



WET TROPICS MANAGEMENT AUTHORITY

Your Ref: WTM1926

Enquiries To: Andrew Maclean

Our Ref:

Telephone: 07 40520501

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Ms Julia Morris
Secretary
Standing Committee on Climate Change, Environment and the Arts
PO Box 6021
Parliament House
CANBERRA ACT 2600

By email: ccea.reps@aph.gov.au

Dear Ms Morris

SUBMISSION BY THE WET TROPICS MANAGEMENT AUTHORITY FOR THE INQUIRY INTO AUSTRALIA'S BIODIVERSITY IN A CHANGING CLIMATE

Thank you for the opportunity to make a submission to the current Inquiry into Australia's Biodiversity in a Changing Climate. Climate change is a major threat to the Wet Tropics World Heritage Area, which is the most bio-diverse terrestrial region of Australia. This submission outlines the role of the Wet Tropics Management Authority, highlights the globally significant biodiversity values of the Wet Tropics and summarises climate change risks and recommended management responses.

Our submission comprises the attached paper and the Authority's 2007/08 *State of the Wet Tropics Report – Climate Change in the Wet Tropics – Impacts and Responses*¹. Although this report has previously been tabled in the Australian Parliament as part of the Authority's statutory reporting obligations, it is presented here again for the benefit of the present Inquiry. The Authority would welcome the opportunity to expand on its submission at any public hearing the Inquiry may hold.

Should you wish to further discuss this submission, please contact the Authority's Executive Director, Mr Andrew Maclean on _____ or _____

Yours sincerely

Assoc Professor Peter Valentine
Chairperson
Wet Tropics Management Authority

¹ <http://www.wettropics.gov.au/th/pdf/climatechange/ClimateChangeBook2008.pdf>

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1. *Summary of key points*

- The Wet Tropics Management Authority is a regionally based statutory authority responsible for the Wet Tropics of Queensland World Heritage Area. It is actively engaged in addressing the threat of climate change to the World Heritage Area, in partnership with research and management agencies and the Wet Tropics community.
- The Wet Tropics is the most bio-diverse terrestrial region of Australia. Its global biological significance is recognised through inscription on the World Heritage List.
- There is very strong scientific evidence that Wet Tropics ecosystems are particularly vulnerable to the predicted effects of climate change. This vulnerability is recognised in both global and national contexts.
- The Wet Tropics Management Authority reported on climate change impacts and responses in its 2007/08 *State of the Wet Tropics Report*, tabled in the Commonwealth and Queensland Parliaments. The report is the basis of this submission.
- In the State of the Wet Tropics Report, the Authority recommends four key adaptation responses:
 - *On-ground works to improve forest health*
 - *Improving and communicating knowledge of the effects of climate change*
 - *Increasing community awareness and mobilising behavioural change*
 - *Regional planning, coordination and leadership*

- The Wet Tropics presents as an ideal candidate for consideration as one of the case studies of 'nationally important ecosystems' that the Inquiry intends to undertake. The Authority would be very pleased to assist the Inquiry with this.

2. Wet Tropics Management Authority

The Cairns-based Wet Tropics Management Authority² is a statutory authority of the State of Queensland, established in accordance with an intergovernmental agreement between the Commonwealth and Queensland. The Authority operates under the direction of a Board of Directors jointly nominated by Queensland and the Commonwealth and is subject to the *Wet Tropics World Heritage Protection and Management Act 1993* (Qld).

The Intergovernmental Agreement defines the paramount function of the Authority as having responsibility for achieving the primary management goal – the implementation of Australia's international obligations for the Area under the World Heritage Convention. In keeping with this, the Authority has numerous statutory roles relating to protection of the Area and its values; statutory and strategic planning for the Area; presentation and promotion of its values; community engagement, in particular with Indigenous peoples; monitoring and reporting on the condition of the Area and forming partnerships with other organisations to facilitate the attainment of its objectives.

The Authority maintains extensive systems and networks for community and industry engagement. It works closely with the scientific community to advance the Area as a *Learning Landscape*. Key to this is the Authority's statutory Scientific Advisory Committee (SAC), chaired by Professor Steve Williams of James Cook University and comprising leading biophysical and social scientists with expertise in the environments of the Wet Tropics. The work conducted by Professor Williams, who holds the positions of Director of the Centre for

² www.wettropics.gov.au

Tropical Biodiversity and Climate Change and Director of the National Climate Change Adaptation Research Framework – Terrestrial Biodiversity is of particular importance and relevance. The Authority suggests that he would be an important witness for the present Inquiry.

