor (Prawn Trawler Operator), Gary Wicks (Seafood wholesaler), Bruce Batch (Net Fisherman), Geoff Tilton (Queensland Seafood Industry Association)	
		16:30 - 17:30	Mercure Harbourside Hotel Cairns	209 - 217 The Esplanade	Meeting with large coal mining companies	TBA	Stakeholder consultation. Talk with major companies involved in coal minig industry in Queensland.
		Evening	Mercure Harbourside Hotel Cairns	209 - 217 The Esplanade	Preparation for strategic assessment and OUV discussions		Note: Can organise meeting space for mission team to prepare for workshop.
Stay overnight in Cairns at the Mercure Harbourside.							
Wed 14 March	**Cairns**	**08:30 - 10:30**	Mercure Harbourside Hotel Cairns	209 - 217 The Esplanade	Preparation for strategic assessment and OUV discussions		Note: Can organise meeting space for mission team to prepare for workshop.
		10.45 - 14:30	Mercure Harbourside Hotel Cairns	209 - 217 The Esplanade	Strategic assessment and OUV discussions	K Dripps, M Colreavy, C Cameron, C Brister, R Reichelt, M Johnson, K Dobbs, J Gibson, P McGinnity, P Kohn, C Andersen, J Lane, P Dash, T Roberts, L Hodgman	*Examine the draft TORs for the strategic assessment and discuss ongoing mission involvement * Report from GBRMPA regarding cumulative impacts workshop
		14:30 - 16:00	Mercure Harbourside Hotel Cairns	209 - 217 The Esplanade	Misison team to prepare for wrap up meeting.		
		16:00 - 18:00	Mercure Harbourside Hotel Cairns	209 - 217 The Esplanade	Wrap up meeting.	K Dripps and others TBA	Discuss any issues which have risen from the mission. Discuss any further information on actions required.
		18:30 - 18:50	Mercure Harbourside Hotel Cairns	209 - 217 The Esplanade	Meeting with Andrew MacLean, Chair of ACIUCN and Executive Director Wet Tropics Management Authority		Stakeholder consultation. Opportunity to discuss wet tropics issues.
Stay overnight in Cairns at the Mercure Harbourside.							

ANNEX V LIST OF PEOPLE MET

TUESDAY 6 MARCH	
ACIUCN	
Penelope Figgis	Director of ACIUCN
Prof. Richard Kenchington Management	Professorial Fellow, Centre for Ocean Resources and Security University of Woolongong, IUCN WCPA and Commission on Ecosystem
Dr. Gilly Lewellen	Head of Biodiversity, WWF Australia , IUCN WCPA
Richard Leck	National Marine and Coastal Policy Officer, WWF Australia , IUCN WCPA
Darren Kindleysides	Director, Australian Marine Conservation Society, IUCN WCPA
Chris Smyth	Healthy Oceans, Australian Conservation Foundation, IUCN WCPA
Imogen Zethoven AO	Pew Environment Group, Coral Sea, IUCN WCPA
Lyndon Sneiders	The Wilderness Society
David Pollard	WCPA
John Hepburn	Greenpeace
Michael Kennedy	Humane Society International
SENATOR LARISSA WATERS MEETING	
Senator Larissa Waters	Queensland Senator (Greens)
WEDNESDAY 7 MARCH	
FISHING INDUSTRY GLADSTONE	
Michael Gardner	Queensland Seafood Industry Association
Dr Mick Landos	Fisheries veterinarian
Mark McMillan	Net fisherman
Simon and Ted Whittington	Gladstone Fish Markets
Nick Schultz	Urangan Fisheries
Chris Sipp	Inshore net and live coral trout fisherman
Scott Hodgetts	Trawler fisherman
Allan Holland	Crab fisherman
GLADSTONE ENGOs	
Toby Hutcheon	Queensland Conservation Council
Shane Westley	Fitzroy Basin Association
Michael McCabe	Capricorn Conservation Council
Erroll Thompson	Gladstone LMAC
Alison Jones	Keppel Islands Conservation Community
Jan Arens	Gladstone Conservation Council
Ginny Gerlach	Keppel and Fitzroy Delta Alliance
Bob Irwin	Environmentalist
June Norman	Environmentalist
THURSDAY 8 MARCH	
GLADSTONE TRADITIONAL OWNERS	

Kerry Blackman	Gidarjil managing director
Colin Johnson	Gidarjil chairman, senior elder
Neville Johnson	Gladstone Traditional Owner
Sharisma Blackman	Gladstone Traditional Owner
Nat Medecon	Gladstone Traditional Owner
GLADSTONE REGIONAL COUNCIL	
Gail Sellers	Mayor
Col Chapman	Councilor
Leisa Dowling	Director Planning & Environment
GLADSTONE PORTS CORPORATION	
Leo Zussino	CEO, Gladstone Ports Corporation
Gary Carter	A/g Port Planning and Development General Manager, Gladstone ports Corporation
Leonie Anderson	Water quality consultant, vision environment
Peter O'Sullivan	Gladstone ports Corporation
John Sheriff	Gladstone ports Corporation
Rick Morton	Chair of independent reference panel on dredging
DEPARTMENT OF DEFENSE & SHOALWATER BAY TRADITIONAL OWNER REPRESENTATIVE	
Julia Bowett	Department of Defense
Colin Trinder	Department of Defense
Malcolm Mann	GBRMPA, Shoalwater Bay Traditional Owner
AUSTRALIAN HERITAGE COUNCIL	
Carmen Lawrence	Chair, Australian Heritage Council
Peter Valentine	Councillor, Australian Heritage Council
FRIDAY 9 MARCH	
MACKAY CANEGROWERS AND REEF CATCHMENTS	
Phil Trendell	Reef catchments
John Eden	Canegrowers
Will Hingham	Reef catchments
Jason Devitt	Mackay Regional Council
NORTH QUEENSLAND BULK PORTS CORPORATION & QUEENSLAND RESOURCES COUNCIL	
Brad Fish	NQBP Corp Ltd
Gary Campbell	NQBP Corp Ltd
Michael Roche	QRC
David Rynne	QRC
Ross Willims	BHP Billiton
Tom Kaveney	BHP Billiton
Jim Singer	Rio Tinto
CQG AND MITCHELL PORTS	
Patrice Brown	CQ Consulting Group
Ben King	Mitchell Ports

