



Marine and Tropical Sciences
Research Facility

THEME 4

Sustainable Use & Management



FACT SHEET

Prepared by Toursim Tropical North Queensland

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TROPICAL NORTH
QUEENSLAND[™]

 **Reef &
Rainforest**
RESEARCH CENTRE


Australian Government
Department of the Environment,
Water, Heritage and the Arts

THEME 4:

SUSTAINABLE USE & MANAGEMENT OF NATURAL RESOURCES

INTRODUCTION

In 2006 the Australian Government established the Marine and Tropical Sciences Research Facility (MTRSF) to develop “world-class public good research” projects that utilize the collaborative efforts of the best Australian tropical environmental researchers. A budget of \$40 million dollars over 4 years was allocated to MTRSF.

All approved projects have to be directly relevant to the conservation and sustainable use of North Queensland's environmental assets, including the Wet Tropics rainforests, the Great Barrier Reef and the connecting coastal regions.

5 major issues, or Themes, of immediate and significant issues were identified
The MTRSF projects are divided into 5 Research Themes:

THEME	DESCRIPTION
Theme 1 Status of the Ecosystems	Understanding the condition, trend and interdependencies of environmental assets of the North Queensland region; developing methods to support ongoing regular assessment and reporting; and developing methods to identify priorities for action. Program 1 – Great Barrier Reef Program 2 – Rainforests & Catchments Program 3 – Torres Strait Program 4 – Species of Conservation Concern
Theme 2 Risks & Threats to the Ecosystem	Understanding the threats to, and their impacts on the environment and hence the North Queensland region, and developing options to mitigate them Program 5i – Marine Program 5ii – Rainforests & Catchments Program 6 – Invasive Pests
Theme 3 Halting & Reversing the Decline of Water Quality	Understanding the causes and effects of changing water quality and water resource use in North Queensland's coastal catchments; developing options for improving practices, reducing risks and mitigating adverse impacts; and developing ways to measure the effectiveness of regulation, management and other actions to halt and reverse declines. This goal supports the objectives of the Australian and Queensland Government's Reef Water Quality Protection Plan (Reef Plan). Program 7 – Water Quality
Theme 4 Sustainable Use & Management of Natural Resources	Understanding the current and potential industry and community uses of biodiversity and natural resources with respect to ecological, social and economic sustainability; and providing information and options to assist North Queensland managers, industries and communities to optimise the use of biodiversity resources and minimise adverse impacts of use where they occur. Program 8 – Great Barrier Reef Program 9 – Rainforests & Catchments
Theme 5 Enhancing Delivery	Increasing the relevance and adoption of research in policy development, management applications and use practices; supporting effective data exchange and adoption of data standards; funding the delivery of relevant reports in the public interest; providing system wide overviews through the integration of biophysical studies of the environmental assets of North Queensland and the integration of social and economic research into these; and providing access to data and knowledge for organisations and the public. Program 10 – Enhancing Delivery

Modified from the MTRSF website: www.rrrc.org.au/mtrsf

As part of Theme 5 (Enhancing Delivery), TTNQ was contracted to facilitate the flow of information from MTSRF to the tourism industry in tropical Queensland (Project 5.10.2) through a series of easy-to-understand Fact Sheets, each one specific to one of the themes. These Fact Sheets set the framework for understanding why this research is important and what the potential impacts are to the environment, our communities and the local tourism industries.

Theme 4, Sustainable Use & Management of Natural Resources, includes 2 main focus areas:

1. Sustainable Use and Management of Marine Resources of the Great Barrier Reef
2. Sustainable Use, Planning and Management of Tropical Rainforested Landscape

BRIEF OVERVIEW OF THEME 4

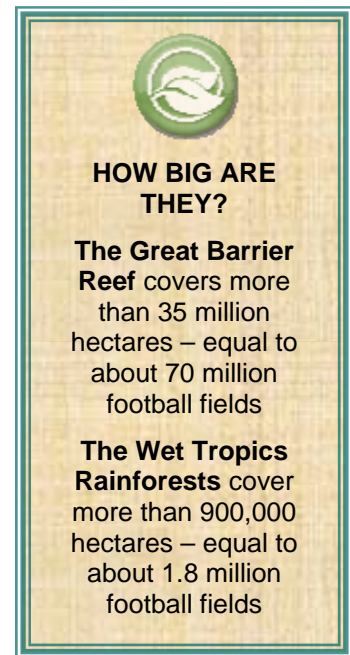
The main objectives of MTSRF Themes 1 – 3 are to assess the current status of the Tropical North Queensland ecosystems, map out the complex interactions that make it ‘work’ and identify potential threats & risks.

