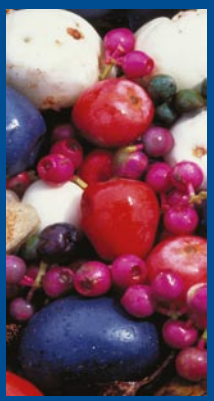
Australian Government

Department of the Environment, Water, Heritage and the Arts

Commonwealth Environment Research Facilities

Marine and Tropical Sciences Research Facility

Your guide to the MTSRF



Reef & Rainforest RESEARCH CENTRE

About the Marine and Tropical Sciences Research Facility

The Marine and Tropical Sciences Research Facility (MTSRF) is administered in north Queensland by the Reef and Rainforest Research Centre (RRRC) Ltd. The MTSRF is part of the Australian Government's Commonwealth Environment Research Facilities program, which is managed by the federal Department of Environment, Water, Heritage and the Arts. Through a consortium of 15 research agencies, involving around 300 scientists, the Centre aims to deliver solution science specifically addressing the problems facing north Queensland's key environmental assets: the Great Barrier Reef and its catchments, tropical rainforests including the Wet Tropics World Heritage Area, and the Torres Strait.

Goals and research strategy

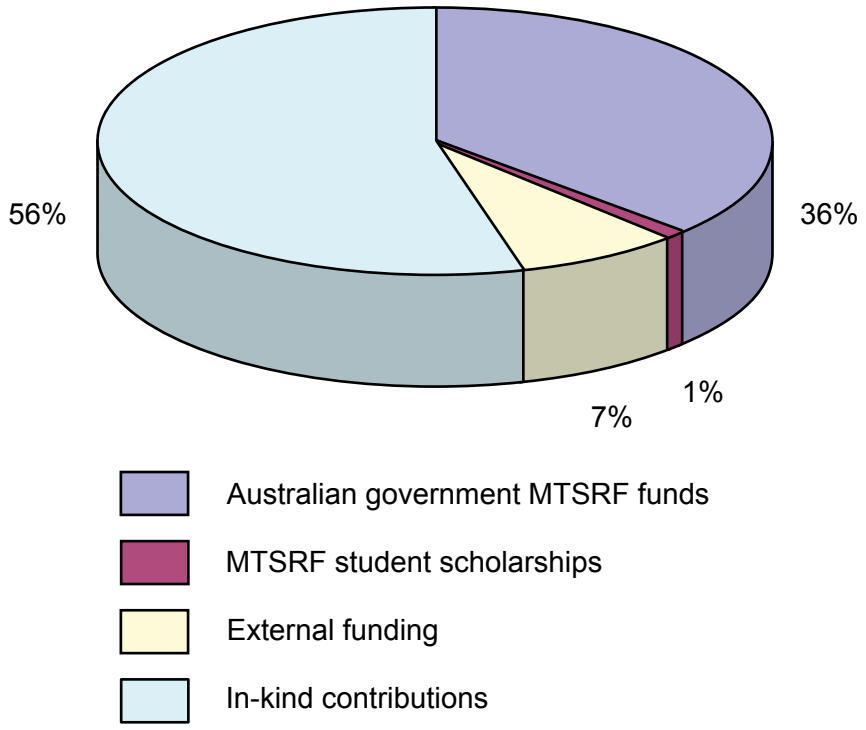
Towards achieving this vision, the MTSRF has planned, funded and coordinated the highest-quality, cross-disciplinary research for public good, to:

- ensure the protection, conservation, sustainable use and management of the Great Barrier Reef and its catchments, tropical rainforests including the Wet Tropics World Heritage Area, and the Torres Strait;
- foster an understanding of the interactions of north Queensland's natural environment with the social and economic aspects of north Queensland's communities;
- support the adoption of science-based knowledge in policies and practices for ecologically sustainable management; and
- facilitate capacity-building for sustainable environmental management and environmental management research, in partnership with the community, environmental managers, research institutions, industry and policy-makers.

Helping to solve north Queensland's environmental problems

The MTSRF's unique engagement framework, in which researchers and end users collaboratively define and supervise research projects addressing specific environmental management issues, is already enabling the Facility to help solve some of north Queensland's environmental problems. This year, the MTSRF has focused on projects designed to solve specific management and policy problems faced by end users across at least 38 organisations.

~$80 million invested in the MTSRF over four years



The Reef and Rainforest Research Centre (RRRC) is a not-for-profit consortium of researchers, industry and community organisations that is committed to achieving the goals of the MTSRF. The RRRC is contracted by the Department of Environment, Water, Heritage and the Arts to provide program management and communications services for the MTSRF. RRRC is also the lead agency for Theme 5 of the MTSRF.

Your guide to the MTSRF

MTSRF research projects are organised around five major Themes: Status of the Ecosystems, Risks and Threats to the Ecosystems, Halting and Reversing the Decline of Water Quality, Sustainable Use and Management, and Enhancing Delivery.