MACKAY REGIONAL COUNCIL	
Col Meng	Mayor
MACKAY ENGO	
Patricia Julien	Mackay Conservation Council
Mabel Quackawoot	Traditional Owner
Fay Griffin	Mackay Local Marine Advisory Comittee
Les Todd	Mackay Local Marine Advisory Comittee
Ian Lee	Environmentalist
Rory McCourt	Save Our Foreshore
Jaydie Shiels	Marine biologist
Wendy Taubman	North Queensland Conservational Council
Lance	Sunfish
Maria McDonald	Environmentalist
Tony Fotnes	Environmentalist
John Sweet	Mackay Local Marine Advisory Comittee
CURTIS ISLAND LNG PROPONENTS	
Andrew Faulkner	CEO, Arrow Energy
Paul Nielson	Arrow Energy
Paul Woodland	QCLNG
Tracey Winters	General Manger Environment, QCLNG
Mark McNamara	Environmental advisor, Santos
Mark McFarlane	President, Santos GLNG
Matthew Jeffries	Santos
Page Maxson	Project Director, APLNG
Matthew Paul	APPEA
SATURDAY 10 MARCH	
GBRMPA DINNER MEETING	
Daniel Gschwind	Queensland Tourism Industry Council
Tony Mooney	Marine Park Authority Board Member
Diane Tarte	Director, Marine Ecosystem Policy Advisors
John Gunn	Australian Institute of Marine Science
Terry Hughes	ARC Centre of Excellence, Coral Reef Studies, James Cook University, coral reef ecologist
Peter Doherty	Australian Institute of Marine Science
Bruce Elliot	Director of Corporate Service GBRMPA
Fred Nucifora	Director of Reef HQ
SUNDAY 11 MARCH	
RESEARCHERS	
Prof Helene Marsh	James Cook University, dugong expert
Prof Terry Hughes	ARC Centre of Excellence, Coral Reef Studies, James Cook University, coral reef ecologist

Dr Jon Brodie	Catchment to Reef Research Group, Australian Centre for Tropical Freshwater Research, James Cook University
Dr Peter Doherty	Australian Institute of Marine Science (AIMS), fish biologist
CAPE YORK TOs/ WONGAI PROJECT	
Gerhardht Pearson	Cape York Traditional Owner
Ellie Austin	Balkanu, turtle and dugong program
Richie Ahmat	Chairman, Cape York Land Council, Traditional Owner
Gummi Frederickson	Cape York Institute and Welfare Reform
Terry Piper	Chief Operating Officer, Balkanu Cape York Development Corporation
Tim McGreen	Traditional Owner
Allan Creek	Senior Kaanju traditional owner and Balkanu Cape York Development Corporation
Frankie G	Cooktown
Patrice Brown	CQG consulting
Ben King	Mitchell Ports
MINISTERS MEETING	
Tony Burke MP	Commonwealth Minister for Sustainability, Environment, Water, Population and Communities
Vicky Darling MP	Former Queensland State Minister for Environment
Jim Reeves	Former Director-General of Queensland's Department of Environment and Resource Management
Paul Grimes	Secretary of the Commonwealth's Department of Sustainability, Environment, Water, Population and Communities
TUESDAY 13 MARCH	
CAIRNS ENGOs	
Patrick Pearlman	Environment Defenders Office
Sarah Hoyal	Cairns and Far North Environment Centre
Gavan McFadzean	Wilderness Society
Rebecca Russo	Positive Change for Marine Life
Mike Berwick	Terrain Natural Resource Management Group
Ryan Donnelly	Cairns Local Marine Advisory Committee
Margaret Moorhouse	Alliance to Save Hinchinbrook
Daniel Cook	Network for Sustainability
GETUP	
Paul Oosting	Get Up, GBR Campaign Director
CAPE YORK TOs	
Ray Wallis	Traditional Owner
TOURISM	
Paul Fagg	Department of Employment, Economic Development and Innovation
Daniel Gschwind	Queensland Tourism Industry Council
Col McKenzie	Association of Marine Park Tourism Operators
Ginny Gerlach	CruisAbility & Keppel and Fitzroy Delta Alliance
GBR FOUNDATION	

Claire Hanratty	Managing Director
Paul Greenfield	Chair of the GBR Foundation International Scientific Advisory Committee
FISHING INDUSTRY	
Geoff Tilton	Queensland Seafood Industry Association
Shaun Hanson	Queensland Seafood Industry Association
Tony Vass	Queensland Seafood Industry Association
Bruce Batch	Queensland Seafood Industry Association
Rob Lowden	Seafresh
Kurtis Lowden	Seafresh
Ryan Donnelly	Cairns Marine and ProVision
MINING INDUSTRY	
Tom Kaveney	BHP Billiton
Garry Campbell	North Queensland Bulk Ports
Craig Dowling	Adani
Bob McLellan	Hancock
Helen Stehbens	Hancock
Ross Williams	BHP Billiton
Brad Fish	North Queensland Bulk Ports
Simona Duke	North Queensland Bulk Ports
Ailsa Kerswell	Eco Logical Australia

ANNEX VI STATEMENT OF OUV

Great Barrier Reef
Draft Statement of OUV (final draft version to be considered by the World Heritage Committee, as available to the mission at the time of drafting this report)[3].