The Authority recognises that achieving its goals requires that it works in the wider biophysical and socio-economic landscape. It actively engages with the community and other planning and regulatory authorities to promote sustainable management of the entire Wet Tropics bioregion. As an example, a current major project funded under the Caring for Our Country program, involves mobilising and assisting landholders and the community to expand and connect remnant patches of refugial, climatically stable habitats adjacent to the World Heritage Area Boundary, thereby increasing landscape resilience in the face of climate change.

The Authority has been a leader and partner in regional sustainability for the Wet Tropics. A particular contribution it made to a regional climate change network was to resource a study of regional greenhouse gas emissions³, which was considered to be the first study of its type in Australia.

3. Wet Tropics World Heritage Area – Globally Significant Biodiversity Values

The Wet Tropics World Heritage Area is one of Australia's outstanding natural landscapes. It is extraordinarily diverse. Although comprising only about 0.26% of Australia's land mass, it supports 35% of Australia's mammal species; 40% of its birds; 58% of its butterflies; 26% of its vascular plants; 65% of its ferns and similarly high proportions of other flora and fauna. In total, the World Heritage Area and its surrounding bioregion support at least 663 vertebrate species and in excess of 2800 vascular plants, of which around 600 are restricted to the Area. Its invertebrate fauna is the richest in Australia. The ancient nature of the

³ Summary at: http://www.wettropics.gov.au/media/media_pdf/media_2007/GHG_audit_summary.pdf

Wet Tropics rainforest is exemplified by the fact that it supports examples of 13 of the 19 primitive angiosperm plant families, a higher proportion than anywhere else in the World.

The outstanding universal value of the Wet Tropics was recognised through inscription on the World Heritage List in 1988. The Wet Tropics WHA meets all four natural criteria specified by the World Heritage Committee for inclusion as a property on the World Heritage List. The World Heritage Nomination IUCN Technical Evaluation (1988) specified how the WHA justified inclusion for each criterion:

Be outstanding examples representing major stages of earth's history, including the record of life, significant ongoing geological processes in the development of landforms, or significant geomorphic or physiographic features.

- The Wet Tropics contains one of the most complete and diverse living records of the major stages in the evolution of land plants, from the very first land plants to higher plants (gymnosperms and angiosperms), as well as one of the most important living records of the history of marsupials and songbirds.

Be outstanding examples representing significant ongoing ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals.

- Levels of species diversity and endemism in the Wet Tropics are exceptionally high, reflecting the long isolated, ancient biota of the Australian Wet Tropics.

Contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance.

- The Wet Tropics contains one of the most significant regional ecosystems in the world, with outstanding features of natural beauty and magnificent sweeping landscapes. Exceptional is the coastline

scenery, which contains tropical rainforest, white sandy beaches and fringing reefs just offshore.

Contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.

- The Wet Tropics provides the only habitat for numerous rare or threatened species of plants and animals.

4. Climate Change Impacts and Responses in the Wet Tropics

Climate change is widely recognised as one of the key threats to the outstanding universal value of the Wet Tropics World Heritage Area. Both UNESCO⁴ and the International Panel on Climate Change (IPCC)⁵ have recognised the particular vulnerability of the Wet Tropics to climate change in a global context. Nationally, a study of climate change impacts on Australian World Heritage properties⁶ recognised that the Wet Tropics World Heritage Area is highly sensitive to climate change and the 2007 Garnaut review⁷ reported that, 'the wet tropics of far north Queensland are ... likely to face high levels of extinction' on current climate change projections.

The Wet Tropics Management Authority has long recognised the particular threat of climate change to the World Heritage Area. Its annual State of the Wet Tropics Report for 2007/08 focussed on the issue of climate change. This report, which was tabled in the Commonwealth and Queensland Parliaments, is included as part of this submission.

The report capitalised on investment in climate change research in the Wet Tropics region. It identified a number of particular threats and risks to the Wet Tropics arising from predicted climate change, including:

⁴ <http://whc.unesco.org/en/activities/473/>

⁵ http://www.ipcc.ch/publications_and_data/ar4/syr/en/spm.html

⁶ <http://www.climatechange.gov.au/~media/publications/adaptation/worldheritage-climatechange-doc.doc>

⁷ <http://www.garnautreview.org.au/chp6.htm>

- A shorter, more intense wet season and corresponding longer dry season, creating greater risk of wildfire, which will kill rainforest stands;
- Increased cyclone intensity, likely to affect the structure and composition of rainforest stands;
- Changes in the abundance and distribution of flora and fauna, reflecting differential capacity to adapt to changing temperature and rainfall regimes;
- Extinction of species dependent on cool, wet climates prevalent in the highest elevations of the World Heritage Area;
- Increased vulnerability to invasive pests and weeds, including in particular the risk of exotic tropical species;
- Changes in forest hydrology arising from changing rainfall patterns and reduced cloud stripping arising as a consequence of increased elevation of the cloud base;
- Interactions between these effects, potentially magnifying and ramifying their impact.