The following pages contain the full list of MTSRF research projects, including some research snapshots illustrating how recent MTSRF research results are already helping to solve some of north Queensland's environmental problems. For further information about the full range of MTSRF research projects, visit the RRRC website at www.rrrc.org.au

Theme 1: Status of the Ecosystems

Program 1: Status and Trends of Species and Ecosystems of the Great Barrier Reef (GBR)		Dr Peter Doherty, AIMS
Project 1.1.1	Identification of indicators and thresholds of concern for ecosystem health on a bioregional scale for the GBR	A/Prof Michelle Waycott, JCU & Dr Hugh Sweatman, AIMS

Snapshot

Addressing the relatively poor health of some areas of the Great Barrier Reef (Project 1.1.1)

There have been consistent, significant declines in the relative health of the inner shelf regions of the GBR over the last decade. However, until recently it has been difficult to measure reef health robustly and at the temporal and spatial scales necessary for adaptive management. In response to this clear management need, MTSRF researchers from the AIMS and JCU have developed a robust method of quantifying reef health. Analyses show that reefs in the central inner-shelf regions of the GBR are in relatively poor health, and that poor reef health often corresponds with poor water quality (low water clarity and high chlorophyll concentration). Reef health monitoring programs using these indicators will be used to evaluate the effectiveness of different reef management strategies over time

Project 1.1.2	Condition and trend of the GBR ecosystem: Indicators, thresholds of potential concern and ecological influence of the GBR Zoning Plan on mid and outer reefs	Dr Hugh Sweatman, AIMS

Snapshot

Spectacular recovery of coral trout populations inside green (no-take) zones on the Great Barrier Reef (Project 1.1.2)

The decision by the GBRMPA to close around 33% of the marine park to fishing in 2004 was controversial, even though it was based on good science. Now MTSRF researchers from AIMS and JCU have found dramatic evidence that this closure has already benefited populations of coral trout, a species highly prized by both recreational and commercial fishers. Numbers of these fish have increased by 31-75% on the majority of reefs that have been closed to fishing for as little as 1.5-2 years. Most surprisingly, these increases were observed consistently in green zone (closed) reefs across more than 1000 km of the GBR. Green zone reefs in the Palm and Whitsunday islands showed increases in coral trout population densities of 65% and 75% respectively, compared with nearby reefs left open to fishing (blue zones). Populations on green zone reefs offshore from the cities of Townsville (64%), Cairns (53%) and Mackay (57%) also showed marked increases relative to nearby open reefs. This unequivocal demonstration of the effectiveness of green (no-take) zones as management tools for targeted fish species has been of great interest to fishers, scientists and managers in Queensland, nationally and internationally.

Project 1.1.3	Condition, trend and risk in coastal habitats: Seagrass indicators, distribution and thresholds of potential concern	A/Prof Michelle Waycott, JCU & Mr Len McKenzie, DEEDI
Project 1.1.3a*	Intertidal seagrass monitoring: Reef Rescue Marine Monitoring Program	Mr Len McKenzie, DEEDI
Project 1.1.3b*	Assessing light as a driver of change in seagrasses of the GBR: Reef Rescue Marine Monitoring Program	A/Prof Michelle Waycott, JCU
Project 1.1.4	Dating and mapping historical changes in GBR coral communities	Dr Jian-Xin Zhao, UQ
Project 1.1.5	GBR data synthesis and integration for reporting: e-Atlas	Dr Katharina Fabricius, AIMS