Brief synthesis

As the world's most extensive coral reef ecosystem, the Great Barrier Reef is a globally outstanding and significant entity. Practically the entire ecosystem was inscribed as World Heritage in 1981, covering an area of 348,000 square kilometres and extending across a contiguous latitudinal range of 14° (10°S to 24°S). The Great Barrier Reef World Heritage Area (hereafter referred to as Great Barrier Reef, or GBR) includes extensive cross-shelf diversity, stretching from the low water mark along the mainland coast up to 250 kilometres offshore. This wide depth range includes vast shallow inshore areas, mid-shelf and outer reefs, and beyond the continental shelf to oceanic waters over 2,000 metres deep.

Within the GBR there are some 2,500 individual reefs of varying sizes and shapes, and over 900 islands, ranging from small sandy cays and larger vegetated cays, to large rugged continental islands rising, in one instance, over 1,100 metres above sea level. Collectively these landscapes and seascapes provide some of the most spectacular maritime scenery in the world.

The latitudinal and cross-shelf diversity, combined with diversity through the depths of the water column, encompasses a globally unique array of ecological communities, habitats and species. This diversity of species and habitats, and their interconnectivity, make the GBR one of the richest and most complex natural ecosystems on earth. There are over 1,500 species of fish, about 400 species of coral, 4,000 species of mollusc, and some 240 species of birds, plus a great diversity of sponges, anemones, marine worms, crustaceans, and other species. No other World Heritage Area contains such biodiversity. This diversity, especially the endemic species, means the GBR is of enormous scientific and intrinsic importance, and it also contains a significant number of threatened species. At time of inscription, the IUCN evaluation stated "… if only one coral reef site in the world were to be chosen for the World Heritage List, the Great Barrier Reef is the site to be chosen".

Criterion (vii)

The GBR is of superlative natural beauty above and below the water, and provides some of the most spectacular scenery on earth. It is one of a few living structures visible from space, appearing as a complex string of reefal structures along Australia's northeast coast.

From the air, the vast mosaic patterns of reefs, islands and coral cays produce an unparalleled aerial panorama of seascapes comprising diverse shapes and sizes. The Whitsunday Islands provide a magnificent vista of green vegetated islands and spectacular sandy beaches spread over azure waters. This contrasts with the vast mangrove forests in Hinchinbrook Channel, and the rugged vegetated mountains and lush rainforest gullies that are periodically cloud-covered on Hinchinbrook Island.

On many of the cays there are spectacular and globally important breeding colonies of seabirds and marine turtles, and Raine Island is the world's largest green turtle breeding area. On some continental islands, large aggregations of over-wintering butterflies periodically occur.

[3] **Note related to the inclusion of this draft statement in the WHC/IUCN Reactive Mission Report of May 2012.** This version is a final draft, reviewed by IUCN, and therefore subject to further final amendments before it is considered by the World Heritage Committee. It is however understood by the mission to represent the essential statement put forward by the State Party, reviewed by IUCN (with minor comments integrated above), and now with the State Party for final review. The mission was able to discuss this statement during its visit, and the State Party has integrated a series of points discussed on protection and management into this proposed final draft Statement. The final adopted version that will be considered by the World Heritage Committee should be taken as the definitive statement for GBRWHA, and the version included in this mission report does not have formal status as the final approved draft, nor the final version of this statement.

Beneath the ocean surface, there is an abundance and diversity of shapes, sizes and colours; for example, spectacular coral assemblages of hard and soft corals, and thousands of species of reef fish provide a myriad of brilliant colours, shapes and sizes. The internationally renowned Cod Hole near Lizard Island is one of many significant tourist attractions. Other superlative natural phenomena include the annual coral spawning, migrating whales, nesting turtles, and significant spawning aggregations of many fish species.

Criterion (viii)

The GBR, extending 2,000 kilometres along Queensland's coast, is a globally outstanding example of an ecosystem that has evolved over millennia. The area has been exposed and flooded by at least four glacial and interglacial cycles, and over the past 15,000 years reefs have grown on the continental shelf.

During glacial periods, sea levels dropped, exposing the reefs as flat-topped hills of eroded limestone. Large rivers meandered between these hills and the coastline extended further east. During interglacial periods, rising sea levels caused the formation of continental islands, coral cays and new phases of coral growth. This environmental history can be seen in cores of old massive corals.

Today the GBR forms the world's largest coral reef ecosystem, ranging from inshore fringing reefs to mid-shelf reefs, and exposed outer reefs, including examples of all stages of reef development. The processes of geological and geomorphological evolution are well represented, linking continental islands, coral cays and reefs. The varied seascapes and landscapes that occur today have been moulded by changing climates and sea levels, and the erosive power of wind and water, over long time periods.

One-third of the GBR lies beyond the seaward edge of the shallower reefs; this area comprises continental slope and deep oceanic waters and abyssal plains.

Criterion (ix)

The globally significant diversity of reef and island morphologies reflects ongoing geomorphic, oceanographic and environmental processes. The complex cross-shelf, longshore and vertical connectivity is influenced by dynamic oceanic currents and ongoing ecological processes such as upwellings, larval dispersal and migration.

Ongoing erosion and accretion of coral reefs, sand banks and coral cays combine with similar processes along the coast and around continental islands. Extensive beds of *Halimeda* algae represent active calcification and accretion over thousands of years.

Biologically the unique diversity of the GBR reflects the maturity of an ecosystem that has evolved over millennia; evidence exists for the evolution of hard corals and other fauna. Globally significant marine faunal groups include over 4,000 species of molluscs, over 1,500 species of fish, plus a great diversity of sponges, anemones, marine worms, crustaceans, and many others. The establishment of vegetation on the cays and continental islands exemplifies the important role of birds, such as the Pied Imperial Pigeon, in processes such as seed dispersal and plant colonisation.

Human interaction with the natural environment is illustrated by strong ongoing links between Aboriginal and Torres Strait Islanders and their sea-country, and includes numerous shell deposits (middens) and fish traps, plus the application of story places and marine totems.

Criterion (x)

The enormous size and diversity of the GBR means it is one of the richest and most complex natural ecosystems on earth, and one of the most significant for biodiversity conservation. The amazing diversity supports tens of thousands of marine and terrestrial species, many of which are of global conservation significance.

