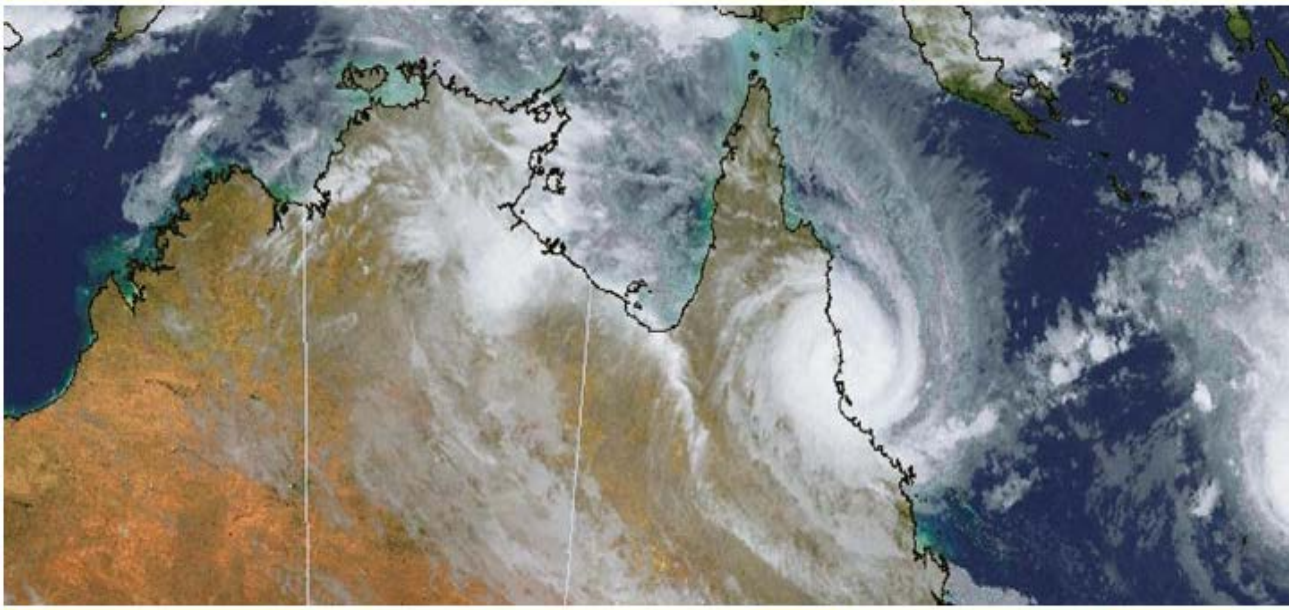

Local Disaster Management Plan

CAIRNS REGION

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Local Disaster Management Plan - Cairns Region

Foreword from the Mayor, Cairns Regional Council

Cairns Regional Council has an active Disaster Management philosophy which embraces mitigation, prevention, preparedness, response and recovery strategies.

Three key principles of disaster management are coordination, collaboration and consultation. Effective management of any disaster relies on strong co-ordination arrangements, consultative decision making, collaboration and shared responsibility achieved through supporting relationships, trust and teamwork between individuals, agencies and the community.

The Local Disaster Management Group - Cairns Region aims to provide the Cairns Regional community with the tools to ensure a full and effective response, recovery and speedy return to a safe and secure environment for all residents as soon after a disaster as possible.

As a community we need to “Get Ready Cairns” for disaster events such as cyclone, storm tide inundation, wildfire and flooding; whether as an individual, a business, a Council or one of the emergency services we should all have our plans in place to enhance our resilience to the impact of these threats and ensure the safety or our community.

_____

Councillor Bob Manning
Mayor
Cairns Regional Council
Dated:

Local Disaster Management Plan - Cairns Region

Foreword from the Chair of the LDMG-CR

This document has been developed by the Local Disaster Management Group – Cairns Region (LDMG-CR) on behalf of the Cairns Regional Council, and approved by Council Resolution. The Cairns Region can be subject to disaster incidents or events with little or no warning caused by a number of hazards. These incidents and events can cause disruption and damage to the regions communities. In order to mitigate and respond to these events the LDMG-CR has developed this Local Disaster Management Plan (LDMP). The LDMP describes the arrangements required under the Disaster Management Act 2003, outlining the disaster management system and specifying agreed roles and responsibilities. It also describes how the disaster management system works during an event.

The focus of the document is on using an 'all-hazards' functional approach, minimising impacts on disaster-affected communities, by ensuring a coordinated effort by all levels of government and non-government entities with responsibilities or capabilities in comprehensive disaster management.

This plan sets arrangements for the collation and application of resources in times of disasters so as to minimize the impact upon the Cairns regional communities by;

- Providing a clear plan for the mitigation of nominated events and/or situations so as to possibly eliminate or reduce the impact of disaster upon the Community;
- Providing a clear assessment of the Cairns Region communities;
- Providing a clear description of the risks potentially faced by the Cairns Region Communities; and
- Providing a clear description of risk treatment that will be enacted at the time of a disaster to minimise its impact

Through comprehensive planning and preparation strategies accompanied by managing effective response and recovery, the LDMG-CR is able to minimise the adverse effects (both economic and social) that a disaster event has on the region.