Ensuring the health of north Queensland's key environmental assets

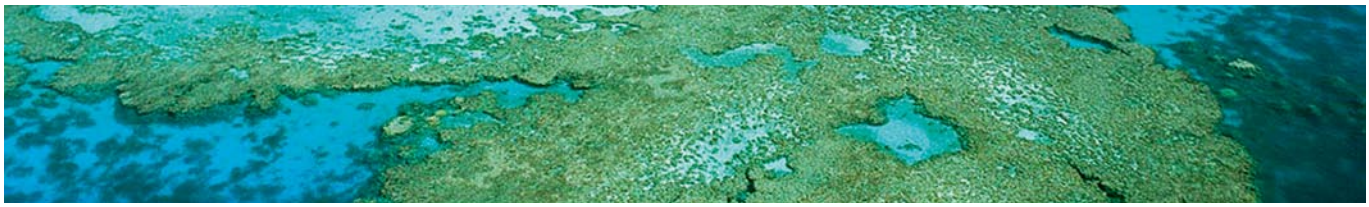
Program 2: Status and Trends of Species and Ecosystems in the Wet Tropics Rainforests		Dr James Butler, CSIRO
Project 1.2.1a	Rainforest plant key	Dr Judy West, CSIRO
Project 1.2.1b	Biodiversity monitoring for climate change	A/Prof Steve Williams, JCU
Project 1.2.1c	Status and trends of biodiversity and ecosystem services	Dr James Butler, CSIRO
Project 1.2.1d	Invertebrate biodiversity	Prof Nigel Stork, UniMelb
Program 3: Torres Strait – Status, Use and Trends		**Mr Vic McGrath, TSRA**
Project 1.3.1	Tradition knowledge systems and climate change in the Torres Strait	A/Prof Kevin Parnell, JCU & Dr Karen McNamara, JCU
Project 1.3.2	Ecological role and potential economic value of sponges to the Torres Strait	Dr Stephen Whalan, AIMS
Project 1.3.2s	Impact and causes of sponge disease in Torres Strait and the GBR	Dr Rocky De Nys, JCU
Project 1.3.3	Livelihood benefits of co-management of hand collectable fisheries in the Torres Strait	Dr James Butler, CSIRO
Project 1.3.3a	Workshop on spatial closures for dugong and turtle management	Prof Helene Marsh, JCU
Project 1.3.3b	Understanding and strengthening effective coral reef management: a map and compass to guide strategic change	Ms Heidi Schuttenberg, JCU
Project 1.3.4	Communication, community engagement and enhanced delivery	Mr Vic McGrath, TSRA
Project 1.3.5	Data integration and synthesis for development of reports on ecosystem health in the Torres Strait region	Dr James Butler, CSIRO
Program 4: Species and Communities of Conservation Concern		**Prof Helene Marsh, JCU**
Project 1.4.1	Condition trends and projected futures of marine species of conservation concern	Dr Mark Hamann, JCU
Project 1.4.1s	Ecological and trophic relationships within Wet Tropics freshwater turtle communities and their sensitivity to climate change and habitat alteration	Dr Mark Hamann, JCU
Project 1.4.2	Sustainable use of marine species of conservation concern	Prof Helene Marsh, JCU
Project 1.4.3	Rainforest threatened species and communities and ecosystem processes	Dr Dan Metcalfe, CSIRO

Snapshot

Use of acoustic alarms on gill-nets is unlikely to decrease the risk of dolphin bycatch (Project 1.4.2)

Queensland waters support internationally significant populations of two little-known coastal dolphin species: the Indo-Pacific humpback dolphin and the Australian snubfin dolphin. Little is known of these populations, although it is known that a commercial fishing method called gill-netting is a significant threat to coastal dolphins throughout their range. Two mechanisms for ameliorating this threat are proposed in Queensland: (1) employing acoustic alarms (pingers) to reduce bycatch in gill-nets; and (2) equipping gill-net fishers with devices to detect dolphin sounds so that the fishers can change their behaviour in the presence of dolphins. A MTSRF research project at JCU is studying the behaviour of the dolphins in areas with and without pingers to evaluate the likely success of these approaches. Preliminary results using innovative video and acoustic technology indicate that the use of pingers is unlikely to consistently deter humpback dolphins from approaching gill-nets. The second proposed mechanism - equipping fishers with devices to detect dolphin sounds to warn them when to change their netting behaviour – may not always work either, as it has been found that humpback dolphins are silent for about 25% of the time during the day.

Project 1.4.3a*	Identification and impact of invasive pests in Wet Tropics rainforests	Dr Dan Metcalfe, CSIRO



Theme 2: RISKS AND THREATS TO THE ECOSYSTEMS

Program 5: Climate Change: Understanding the Threat, Ecosystem Impacts and Mitigation **Program 5i: Climate Change: Great Barrier Reef**		**Dr Julian Caley, AIMS**
Project 2.5i.1	Hydrodynamics at the whole-of-GBR scale	Dr Richard Brinkman, AIMS
Project 2.5i.1a	3D-GBR: A high-resolution depth model for the GBR and Coral Sea	Dr Robin Beaman, JCU
Project 2.5i.2	Early warning and assessment system for thermal stress on the GBR	Prof Ove Hoegh-Guldberg, UQ
Project 2.5i.2b*	The Implementation of Kd[par], the attentuation of photosynthetically available radiation, to the GBR ecosystem	Dr Scarla Weeks, UQ
Project 2.5i.2c*	A genetic method to assess bleaching tolerance in corals	Dr Madeleine van Oppen, AIMS & Dr Petra Souter, AIMS
Project 2.5i.2d*	Vulnerability of high trophic levels on the GBR (eg sea birds) to climate change	Dr Brad Congdon, JCU
Project 2.5i.2s	Climate change and satellite oceanography of the GBR	Dr Scarla Weeks, UQ
Project 2.5i.3	Resilience to climate change	Prof Terry Hughes, JCU & Dr Julian Caley, AIMS
Project 2.5i.3s	Assessment of ecological connectivity in corals: Implications for their recovery from major perturbations and their potential to adapt to climate change	Dr Madeleine van Oppen, AIMS & Dr Bette Willis, JCU
Project 2.5i.4	Tools to support resilience-based management in the face of climate change	Dr Scott Wooldridge, AIMS

Snapshot

The Great Barrier Reef will bleach more frequently in future (Project 2.5i.4)

Encouraging scientific evidence generated within the MTSRF by AIMS researchers strongly suggests that there has been an increase in thermal tolerance of many reefs after (and possibly due to) the 2002 mass bleaching event on the GBR. Nonetheless, predictive modelling indicates that the GBR will bleach more frequently in future as the climate changes. The central-southern part of the GBR appears to be at greatest risk of future coral bleaching events, and by 2050, the predicted frequency of catastrophic damage (>50% coral mortality) is roughly once every five years. Reefs in this area are likely to suffer earliest and be the most degraded by climate change-related bleaching. In addition, MTSRF researchers from AIMS have demonstrated that reefs commonly exposed to terrestrial runoff (i.e. coastal and inshore reefs) are two to four times more sensitive to bleaching due to temperature stress than those that are not subjected to runoff. The management implications are clear: changes in land management strategies leading to improvements in runoff water quality would directly benefit the resilience of these reefs to bleaching.