As the world's most complex expanse of coral reefs, the reefs contain some 400 species of corals in 60 genera. There are also large ecologically important inter-reefal areas. The shallower marine areas support half the world's diversity of mangroves and many seagrass species. The waters also provide major feeding grounds for one of the world's largest populations of the threatened dugong. At least 30 species of whales and dolphins occur here, and it is a significant area for humpback whale calving.

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Six of the world's seven species of marine turtle occur in the GBR. As well as the world's largest green turtle breeding site at Raine Island, the GBR also includes many regionally important marine turtle rookeries.

Some 242 species of birds have been recorded in the GBR. Twenty-two seabird species breed on cays and some continental islands, and some of these breeding sites are globally significant; other seabird species also utilize the area. The continental islands support thousands of plant species, while the coral cays also have their own distinct flora and fauna.

Integrity

The ecological integrity of the GBR is enhanced by the unparalleled size and current good state of conservation across the area. At the time of inscription it was felt that to include virtually the entire Great Barrier Reef within the property was the only way to ensure the integrity of the coral reef ecosystems in all their diversity.

A number of natural pressures occur, including cyclones, crown-of-thorns starfish outbreaks, and sudden large influxes of freshwater from extreme weather events. As well there is a range of human uses such as tourism, shipping and coastal developments including ports. There are also some disturbances facing the GBR that are legacies of past actions prior to the inscription of the property on the World Heritage list.

At the scale of the GBR ecosystem, most habitats or species groups have the capacity to recover from disturbance or withstand ongoing pressures. The property is largely intact and includes the fullest possible representation of marine ecological, physical and chemical processes from the coast to the deep abyssal waters enabling the key interdependent elements to exist in their natural relationships.

Some of the key ecological, physical and chemical processes that are essential for the long-term conservation of the marine and island ecosystems and their associated biodiversity occur outside the boundaries of the property and thus effective conservation programs are essential across the adjoining catchments, marine and coastal zones.

Protection and management requirements

The GBR World Heritage Area covers approximately 348,000 square kilometres. Most of the property lies within the GBR Marine Park: at 344,400 square kilometres, this Federal Marine Park comprises approximately 99% of the World Heritage Area. The GBR Marine Park's legal jurisdiction ends at low water mark along the mainland (with the exception of port areas) and around islands (with the exception of 70 Commonwealth managed islands which are part of the Marine Park). In addition the GBR World Heritage Area also includes over 900 islands within the jurisdiction of Queensland, about half of which are declared as 'national parks', and the internal waters of Queensland that occur within the World Heritage boundary (including a number of long-established port areas).

The World Heritage property is and has always been managed as a multiple-use area. Uses include a range of commercial and recreational activities. The management of such a large and iconic world heritage property is made more complex due to the overlapping State and Federal jurisdictions. The Great Barrier Reef Marine Park Authority, an independent Australian Government agency, is responsible for protection and management of the GBR Marine Park. The *Great Barrier Reef Marine Park Act 1975* was amended in 2007 and 2008, and now provides for "the long term protection and conservation ... of

the Great Barrier Reef Region" with specific mention of meeting "... Australia's responsibilities under the World Heritage Convention".

Queensland is responsible for management of the Great Barrier Reef Coast Marine Park, established under the *Marine Parks Act 2004* (Qld). This is contiguous with the GBR Marine Park and covers the area between low and high water marks and many of the waters within the jurisdictional limits of Queensland. Queensland is also responsible for management of most of the islands.

The overlapping jurisdictional arrangements mean that the importance of complementary legislation and complementary management of islands and the surrounding waters is well recognised by both governments. Strong cooperative partnerships and formal agreements exist between the Australian Government and the Queensland Government. In addition, strong relationships have been built between governments and commercial and recreational industries, research institutions and universities. Collectively this provides a comprehensive management influence over a much wider context than just the marine areas and islands.

Development and land use activities in coastal and water catchments adjacent to the World Heritage Area also have a fundamental and critical influence on the values within the property. The Queensland Government is responsible for natural resource management and land use planning for the islands, coast and hinterland adjacent to the GBR World Heritage Area. Other Queensland and Federal legislation also protects the property's OUV addressing such matters as water quality, shipping management, sea dumping, fisheries management and environmental protection.

The Federal Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) provides an overarching mechanism for protecting the World Heritage values from inappropriate development, including actions taken inside or outside which could impact on its heritage values. This requires any development proposals to undergo rigorous environmental impact assessment processes, often including public consultation, after which the Federal Minister may decide, to approve, reject or approve under conditions designed to mitigate any significant impacts. A recent amendment to the EPBC Act makes the GBR Marine Park an additional 'trigger' for a matter of National Environmental Significance which provides additional protection for the values within the GBR.

The GBR Marine Park and the adjoining GBR Coast Marine Park are zoned to allow for a wide range of reasonable uses while ensuring overall protection, with conservation being the primary aim. The zoning spectrum provides for increasing levels of protection for the 'core conservation areas' which comprise the 115,000 square kilometres of 'no-take' and 'no-entry' zones within the GBR.

While the Zoning Plan is the 'cornerstone' of management and provides a spatial basis for determining where many activities can occur, zoning is only one of many spatial management tools and policies applied to collectively protect the GBR. Some activities are better managed using other spatial and temporal management tools like Plans of Management, Special Management Areas, Agreements with Traditional Owners and permits (often tied to specific zones or smaller areas within zones, but providing a detailed level of management not possible by zoning alone). These statutory instruments also protect the OUV of the property.

Many Aboriginal and Torres Strait Island peoples undertake traditional use of marine resource activities to provide traditional food, practice their living maritime culture, and to educate younger generations about traditional and cultural rules and protocols. In the GBR these activities are managed under both Federal and Queensland legislation and policies including Traditional Use of Marine Resource Agreements (TUMRAs) and Indigenous Land Use Agreements (ILUAs). These currently cover some 30 per cent of the GBR inshore area, and support Traditional Owners to maintain cultural connections with their sea country.