The Wet Tropics World Heritage Area is a vital asset in Australia's tourism economy. Visitation to the region contributes nearly \$5 billion in direct and indirect national output and supports more than 17,000 jobs⁸. Good progress is being made towards including the Wet Tropics in Australia's National Landscapes program that plays a key role in Australia's international tourism marketing campaigns. Climate change creates risks for the tourism industry firstly by potentially diminishing the attractiveness or distinctiveness of the region (e.g. degradation caused by increased fire or forest disease outbreaks) and secondly through the risk that Australia's reputation for environmental management will decline among key market segments if the perception develops that our climate management response is inadequate.

⁸ <http://www.environment.gov.au/heritage/publications/report/pubs/economic-activity-report.pdf>

Although the focus of the present Inquiry is on biodiversity, it is important to acknowledge that the biodiversity assets of the Wet Tropics are the cultural assets of the 18 Rainforest Aboriginal tribal groups of the Wet Tropics. More attention needs to be given to the bio-cultural risks of climate change and the importance of equitable partnerships with Traditional Owners in designing and implementing climate change responses on their country.

The Authority prepared its State of the Wet Tropics Report in the knowledge that the Australian and Queensland Governments are working hard to mitigate climate change through reducing emissions of CO₂ and other greenhouse gases. However it is clear that there has been a delay in implementing effective mitigation measures at the national and global scale and that there will be a further lag before any change in atmospheric CO₂ concentrations will be observed, no matter how effective any mitigation measures may be. In light of this, it is clear that a strong emphasis must be placed on effective regional scale adaptation measures to deal with likely inevitable changes in the region's climate. Having said this, it is clear that important adaptation measures, including in particular rainforest rehabilitation and restoration, will also usefully contribute to mitigation. The Authority notes with interest the activities of our regional partner, Terrain NRM, which is pursuing carbon farming initiatives in the region.

The State of the Wet Tropics report recommended four key areas for attention.

1. **On ground works to improve forest health** – a primary adaptation response is to build the resilience of the Wet Tropics landscape. This requires measures such as rainforest rehabilitation, improving connectivity of rainforest blocks along altitudinal and latitudinal gradients, preventing further clearing and effective control of pests, weeds and disease.
2. **Improving and communication our knowledge of the effects of climate change** – continued research, associated with effective communication to land managers, communities and stakeholders is

an essential underpinning for good policy, management and to motivate change in communities.

3. **Increasing community awareness and mobilising behavioural change** – managers of private land in and around the Wet Tropics World Heritage Area have a major role to play in improving landscape resilience to climate change. They need information, advice, incentives and supportive policies to encourage and assist them in the management of their land and resources.
4. **Regional planning, coordination and leadership** – the Wet Tropics community needs, with appropriate support from the Commonwealth and Queensland Governments, to 'own' the problem of building landscape resilience and to be empowered to identify and implement novel solutions.

Further details on all these proposals are included in the full report (attached).

A key message from the Authority is that:

- there is ample scope for effective adaptation action in the Wet Tropics
- there is good science to support the effectiveness of these proposals
- the necessary adaptation measures are feasible and
- the necessary institutional arrangements are in place in the form of the Wet Tropics Management Authority and its land management and research partners.

All that is required is sufficient resources or incentives for public and private sector managers to take action.

5. *Nationally Important Ecosystems*

The Authority notes that the Inquiry will consider case studies of nationally important ecosystems and proposes that the Wet Tropics World Heritage Area and its surrounding bioregion should be a strong candidate for inclusion as a case study. It is a region of global biodiversity significance, there is strong scientific information about the biodiversity of the region and climate change

impacts and risks, and there are numerous examples of regional community engagement in addressing these. In addition, there are important landscape connections between the forests of the Area and the health and resilience of the northern Great Barrier Reef. Combined these two World Heritage Areas protect a very large proportion of Australia's biodiversity and both are recognised as particularly vulnerable to climate change. The Wet Tropics Management Authority would be very pleased to facilitate further development of a case study in support of the Inquiry.