Program 5ii: Climate Change: Rainforests and Catchments		Prof Steve Turton, JCU
Project 2.5ii.1	Regional climate projections for tropical rainforests	Dr Ramasamy Suppiah, CSIRO

Snapshot

Climate change forecast for north Queensland (Project 2.5ii.1)

In collaboration with CSIRO, the MTSRF has developed climate change projections specifically for north Queensland, using the most up-to-date probabilistic modelling techniques available. By 2030, the regional annual average temperature increase will be 0.8ºC (with an uncertainty range of 0.6 to 1.1ºC). The rate of temperature increase after that will depend on the global carbon emissions scenario – high emissions will mean that the temperature increases faster. Dry seasons will generally become significantly drier, while wet seasons may become slightly wetter, especially by 2070. Cyclones will be more frequent and more intense, and the geographic range of cyclonic activity will shift over time, reaching ~300 km south of its present location by 2070. Sea levels will rise 13-20 cm (above 1990 levels) by 2030, potentially increasing to 49-89 cm by 2070, even under a low emissions scenario. The combination of higher sea levels, greater storm surges, and a likely increase in the variability and intensity of rainfall means that the potential for flooding and cyclone-related damage in coastal areas of north Queensland will be markedly increased.

Project 2.5ii.2	Climate change: scaling from trees to ecosystems	Dr Michael Liddell, JCU
Project 2.5ii.3	Understanding climate change threat to ecosystems and ecological processes	Dr David Hilbert, CSIRO

Snapshot

Sinks becoming sources: significant shifts in Wet Tropics rainforest productivity expected due to climate change (Projects 2.5ii.3 and 2.5ii.4)

While rainforests are traditionally viewed as major carbon sinks, few quantitative estimates of their primary productivity (≈rates of carbon fixation) have been made. In addition, there has been controversy about the ability of rainforests to continue to act as carbon sinks as the climate changes. In response to these information needs, MTSRF researchers from CSIRO and JCU have recently made important contributions to our understanding of primary productivity for Wet Tropics rainforests. Preliminary results suggest that significant shifts in productivity are to be expected with climate change, across both altitudinal and latitudinal ranges. The first is directly related to the amount of rainfall and cloud cover, causing mountaintop forests to increase their productivity in the short term due to improved light interception and reduced water saturation; the latter is related to seasonality, with southern areas experiencing lower rainfall and a longer dry season, thereby reducing overall productivity in those areas. Persuasive evidence from long-term monitoring of fixed rainforest plots suggests that while tree turnover rates and growth rates will increase with increasing temperature, the capacity for long-term storage of carbon as biomass will be reduced. This indicates that climate change may cause even rainforests that are protected from other disturbances to become net sources of carbon to the atmosphere, rather than sinks. The relationships between Wet Tropics primary productivity and biodiversity, and how these might be affected by climate change, are currently under investigation.

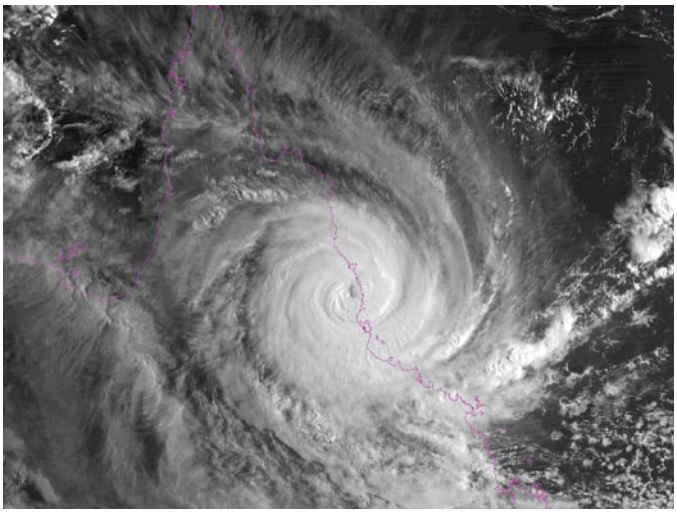
Project 2.5ii.4	Impacts of climate change on biodiversity	A/Prof Steve Williams, JCU

Snapshot

Identification of climate refuges for species with high extinction risk (Project 2.5ii.4)