Similarly non-statutory tools like site management and Industry Codes of Practice contribute to the protection of World Heritage values. Some spatial management tools are not permanently in place nor

appear as part of the zoning, yet achieve effective protection for elements of biodiversity (e.g. the temporal closures that are legislated across the GBR prohibit all reef fishing during specific moon phases when reef fish are spawning).

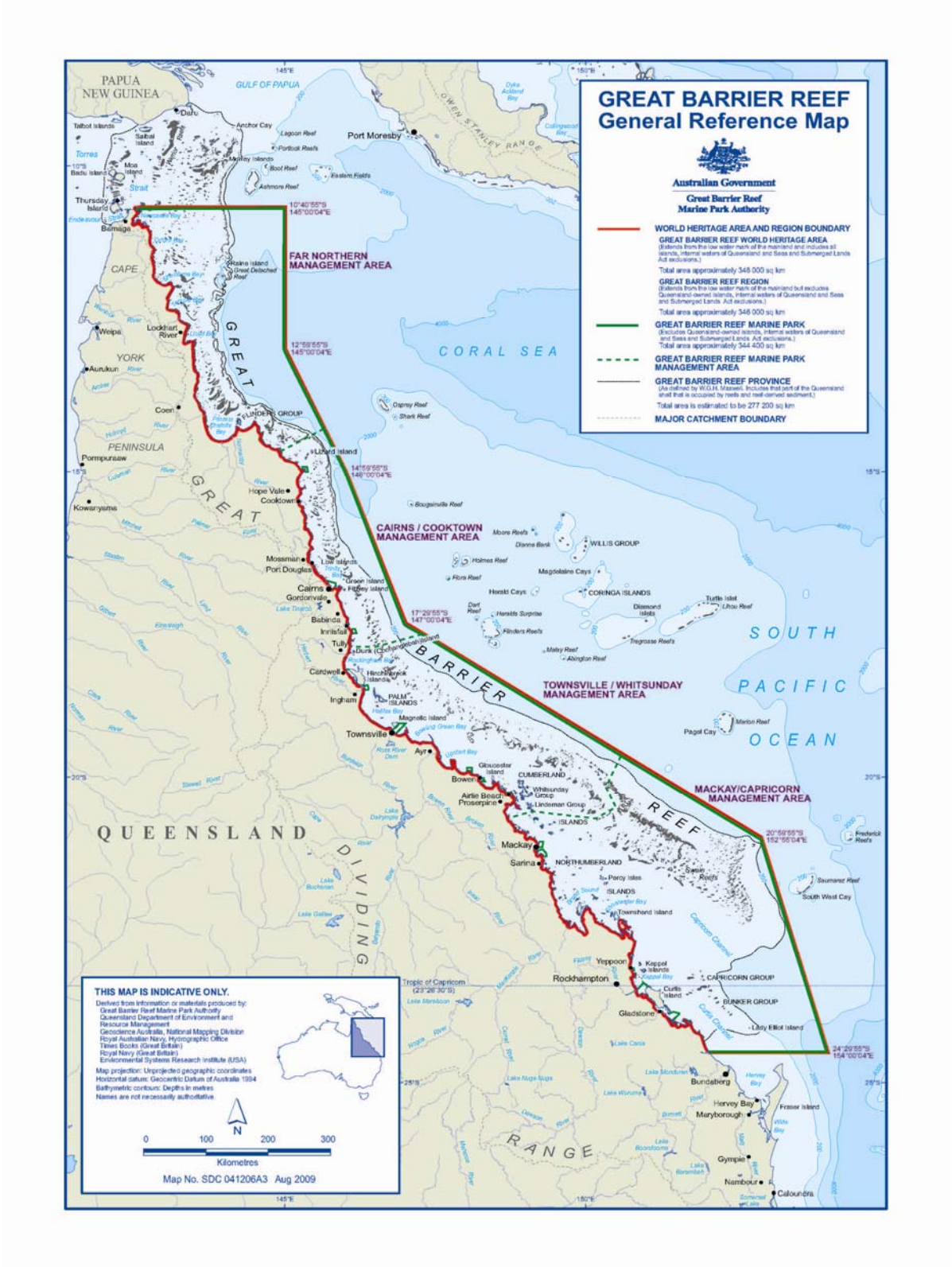
Other key initiatives providing increased protection for the GBR include the comprehensive *Great Barrier Reef Outlook Report* (and its resulting 5-yearly reporting process); the Reef Water Quality Protection Plan; the GBR Climate Change Action Plan; and the Reef Guardians Stewardship Programs which involve building relationships and working closely with those who use and rely on the GBR or its catchment for their recreation or their business.

The 2009 Outlook Report identified the long-term challenges facing the GBR; these are dominated by climate change over the next few decades. The extent and persistence of damage to the GBR ecosystem will depend to a large degree on the amount of change in the world's climate and on the resilience of the GBR ecosystem to such change. This report also identified continued declining water quality from land-based sources, loss of coastal habitats from coastal development, and some impacts from fishing, illegal fishing and poaching as the other priority issues requiring management attention for the long-term protection of the GBR.

Emerging issues since the 2009 Outlook Report include proposed port expansions, increases in shipping activity, coastal development and intensification and changes in land use within the GBR catchment; population growth; the impacts from marine debris; illegal activities; and extreme weather events including floods and cyclones.

Further building the resilience of the GBR by improving water quality, reducing the loss of coastal habitats and increasing knowledge about fishing and its effects and encouraging modified practices, will give the GBR its best chance of adapting to and recovering from the threats ahead, including the impacts of a changing climate.

ANNEX VII MAPS



Source: Government of Australia

ANNEX VIII PHOTOGRAPHS

Image 1: The iconic natural beauty of the Great Barrier Reef, March 2012.

© F. Douvere/UNESCO

Image 2: Coastal development in some areas of the Great Barrier Reef, Hamilton Island, March 2012.