Theme 4 looks to the future and aims to find a balance between usage of the ecosystems by commercial activities, which can result in impacts, and conservation, which is aimed at maintaining and improving biodiversity and overall environmental health.

Managing large areas of wilderness, such as the Great Barrier Reef and Wet Tropics, is not easy. Environmental managers cannot simply set aside the entire area as a ‘no-use’ zone because there are too many commercial and private interests involved. In many cases the livelihoods of entire communities can depend on the natural resource found within these ecosystems. This means that environmental managers must come up with alternative management methods and cannot simply ‘block’ the area off entirely and prevent people from accessing or using it.

Environmental managers must consider the ‘Triple Bottom Line’ (also known as “People, Planet, Profit”), which integrates the needs of the social structure or community (the ‘People’), the environmental sustainability (the ‘Planet’) and the local commercial benefits (the ‘Profit’). The goal is to develop a way to maintain the delicate balance between social, economy & environment elements.

It is essential, therefore, that good, effective management tools are developed specifically for each region that take into account the unique feature of the area so that they will be effective in achieving the desired balance between usage and conservation.



TYPES OF COMMON MANAGEMENT TOOLS

Management Tool	Description
Zonation	Limits usage by dividing an larger area into different smaller zones that have different restrictions on types of activities, numbers of visitors and/or access times
Commercial Permits	Limits usage by restricting the number of operators allowed access to an area. Can also set operational limits, such as: <ul style="list-style-type: none"> - size of operation, - number of visitors carried by the operator, - number of days the operator can access the area - types of activities that can be carried out
Laws & regulations	Limits usage by setting laws that apply to everybody – private and commercial. Laws may restrict access, limit activities and/or establish periods of closure.
Best Environmental Practices	Limits impacts by outlining environmentally friendly ways to behave in the environment and carry out activities. These are usually self-regulated, but can sometimes be incorporated into legal requirements
User fees (paid by people to use public facilities / areas – such as National Park entrance fees)	This does not directly limit use, but it provides funds that are put back into managing the area.

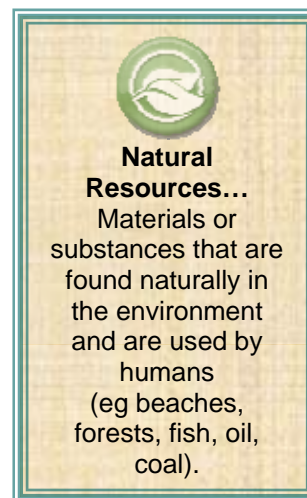
SUSTAINABLE USE

‘**Sustainable Use**’ is the term used to describe the use or consumption of natural resources in such a way, and at a rate, that it does not lead to any long-term decline of biological diversity or environmental health. The end goal being that the environment will be maintained for the enjoyment and use of future generations.

To understand sustainable use for a specific area, researchers must collect varied data from many different sources.

They need to determine:

- What the current state of the environment is (the benchmark)?
- What natural resources (and assets) are there?
- What activities are being conducted in the area (current level of use)?
- What are the impacts of these activities (in the short and long term)?
- How well can the environments recover to different types of impacts (how resilient are they)?
- What economic activities (e.g. agricultural, forestry, tourism, indigenous enterprises) are being conducted?
- What people, groups, organisations or business use the area (who are the stakeholders)?
- What are the attitudes of the stakeholders to the environment (what do they feel about the environment)?
- What educational messages are needed to be given to stakeholders to promote a better understanding of the issues (what needs to be communicated)?



UNESCO's WORLD HERITAGE SITES

As of 2008, there were a total 851 World Heritage listed sites from around the world. These include 660 cultural sites, 166 natural sites and 25 'mixed' sites of both natural and cultural significance.

The Great Barrier Reef and the Wet Tropics of Queensland are both World Heritage listed.