Biodiverse ecosystems are resilient ecosystems. Maintaining biodiversity – reducing extinction risk – is therefore an essential component of managing ecosystems for resilience to disturbances, such as climate change. This MTSRF project, based at JCU, is investigating how climate change will increase the risk of extinction for north Queensland rainforest animals. Preliminary results strongly suggest that these species will retreat to higher altitudes as temperatures increase. As a consequence, there is considerable cause for concern for species that currently occupy the highest elevations – such as the Atherton Scrub Wren and the Beautiful Nursery Frog – because there is no opportunity for them to escape to cooler altitudes as temperatures increase. This research has demonstrated that endemic species such as these are at much greater risk of extinction than more wide-ranging, non-endemic species. A multidisciplinary research program is now working to identify vulnerable species and the location of potential climate refuges for these species. Understanding of the extinction risk factors for each species will enable prioritisation of management responses as the climate changes. Once identified, active protection of climate refuges will enable them to act as islands of rainforest biodiversity, help to reduce the rate of species extinctions and foster ecosystem resilience to climate change in the Wet Tropics.

Project 2.5ii.4s1	Conservation of the northern bettong, a rare and threatened endemic macropod species of the Wet Tropics: limits to current distribution and a mechanistic model for predicting effects of climate change	A/Prof Steve Williams, JCU
Project 2.5ii.4s2	Biodiversity of dung beetles in the Wet Tropics biogeographic region: assessing the impacts of climate change on an important functional group	A/Prof Steve Williams, JCU



Program 6: Understanding Threats and Impacts of Invasive Pests on Ecosystems		Prof David Blair, JCU & Dr David Westcott, CSIRO
Project 2.6.1	Understanding threats and impacts of invasive pests in the Great Barrier Reef	Prof David Blair, JCU

Snapshot

Human health consequences of climate change impacts on dinoflagellate–macroalgal associations (Project 2.6.1)

Increasing numbers of cases of ciguatera, also known as tropical reef-fish poisoning, are probably occurring in subtropical regions. Ciguatera is associated with bioaccumulation of dinoflagellate-derived toxins in predatory reef fish. However, surprisingly little is known of the ecological/trophic pathways resulting in human poisoning and how climate change might alter these relationships. Members of the relevant dinoflagellate species complex have broad ecological tolerance and are often associated with macroalgae, which tend to dominate unhealthy reefs. MTSRF researchers from JCU have theorised that these characteristics, in combination with climate change, could lead to an increase in the geographic range within which humans could suffer ciguatera poisoning. This research team is now working to develop novel molecular identification tools to improve understanding of current patterns of dinoflagellate distributions throughout the Great Barrier Reef area, which will be a major step towards future preventative management strategies for the region.

Project 2.6.2	Identification and impact of invasive pests in the Wet Tropics rainforests	Dr David Westcott, CSIRO

Snapshot

Promoting rainforest resilience by controlling invasive pests (Project 2.6.2)

Many rainforests in the Wet Tropics have been fragmented by human activities, and this substantially increases their vulnerability to degradation. Maintenance of native plant biodiversity within fragments is an important component of managing these ecosystems for resilience. This MTSRF research project, based at CSIRO, has found that the presence of invasive pests is often associated with a decline in the abundance of rare native species or rare native functional groups in tropical forest remnants, which, in turn, significantly impairs ecosystem resilience over long time frames. Control of invasive pests in remnant rainforest areas must therefore be a priority if these remaining fragments are to be resilient to disturbances such as climate change.

Project 2.6.2s	Applying indigenous ecological knowledge to the control of invasive fish: a feasibility study for the Wet Tropics	Dr James Butler, CSIRO

Theme 3: HALTING AND REVERSING THE DECLINE OF WATER QUALITY

Program 7: Halting and Reversing the Decline of Water Quality		Dr K. Fabricius, AIMS; Prof R. Pearson, JCU; Prof I. Gordon, CSIRO
Project 3.7.1	Marine and estuarine indicators and thresholds of concern	Dr Katharina Fabricius, AIMS
Project 3.7.1a*	Understanding the thresholds and interactive effects between pesticides, water quality and climate change on tropical marine species	Dr Andrew Negri, AIMS
Project 3.7.1b*	Inshore coral reef monitoring: Reef Rescue Marine Monitoring Program	Dr Michelle Devlin, JCU, Dr Arnold Dekker, CSIRO & Prof Jochen Mueller, UQ

Snapshot

Detection of herbicide residues in the lagoon of the Great Barrier Reef (Projects 3.7.1 and 3.7.2)