© F. Douvere/UNESCO

Image 3: "*Ship parks*" waiting for supply in front of ports along the Great Barrier Reef coast, March 2012

© F. Douvere/UNESCO

Image 4: Industrial development at Hay Point, March 2012.

© F. Douvere/UNESCO

Image 5: Industrial development at Abbot Point, March 2012

© F. Douvere/UNESCO

Image 6: Developments on Curtis Island, Gladstone Harbour region, March 2012.

© F. Douvere/UNESCO

Image 7: Developments on Curtis Island, Gladstone Harbour region, March 2012.

© F. Douvere/UNESCO

ANNEX IX FURTHER CONSIDERATION OF OVERALL INSTITUTIONAL AND LEGAL ISSUES

There is an effective and ongoing connection within the functioning of the Federal Agency of GBRMPA and Queensland Government, through the inclusion of the principal officer of Queensland Government as a Board member of GBRMPA. This enables a direct and transparent means to understand the integration of State representation into GBRMPA, and this provides a vehicle for shared governance of most of the property, but does not address the overall disconnects above. One means to remove the discrepancy between the institutional organisation of the property and its actual boundaries would be to extend the coverage of the Great Barrier Reef Marine Park to be the same as that of the GBRWHA, with appropriate shared governance in all those areas where Queensland has jurisdicton. In essence this would lead to a consistent involvement of the Great Barrier Reef Marine Park Authority across the full extent of the property, and with a clear and consistent role defined in those areas that are within the State territory of Queensland.

The mission was provided with a copy of the Great Barrier Reef Intergovernmental Agreement and the official communiqués of its last two meetings of the Great Barrier Reef Ministerial Council, which were held on 12 August 2011 and 3 July 2009. It noted that the minutes of the most recent meeting demonstrated a comprehensive agenda on the key issues affecting the Reef. The Agreement also conveys clear objectives and intents, and is also cognisant of key threats which are noted in annexes to the agreement, including Climate Change. The GBRIA provides for a Ministerial Forum to meet (to date meetings have been of a Ministerial Council). The mission noted that the protocols for the Ministerial Forum established in this agreement require that it meets at least annually, which does not appear to have been achieved as there was no meeting in 2010 (and the communiqué of 2009 notes that the previous meeting had been in 2005). The protocols also require a Standing Committee of Officials to be established, however that Standing Committee appears to be a relatively informal group that meets ahead of the Ministerial Council. Thus looking on a long term basis it is not clear if this mechanism is fully functional.

In terms of the overall legal situation, the mission noted that the property is covered by a range of legislation, which is highly complex. In terms of the regulation of development, there are a series of overlapping pieces of planning and regulatory legislation in Queensland. A review provided to the mission near to the closing of its report by the Fitzroy Basin Association focused noted the following legislation as potentially relevant for consideration of major developments:

- EPBC Act (Federal), including World Heritage, National Heritage and Great Barrier Reef
- Environment Protection (Sea Dumping) Act (1981) (Federal)
- Great Barrier Reef Marine Park Act (1975) (Federal)
- Queensland State Development and Public Works Organisation Act (1971) (State)
- Queensland Sustainable Planning Act (2009) (State)
- Queensland Coastal Protection and Management Act (1995) (State)
- Queensland Environmental Protection Act (1994) (State)
- Queensland Nature Conservation Act (1992) (State)
- Queensland Fisheries Act (1994) (State)
- Queensland Transport Operations (Marine Pollution) Act (1995) (State)
- Queensland Vegetation Act (1999) (State)
- Queensland Water Act (2000) (State)
- Queensland Transport Infrastructure Act (1994) (State)
- Quensland Marine Parks Act 2004 (State)

This makes clear both the complexity and the overlapping nature of Federal and State responsibilities for implementation. The mission is not in a position to provide a detailed consideration of the legal protection of the property, but considers that this is a key issue where there should be further independent review, and that the Strategic Assessment, discussed further below, should also be informed by an independent assessment of the adequacy of current legislative arrangements. Whilst the overall coverage of

environmental requirements within legal protection is to be welcomed, some comments to the mission noted that highly complex legislation may not be in the interests of effective and integrated environmental protection, and in addition may make public participation difficult. The mission considers that strong direct Federal oversight is a fundamental requirement in any revised approach to applying legal protection to the property, considering that the State Party's responsibilities under the World Heritage Convention.

There does not at present appear to be an adequate documented frame of reference for the protection and management of the property as a whole, for which the Ministerial Forum would be accountable, and recommends this is clarified. A single documented strategy for the property that would be overseen by the Ministerial Forum, and provide an objective means to document performance appears to be lacking at present. Whilst there is a 25 year strategy for the Great Barrier Reef (see: http://www.gbrmpa.gov.au/zoning-permits-and-plans/legislation-regulations-and-policies/the-25-year-strategic-plan-for-the-great-barrier-reef-world-heritage-area), established in 1994 for the period to 2019, this overall strategy appears to require review, and updating. The State Party report notes the range of plans and strategies that are in place for the property. It is however not clear how the coordinated responsibility for protection and management of OUV/World Heritage Values is expected to be translated into the relevant institutional responsibilities, and their plans and strategies for the area, and how these plans connect to each other. The mission considers that the Ministerial Forum should be responsible for establishing a clear expectation regarding the recognition of OUV in all relevant plans affecting the property adopted by either Federal or State government, and also ensure that plans adopted follow those expectations.

The lack of a single leadership for the property is perhaps illustrated by the proposed Strategic Assessment requested by the World Heritage Committee, requiring two separate, even if closely related exercises to be chosen for delivery of the assessment.,.