_____

Councillor Steve Brain
Chairperson
Local Disaster Management Group – Cairns Region
Dated:

Endorsements

This plan is recommended for distribution by the Local Disaster Management Group - Cairns Region

_____

Mr Ian Fell
Local Disaster Coordinator
Cairns Local Disaster Management Group
Dated:

This plan is approved and recommended for distribution by the Local Disaster management Group – Cairns Region

_____

Councillor Steve Brain
Chair
Cairns Local Disaster Management Group
Dated:

Endorsed by Cairns Regional Council

_____

Councillor Bob Manning
Mayor
Cairns Regional Council
Dated:

Endorsed by the District Disaster Management Group

_____

Chief Superintendent Brett Schafferius
District Disaster Coordinator
Cairns District Disaster Management Group
Dated:

Contents

Approval of Local Disaster Management Plan

This plan has been produced by and with the authority of Cairns Regional Council pursuant to *Section 57* and *58 Disaster Management Act 2003*.

The Cairns Regional Council accepts its roles and responsibilities as described in the *Disaster Management Act 2003*.

This plan is the result of the co-operative efforts of the Local Disaster Management Group - Cairns Region after consultation with those agencies and organisations identified therein. This plan will be reviewed in accordance with *Section 59 Disaster Management Act 2003.*

Cairns Regional Council has adopted this plan by resolution at Ordinary Meeting of Council in accordance with *Section 80(1)(b) Disaster Management Act 2003 (QLD).*

Cr Steve Brain
Chairperson LDMG-CR _____

Peter Tabulo
Chief Executive Officer
Cairns Regional Council _____

Cr Bob Manning
Mayor
Cairns Regional Council _____

Ian Fell
Local Disaster Coordinator
LDMG-CR _____

Brett Schefferius
District Disaster Coordinator
Cairns District Disaster Management Group _____

Amendment Register and Version Control

This document is a controlled document and is not to be altered, amended or changed in any way other than those amendments issued by the Local Disaster Management Group - Cairns Region. From this, the plan is intended to be a "live" document, open to suggested amendments.

Plans will be amended as follows:

- Proposals for amendment to this plan should be made in writing to:

  The Local Disaster Coordinator
  Local Disaster Management Group - Cairns Region
  PO Box 359
  CAIRNS QLD 4870

- With the exception of minor changes, typographical changes and changes to position titles, all suggestions for amendments to the plan will be submitted to the LDMG-CR for discussion.

- If not supported, a written response will be provided to the submitter.

- When necessary, amendments to the plan will be ratified by Council.

Amendment Register

Version	Date	Prepared by	Comments
1	March 2007	Disaster Management Unit	Cairns Local Disaster Management Plan (LDMP) - first version under the DM Act 2003
1	2007	Douglas Shire Council	Douglas Local Disaster Management Plan – first version under the DM Act 2003
2	December 2008	CT Management Group (Qld)	Revised Plan to reflect Cairns Regional Council area
3	August 2011	C. Fitzgerald - DMU	Revised Plan incorporating revised Interim Local Disaster Management Planning Guidelines 2011 and Disaster Management Act Amendments 2010
4	September 2013	I. Fell – DMU	Revised Plan incorporating Local Disaster Management Planning Guidelines 2012 and LDMP Assessment 2012
5	November 2014	I. Fell – DMU	Revised Plan post de-amalgamation with Douglas Shire Council and inclusion of Cairns Region Natural Hazards Risk Assessment (AECOM 2014)

Distribution List

Distribution of this plan is controlled by maintaining two (2) versions of each document – one (1) containing personal details and one (1) where the personal details have been removed. The Local Disaster Management Group – Cairns Region complies with the Information Privacy Act 2009 by allowing only the version, which excludes personal details, to be made available to the public.

This plan has been distributed in accordance with the distribution list below;

Controlled Copies of Main Plan and *all* Operational Plans	
Organisation	**Controlled Copy #**
Cairns Regional Council ▪ Chairperson LDMG-CR ▪ Deputy Chairperson LDMG-CR ▪ LDC LDMG-CR ▪ Deputy LDC LDMG-CR ▪ Chief Executive Officer ▪ Disaster Management Operations Officer ▪ Community Support Coordinator LDMG-CR ▪ Principal Environmental Health Officer ▪ Manager Infrastructure Management ▪ Manager Corporate Communications ▪ General Manager Cairns Water ▪ General Manager Works & Services ▪ Disaster Management Unit (2 spare copies)	 **1** **2** **3** **4** **5** **6** **7** **8** **9** **10** **11** **12** **13 & 14**
Cairns Airport ▪ LDMG-CR Representative	**15**
Cairns Ports (Seaport) ▪ LDMG-CR Representative	**16**
Ergon Energy ▪ LDMG-CR Representative	**18**
Queensland Ambulance Service ▪ LDMG-CR Representative	**19**
Queensland Fire & Emergency Services ▪ LDMG-CR Representative	**20**
Queensland Health, Cairns & Hinterland Health Service District (Cairns Base Hospital) ▪ LDMG-CR Representative	**21**
Queensland Police Service ▪ Cairns District Disaster Coordinator ▪ LDMG-CR Representative	 **22** **23**
State Emergency Service ▪ LDMG-CR Representative	**24**
Copies of Main Plan and Relevant Operational Plans	
Organisation	**No. of Copies**
Air ervices Australia – Aviation Rescue & Fire Fighting	1
Australian Defence Force (JOSS)	1
Australian Red Cross	1