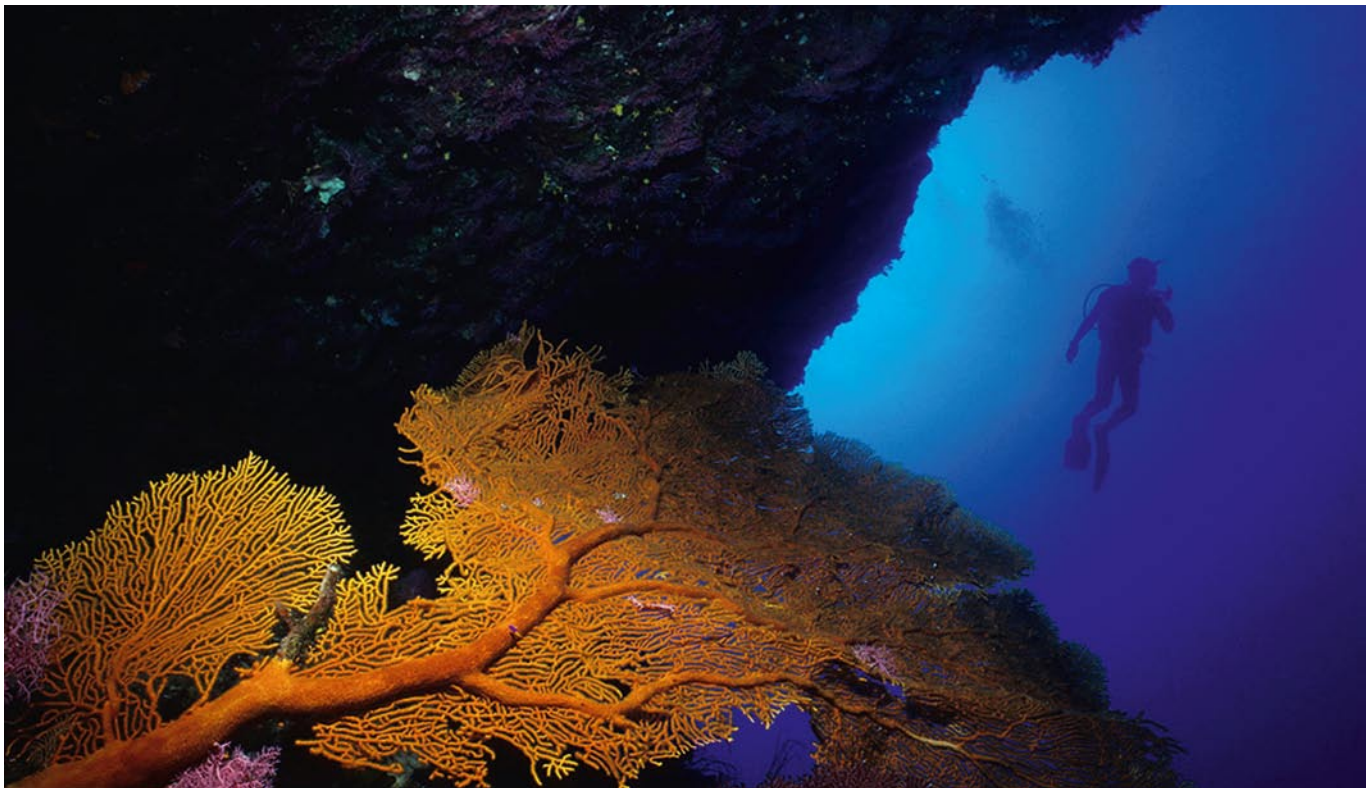
The herbicide residues atrazine and diuron have been identified in water samples taken from flood plumes in the GBR lagoon, at concentrations that are known to have negative effects on seagrass and corals. These herbicide residues persist in the lagoon at low concentrations even in non-flooding seasons. The possible effects of some of the commonly found herbicides on reef organisms are being investigated through MTSRF Project 3.7.1. An additional project will be initiated in 2008-09, co-funded through the GBRMPA, to investigate the combined effects of thermal and herbicide stress on symbionts of corals and foraminifera.

Project 3.7.1s	Understanding interactive effects between pesticides and climate change on symbiont bearing and calcifying marine species	Prof Jochen Mueller, UQ
Project 3.7.2	Connectivity and risk: tracing materials from the upper catchment to the reef	Mr Jon Brodie, JCU
Project 3.7.2b*	Assessment of terrestrial runoff entering the GBR lagoon: Reef Rescue Marine Monitoring Program	Mr Jon Brodie, JCU
Project 3.7.3	Freshwater indicators and thresholds of concern	Prof Richard Pearson, JCU & Prof Angela Arthington, GU
Project 3.7.3s2	Validating freshwater fish indicators and thresholds of concern in the Wet Tropics streams	Prof Richard Pearson, JCU

Snapshot

Increased understanding of processes fundamental to wetlands health and flood plume water quality (Projects 3.7.3 and 3.7.4)

The loss of functional wetlands throughout north Queensland due to urban and agricultural expansion may have contributed to significantly greater quantities of sediment, nutrients and pollutants being delivered to the GBR lagoon than previously estimated during floods. Collaborative MTSRF research between JCU and CSIRO in the Tully-Murray catchment is investigating the hydrological connectivity between wetlands and their ecological condition. Of particular note are concentrations of dissolved organic nitrogen (DON), which occur in floodwaters at nearly twice the concentrations found in normal riverine water. Riverine waters tend to contain more dissolved inorganic nitrogen (DIN) than DON, but pulses of either may affect marine water quality. The management responses to try to limit transfer of DIN and DON downstream will therefore differ: minimisation of DIN requires changes to agriculture practices, while minimisation of DON requires off-farm actions to slow flow and reduce the rate of runoff.