A theme throughout much of the discussions held during the mission is regarding the lack of independent means of oversight for developers, and some strong perceived conflicts of interest, such as that which was asserted by a number of stakeholders regarding the role of the Coordinator General of Queensland. In addition concerns were noted such as those in relation to EIS, and monitoring in relation to Curtis Island developments, where assessment is either undertaken or funded by those with an interest in its results. The approach taken by the Great Barrier Reef Foundation, who were met during the mission, and have adopted principles to ensure the separation from investment in science is impressive. The mission considered that the State Party should reflect on means to establish an appropriate means to establish clear independence of EIS from the applicant, whilst retaining the system that developers pay for the EIS and related processes. Mechanisms could include firstly to ensure that appropriate certification of independence of EIS consultants is in place and assured, secondly that EIS would include traceable independent review of EIS conclusions commissioned by the regulators, including from leading scientists and also review by GBRMPA. Thirdly transparency of current processes should be assured by publishing exchanges between regulators and applicants. In addition, when the SA is completed, it will be essential that derivative EIS draw directly from and be consistent with the conclusions of the SA.

These matters required further analysis at a more detailed level than is possible within the brief for the mission, and partly relate to the implementation of the Strategic Assessment (http://www.environment.gov.au/epbc/notices/assessments/great-barrier-reef.html). These are issues should be considered further, and improved upon, and recommends that as part of this process an independent review is commissioned to review the legal and arrangements for the management of the property as a whole. Such a review might, as part of its work, also contribute to considering other matters raised by the mission such as the operation of the EPBC Act, and it would also be a highly relevant input to the Strategic Assessment, both of which are discussed below.

Such a review should be carried out with consultation with a full range of stakeholders, and should lead to enhancement of the overall functioning of the current management system including recommendations to:

- Ensure the effective functioning of the Great Barrier Reef Ministerial Forum to assure top level ownership, coordination, scrutiny and reporting on the performance of the protection and

management of GBRWHA as a whole against agreed targets (and including the adequacy of its legal protection, and the means to address issues affecting it from outside its boundaries), with at least an annual meeting taking place and open to appropriate input from local government, traditional owners and the public;

- Establish a single functioning senior officer group, meeting regularly, and including the responsible Federal, Queensland and other bodies, with a specific responsibility for coordination and oversight of GBRWHA as a whole, supported with appropriate stakeholder consultation, engagement and reporting;
- Establish a clear written basis for the matters for which the Ministerial Forum would be accountable (which would include appropriate connections to both relevant Federal and State policies and plans) and a programme to report against their achievement. This should include clarifying how the functioning of the Ministerial Forum would contributes to the fulfilment of national legal obligations for the protection and management of the World Heritage Area, and also for supporting the national implementation of the World Heritage Convention. It would confirm how the Ministerial Forum will ensure OUV should be translated into the policies, strategies and plans for the property, including (but not limited to) the management plans of GBRMPA, the Queensland Coastal Plan, plans for Port Areas, Statutory Regional Plans (currently not in place for Cape York), protected area management plans, policy to guide development assessment processes under the EPBC Act, policies and plans of the Australian Marine Safety Agency, and plans and programmes related to catchment water quality, and other relevant plans;
- Consider the options to ensure integrated protection and management of the small part of the World Heritage Area that is not currently included in GBRMP, within an approach to the property as a whole, including the options of:
  - Enhancing the scrutiny functions of GBRMPA in relation to the actions outside of its boundaries, which might impact on GBRWHA, including its advisory function to the Ministerial Forum, including the Federal Minister responsible for decision taking in relation to impacts of proposed development on the OUV of GBRWHA under the EPBC Act, and to the other relevant Federal and State Ministers;
  - The possible extension of the GBRMP to coincide with the boundary GBRWHA, accompanied by appropriate development of new policies in coordination with the agencies responsible for regulation and management of those areas not currently included in GBRMP, and supported by adequate additional resources;
  - Creating a new statutory and independent scrutiny mechanism in relation to the potential impacts of plans, projects and developments in relation to the OUV of GBRWHA, to advise the Ministerial Forum and provide oversight of decision taking at all levels.
- A further issue to be considered, in the review of legal provisions, and via the Strategic Assessment, is the possibility of efficiencies with resource use to be achieved by changes to the legal, regulatory or policy regime. As an example the mission was informed on the work being undertaken to ensure compliance with the zoning scheme within the GBRWHA. The mission was informed that the effectiveness of compliance would be greatly enhanced by a requirement for craft in the property to carry a means for remote identification, reducing the need for detection on the water. This would be one option to be evaluated via the Strategic Assessment, to consider making the regulatory change that would allow a more effective use of current resources to achieve results. A further issue that should be considered is how payments made in relation to development that will need to fund management to mitigates its impacts should be set, and how priorities should be set for how such funding should be deployed to achieve overall benefits to protection and management.

ANNEX X CASE EXAMPLE OF CONSIDERATION OF OUV IN DECISION TAKING PROCESSES

As one example, in relation to the specific case of Curtis Island, the mission was provided with the site selection study that was undertaken in 2008 to select an LNG Production and Export Precinct (undertaken by Connell Wagner, for the Queensland Government). This study does show that environmental factors were considered in selecting between a number of locations on the mainland (3 sites) and on Curtis Island (6 sites) to recommend for an LNG precinct. Whilst OUV was not overtly mentioned, the study mentions "ecological and aesthetic values of the GBRWHA" in its assessments in brief reports of discussions in a workshop during the property selection procedures. It thus appears that OUV was partly, but not adequately considered in the search process. One factor that was also not considered is the World Heritage Committee position on extractive industries, which are seen as not compatible with World Heritage Site status. Whilst an LNG plant is clearly not extracting gas from anywhere within the Great Barrier Reef, it is noted that the leading commitment to the principle of World Heritage Sites not being subject to extractive industry is the 2003 biodiversity commitment of Shell, which states that "We will not explore for, or develop, oil and gas resources in natural World Heritage Sites." As the leading industry practice this provides a policy benchmark that does not on first analysis appear to be met by the Curtis Island location having been selected.