To nominate a site for addition to the World Heritage list, a country must:

- First, be a signed member of the World Heritage Convention, thereby pledging to protect their natural and cultural heritage for future generations.
- Second, make an 'inventory' of its important natural and cultural heritage sites.
- Third, lodge a submission for each site - sites must be of outstanding universal value and meet specific selection criteria, and
- Lastly, be assessed by the World Heritage Committee.



SELECTION CRITERIA FOR NATURAL WORLD HERITAGE SITES

Sites must:

- contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance";
- be outstanding examples representing major stages of Earth's history, including the record of life, significant on-going geological processes in the development of landform or significant geomorphic or physiographic features";
- be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, freshwater, coastal and marine ecosystems and communities of plants and animals";
- contain the most important and significant natural habitats for in-site conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation".

WORLD HERITAGE SITES IN AUSTRALIA

There are currently 11 Australian properties on the World Heritage List, including the Great Barrier Reef and the Wet Tropics of Queensland.

The Great Barrier Reef was one of the first three sites in Australia to be World Heritage Listed, and the Wet Tropics of Queensland was added in 1988.

IF WE DO NOTHING...

Without careful management of activities carried out within sensitive environments such as the GBR and Wet Tropics, resulting impacts can cause severe environment degradation and permanent loss of habitat and associated wildlife.

It is particularly important that careful management and planning to achieve sustainable use is done due to the increasing pressures from recent water quality and, of course, climate change – which include shifts in natural cycles, increased diseases, habitat changes.

WORLD HERITAGE SITES OF AUSTRALIA

Name	Year of Inscription	Type of Site
Great Barrier Reef	1981	Natural
Willandra Lakes Region	1981	Natural & Cultural
Kakadu National Park	1981	Natural & Cultural
Tasmanian Wilderness	1982	Natural & Cultural
Lord Howe Island Group	1982	Natural
Uluru-Kata Tjuta National Park	1986	Natural ('86) & Cultural ('94)
Central Eastern Rainforest Reserves of Australia – NSW & Qld	1986 (NSW) 1994 (QLD)	Natural
Wet Tropics of Queensland	1988	Natural
Shark Bay	1991	Natural
Fraser Island	1992	Natural
Australian Fossil Mammal Sites (Riversleigh, Naracoorte)	1994	Natural

RELEVANT MTSRF RESEARCH

The Marine and Tropical Sciences Research Facility (MTSRF) is part of an Australian Government initiative to “develop collaborative, public benefit research between Australia’s best tropical environmental researchers to support the conservation and sustainable use of North Queensland’s environmental assets - the Wet Tropics rainforests, the Great Barrier Reef and the connecting coastal regions”.

The Reef and Rainforest Research Centre (RRRC) is contracted to administer the MTSRF Research Programme in North Queensland.

There are 5 main themes of study:

- Theme 1 Status of ecosystems
- Theme 2 Risks and Threats to the Ecosystems
- Theme 3 Halting & Reversing decline in water quality
- Theme 4 Sustainable use and management of natural resources
- Theme 5 Enhancing Delivery

Theme 4, Sustainable Use and Management of Natural Resources, includes two main projects:

Project Number	Project Name	Main Objectives	Research Providers
Project 8	Program 8 - Sustainable Use and Management of Marine Resources of the Great Barrier Reef	To provide strategic research directions for the sustainable use and management of the biodiversity and natural resources of the Great Barrier Reef (GBR) with respect to ecological, social and economic sustainability.	AIMS CSIRO JCU
Project 9	Program 9 - Sustainable Use, Planning and Management of Tropical Rainforested Landscapes	To provide baseline knowledge to assist the development of effective management of the Wet Tropics World Heritage Area while supporting sustainable economic activities (notably agriculture, agroforestry, tourism and Indigenous enterprises) and enhancing biodiversity and maintaining essential ecosystem services	GU JCU UQ

Acronyms: AIMS (Australian Institute of Marine Science), ANU (Australian National University), CSIRO (Commonwealth Scientific & Industrial Research Organisation), DPI&F (Department of Primary Industries & Fisheries), GU (Griffith University), JCU (James Cook University), UNSW @ ADFA (University of New South Wales Australian Defence Force Academy), UQ (University of Queensland)