Project 3.7.4	Wetlands and floodplains: connectivity and hydro-ecological function	Prof Jim Wallace, CSIRO
Project 3.7.5 & 3.7.6	Socio-economic constraints to and incentives for the adoption of land use and management options for water quality improvement	Dr Martijn van Grieken, CSIRO

Snapshot

Costs and benefits of changes in land use practices (Projects 3.7.5 and 3.7.6)

North Queensland's economy is highly dependent on the ability of the region's interconnected ecosystems to continue to supply goods and services to the primary production, fishing and tourism industries. For example, improvements in the quality of water running off the land are expected to lead directly to improvements in the resilience of the inner and middle shelf areas of the GBR to climate change. Socio-economic constraints to and incentives for the adoption of land use and management options for water quality improvement are being investigated by MTSRF researchers from CSIRO using environmental economics models. Effectively, this enables modelling of the effects of different management scenarios on profitability, costs and environmental outcomes. Early model results indicate that tillage management and fallow management practices would not increase the cost of production of sugarcane, but would be significantly better for the environment than current practices. Modelling of the likely social, economic and environmental outcomes of potential shifts in management strategies is likely to improve understanding of the potential costs and benefits, as well as their eventual on-ground effectiveness.

Project 3.7.7	Analysis and synthesis of information for reporting credible estimates of loads for compliance against targets and tracking trends in loads	Dr Petra Kuhnert, CSIRO
Project 3.7.8*	Inshore marine water quality monitoring: Reef Rescue Marine Monitoring Program	Prof Jochen Mueller, UQ

Theme 4: SUSTAINABLE USE AND MANAGEMENT

Program 8: Sustainable Use and Management of Marine Resources of the Great Barrier Reef		Dr Colin Simpfendorfer, JCU
Project 4.8.1	Resilience and connectivity	Prof Terry Hughes, JCU
Project 4.8.2	Influence of the GBR Zoning Plan on inshore habitats and biodiversity, of which fish and corals are indicators	Dr Peter Doherty, AIMS & Prof Garry Russ, JCU
Project 4.8.3	Evaluation of the resiliency of key inter-reefal fish species	Dr Colin Simpfendorfer, JCU
Project 4.8.4	Evaluation of the impacts from industry and community uses on inshore biodiversity	Dr Andrew Tobin, JCU
Project 4.8.4s	Importance of blacktip reef sharks on inshore reefs of the GBR World Heritage Area	Dr Colin Simpfendorfer, JCU

Snapshot

Investigating shark fisheries in the waters of the Great Barrier Reef (Project 4.8.4)

There is increasing worldwide concern about the vulnerability of shark populations to fishing pressure, with marked declines in reef shark numbers recently reported from the waters of the GBR. Now a MTSRF research project based at JCU has found that inshore fisheries of the GBR are catching a wide range of shark species, with blacktip, spot-tail, scalloped hammerhead, milk and whitecheek sharks dominating commercial fisherman's catches. Recreational fishers also catch significant numbers of sharks, but the vast majority of these are released alive. While most of these sharks captured by commercial and recreational fishers are considered less vulnerable to fishing pressures than reef sharks, research is continuing into these species' demography and life history characteristics to determine the level of risk faced by each of the species. The outcomes of this research have already been utilised in the development of new shark fishery management arrangements proposed for Queensland's east coast.

Project 4.8.5	Incorporating stakeholders and their values, knowledge and aspirations in the care and development of the GBRMP	Dr Stephen Sutton, JCU

Snapshot

Recreational fishers support the 2004 rezoning of the Great Barrier Reef Marine Park (Project 4.8.5)

The rezoning of the GBRMP in 2004 was controversial amongst some sectors of the community. The attitudes and perceptions of recreational fishers to the 2004 rezoning plan were investigated by MTSRF researchers from JCU, with the aim of obtaining an objective assessment of the success of the rezoning and consultation processes. Encouragingly, most recreational fishers said they thought that the rezoning had been a good idea, with almost 60% supporting the actual zoning plan that was implemented in 2004. However, the majority felt that recreational fishers were not fairly treated compared to other groups during the rezoning process, and a third of those surveyed felt that the concerns of recreational fishers hadn't been taken seriously. While the majority of recreational fishers agreed that the 2004 rezoning plan would help ensure the future sustainability of fisheries and marine biodiversity for the marine park, this research highlights the importance of maintaining a strong and productive relationship between resource managers and the recreational fishing community.