Whilst the mission is not able to consider the full decision-taking process, it considers that the Queensland Government site selection process as described to it indicates one clear potential area for improvement, which would be to undertake assessments of the impact of declaring State Development Areas on the OUV of the Great Barrier Reef, as part of the decision-taking process, prior to the declaration of the State Development Area by the Queensland Government and any associated development plans or policies. The creation of a State Development Area inside the property would clearly seem, in its own right, to equate to the type of project that should require assessment under the EPBC Act. As State Development Areas have plans developed for them, they also provide another area were the question of impacts on OUV can be considered in a proactive way. Equally it would appear appropriate to seek as far as possible to avoid declaring further State Development Areas within the boundaries of the Great Barrier Reef World Heritage Area, and to seek alternatives in less sensitive locations.

The mission has also briefly reviewed the consideration of OUV within the decisions taken to approve LNG developments on Curtis Island, including a number of the approval documents. A full analysis of these documents, and the supporting information for them, has not been possible in the time available and nor was the explicit purpose of the mission. It would be of benefit that all EPBC decisions were analysed further along with the other relevant documents that relate to each consent, and also consideration of those that relate to other decisions that have been taken under the EPBC Act to consider current practice and potential improvement. The mission notes that the World Heritage Committee had noted with extreme concern the consenting of one LNG development, whereas in point of fact three LNG developments have been approved, together with a separate approval for the associated dredging and disposal, and including a substantial reclaim project in Gladstone Harbour. One further LNG application is currently under consideration.

Through examination of the decision documents the mission has sought to better understand the consideration given within the approvals for the Curtis Island developments in relation to the consideration of OUV through the EPBC Act. As a preliminary and incomplete review the mission can largely only pose question rather than provide detailed conclusions.

A statement of reasons was provided to the mission that was prepared on 16 May 2011 regarding the decision on one of the LNG plans (QGC LNG – EPBC number 2008/4402). This notes that part of the decision-taking process was an assessment on World Heritage criteria, which was provided to the mission. This annex (numbered Attachment M3 and titled "Criteria, values and attributes for GBR World Heritage listing and potential impacts and proposed offsets for Curtis Island LNG development impacts (excluding Western Basin Strategic Dredging and Disposal Project (EPBC 20009/49034) contains what the mission was informed is SEWPAC officer advice related to the LNG developments. It includes an

evaluation of impacts related to all four natural criteria, relevant attributes, whether the attributes were likely to be affected by the development, mitigation measures, and whether an offset was required. The evaluation in this case concluded, in summary, that there would be a range of impacts, some of which would be able to be mitigated and some of which might require an offset (notably in relation to aesthetic impacts, impacts on ecological and biological process (assessed as minor), loss of seagrass (assessed as very minor) and risks of disturbance to turtle species and a small loss or impact on a migratory bird species.

The mission considered also the approval given for the Western Basin Dredging and Disposal Project (EPBC 2009/4904) on 22 October 2010. This provided a range of conditions. The mission notes that one of these is a Dredging and Construction Management Plan which must ensure that there are no unacceptable impacts on the Great Barrier Reef World Heritage Area. A Water Quality monitoring programme is required which must include a Technical Reference Panel, and also requires funding of a Research Advisory Panel. The approval also indicates a requirement a Biodiversity Offset Strategy, in order to "offset unavoidable impacts to the values of the Great Barrier Reef World Heritage Area". This Biodiversity Offsets Strategy is however not required to be submitted until 12 months after the approval, and dredging may not continue if the plan is not approved in writing by the Minister within 18 months of the approval. Notwithstanding the mission's concern (see below) regarding the principle of offsets, it is not clear why the offset plan is not to be prepared and approved before dredging is authorised to proceed.

In a number of the approvals given that were reviewed (for instance EPBC 2008/4057) there is reference to the definition of an offsets plan to be agreed subsequent to the approval as a condition, alongside a range of conditions. The mission considers the concept of "offsets" in relation to impacts on OUV to be problematic, and this is not something which to date the World Heritage Committee has considered as appropriate, In principle the decisions that were taken to proceed with approvals based on offsetting therefore appear to not correspond to an agreed approach within the World Heritage Convention. Beyond this point of principle, the mission also questions to what extent the proposed offsets are actually likely to compensate for the loss of values that will result from the LNG construction, and how this can be determined objectively. The mission was not clear how, for instance, the offsets suggested for Curtis Island would address the losses from, for instance, turtle mortality due to boat strike associated with the development. In relation to the Gladstone dredging activity, the mission has not had the opportunity in the time available to consider the Biodiversity Offsets Plan as submitted, but notes that the offsets approved by the Queensland Coordinator General include requirements to surrender and protect in perpetuity an area of 5330 hectares of coastal land currently within GPC's strategic port land on Balaclava Island at Port Alma. The offset site at Port Alma comprises extensive areas of mangroves and intertidal wetlands which are a valuable fish habitat including nursery areas. The mission notes that Balaclava Island is also subject to a separate application for coal port development, and it is not clear how the impacts of a new development on the offsets of a previously approved development are considered as a policy issue regarding offsets. The mission considers that a different approach is needed to a case-by-case offset policy, and the alternative should be to consider the concept that developments should be expected to create a net benefit on the OUV of the Great Barrier Reef.

The mission also discussed the consideration of cumulative impacts. In relation to the record of decisions on Curtis Island notes that legal advice confirms clearly that cumulative impacts can be taken into account in relation to decision taking under the EPBC Act. Whilst the mission notes it is positive that an assessment was made of all the LNG proposals, the mission notes that the assessment made to support the LNG consents relative to impacts on World Heritage (attachment M3) does not include the implications of the related dredging and disposal project, but has not been able to discuss further the extent to which that was considered or not prior to the decision. There appears therefore to be a concern regarding the degree to which all impacts were considered. Thus a brief consideration of the process above indicates a range of issues, that require further consideration including in relation to site selection and the examination of alternatives, the strategic assessment of State Development Areas, consideration of all attributes of OUV, the assessment of cumulative impacts, and the principle and practice of applying offsets.