Project 4.8.5s	Valuation of ecosystem services provided by coastal wetlands for fisheries	Dr Stephen Sutton, JCU
Project 4.8.6	Analysis of recreational and tourism use and impact on the GBR for managing sustainable tourism	Prof Bruce Prideaux, JCU
Project 4.8.6s	Conservation outreach and the GBR: A critical survey or perceptions, and a review and analysis of current communication initiatives to minimise the effects of climate change on the GBR	Dr Margaret Gooch, JCU
Project 4.8.7	Forecasting risk of exposure to irukandji	Prof Michael Kingsford, JCU
Program 9: Sustainable Use, Planning and Management of Tropical Rainforest Landscapes		**Prof Steve Turton, JCU**
Project 4.9.1	Indigenous landscapes of the Wet Tropics World Heritage Area	Prof Steve Turton, JCU
Project 4.9.2	Sustainable nature based tourism: planning and management	Prof Bruce Prideaux, JCU
Project 4.9.2a*	Sustainable nature based tourism in the Port Douglas and Daintree area: Planning and management	Prof Bruce Prideaux, JCU
Project 4.9.3	Impacts of urbanisation on north Queensland environments: management and remediation	Prof Steve Turton, JCU
Project 4.9.4	Integrating ecology, economics and people in forest and landscapes	Dr Nick Emtage, UQ & A/Prof John Herbohn, UQ
Project 4.9.5	Restoring tropical forest landscapes	A/Prof Carla Catterall, GU
Project 4.9.6	Strategic natural resource management and land use planning	Dr Cathy Robinson, CSIRO
Project 4.9.7a	Understanding social resilience and identification of social resilience indicators for management: GBR catchments scale social resilience	Dr Tim Lynam, CSIRO
Project 4.9.7b	Understanding social resilience and identification of social resilience indicators for management: Regional scale social resilience	Prof Helen Ross, UQ
Project 4.9.7c	Understanding social resilience and identification of social resilience indicators for management: Community scale social resilience	Dr Margaret Gooch, JCU

Theme 5: ENHANCING DELIVERY

Program 10: Enhancing Delivery		Dr Suzanne Long, RRRC
Project 5.10	Enhancing delivery for the MTSRF	Dr Suzanne Long, RRRC
Project 5.10.1	Communication tools for MTSRF Projects	Dr Suzanne Long, RRRC
Project 5.10.2	Communication, engagement and enhanced delivery for tourism operators in the Wet Tropics rainforests	Ms Annie Riddet, TTNQ
Project 5.10.3	Communication, community engagement and enhanced delivery for Indigenous knowledge of the MTSRF region	Ms Jean Fenton & Melissa George, GFC
Project 5.10.3a	Communication, community engagement and enhanced delivery for Indigenous communities	Mr Phil Rist, GAC
Project 5.10.5	Program management and information synthesis: Reef Rescue Marine Monitoring Program	Sheriden Morris, RRRC

Snapshot

Theme 5: MTSRF making a difference for north Queensland

In order for the MTSRF to achieve its goals, a major focus must be on enhancing delivery of scientific information such that end users incorporate it into increasingly sustainable management, policy and practice. The RRRC is responsible for Theme 5 of the MTSRF, and in this knowledge broker role is charged with synthesising, packaging and delivering strategic scientific information to targeted end users. The diverse activities conducted under Theme 5 have the following broad objectives: (a) to facilitate increasingly sustainable management of the environmental assets of north Queensland, by enhancing delivery of the MTSRF's solution science to end users; (b) to facilitate cooperation and collaboration both within the MTSRF and between the MTSRF, other research providers, and end users, such that the capacity for sustainable, informed management of the region is enhanced; and (c) to raise awareness and demonstrate the value of publicly-funded, public-good research (such as the MTSRF) to the community at large.

Abbreviations

*	external project linked to the MTSRF
AIMS	Australian Institute of Marine Science
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEEDI	Queensland Department of Employment, Economic Development and Innovation
DEWHA	Department of Environment, Water, Heritage and the Arts
GAC	Girringun Aboriginal Corporation
GBR	Great Barrier Reef
GBRMP	Great Barrier Reef Marine Park
GBRMPA	Great Barrier Reef Marine Park Authority
GFC	George Fenton Consulting
GU	Griffith University
JCU	James Cook University
MTSRF	Marine and Tropical Sciences Research Facility
RRRC	Reef and Rainforest Research Centre
s	student project
TSRA	Torres Strait Regional Authority
TTNQ	Tourism Tropical North Queensland
UniMelb	University of Melbourne
UNSW	University of New South Wales
UQ	University of Queensland

How to engage with the MTSRF

As a publicly-funded body, the MTSRF has a responsibility to the community to ensure that the results of research projects are widely available. Your first port of call should be the MTSRF website (www.rrrc.org.au/MTSRF), which provides access to an enormous range of technical, interpreted and media-ready information, covering the full spectrum of MTSRF research. For further information or to discuss future engagement opportunities, please contact the MTSRF via the Reef and Rainforest Research Centre, in either the Cairns or Townsville offices.

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www.rrrc.org.au/MTSRF

For more information about the CERF program,
please contact DEWHA at cerf@environment.gov.au
www.environment.gov.au/programs/cerf/index.html

Reef & Rainforest
RESEARCH CENTRE

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