Bureau of Meteorology, Cairns	1
Cairns Chamber of Commerce	1
Cairns Private Hospital	1

Definitions

Alert
A heightened level of vigilance due to the possibility of an event in the area of responsibility. No action is required however the situation should be monitored by someone capable of assessing the potential of the threat.

All Hazards Approach
This approach recognises that although counter measures will often vary with specific hazards, it is desirable to establish a single set of management arrangements capable of encompassing all hazards.

Chair
The person appointed by the local government as the Chair of the Local Disaster Management Group

Command
The direction of personnel and resources from a single agency in the performance of its allotted task.

Community
A group of people with a commonality of association and generally defined by location, shared experience, or function *(Australian Emergency Management Glossary, 1998).*

Community Resilience
The adaptive capacity of its members to respond to and influence the consequences of disasters to continue an acceptable level in functioning and structure. (Adapted from the *United Nations International Strategy for Disaster Reduction; 2002* and *The Community Resilience Manual,* 2000*)*.

Coordination
The bringing together of organisations to ensure effective disaster management before, during and after an event. It is primarily concerned with systematic acquisition and application of resources (people, material, equipment, etc.) in accordance with priorities set by disaster management groups. Coordination operations horizontally across organisations and agencies.

Coordination Centre
A centre established at State, district or local level as a centre of communication and coordination during times of disaster operations.

Consequence
The outcome of an event or situation expressed qualitatively or quantitatively, being a loss, injury, disadvantage, or gain *(Australian Emergency Management Glossary, 1998).*

Declaration of Disaster Situation

A District Disaster Coordinator for a Disaster District may, with the approval of the Minister, declare a Disaster Situation for the District or part of it, if satisfied of a number of conditions as set out in *Part 4 – Provisions for Declaration of a Disaster Situation - Sect 64 Declaration (Disaster Management Act 2003).*

Deputy Chair
The person appointed by the local government as the Deputy Chair of the Local Disaster Management Group.

D**isaster**
A serious disruption in a community, caused by the impact of an event, that requires a significant coordinated response by the State and other entities to help the community recover from the disruption *(Disaster Management Act 2003, S13(1)).*

Disaster District
Part of the state prescribed under a regulation as a disaster district

Disaster Management
Arrangements to manage the potential adverse effects of an event, including, for example, arrangements for mitigating, preventing, preparing for, responding to and recovering from a disaster *(Disaster Management Act 2003, S14).*

Disaster Management Functions
The services essential to managing the impacts and consequences of an event.

Disaster Mitigation
The taking of preventative measures to reduce the likelihood of an event occurring or, if an event occurs, to reduce the severity of the event. *(Disaster Management Act 2003).*

Disaster Operations
Activities undertaken before, during or after an event happens to help reduce loss of human life, illness or injury to humans, property loss or damage, or damage to the environment, including, for example, activities to mitigate the adverse effects of the event *(Disaster Management Act 2003, S15).*

Disaster Preparedness
The taking of preparatory measures to ensure that, in an event occurs, communities, resources and services are able to cope with the effects of the event. *(Disaster Management Act 2003).*

Disaster Research
May be broadly understood as a systematic inquiry, before and after a disaster, into a relevant disaster management problem *(COAG, Natural Disasters in Australia: Reforming mitigation, relief and recovery arrangements: 2002)*

Disaster Response
The taking of appropriate measures to respond to an event, including action taken and measures planned in anticipation of, during, and immediately after an event to ensure that its effects are minimised and that persons affected by the event are given immediate relief and support. *(Disaster Management Act 2003).*

Disaster Response Capability
The ability to use Local Government resources, to effectively deal with, or help another entity to deal with, within the capacity of the Local Government and their resources an emergency situation or a disaster in the local government's area *(Disaster Management Act 2003, S80(2)).*

Disaster Response Operations
The phase of disaster operations that relates to responding to a disaster. *(Disaster Management Act 2003).*

Disaster Recovery
The taking of appropriate measures to recovery from an event, including action taken to support disaster affected communities in the reconstruction of infrastructure, the restoration of emotional, social, economic and physical wellbeing, and the restoration of the environment*. (Disaster Management Act 2003)*

Disaster Recovery Operations
The phase of disaster operations that relates to recovering from a disaster. (*Disaster Management Act 2003).*

Disaster Relief
The provision of immediate shelter, life support and human needs of persons affected by, or responding to, an emergency**. (***COAG, Natural Disasters in Australia: Reforming Mitigation, relief and recovery arrangements: 2002).*

Disaster Risk Assessment
The process used to determine risk management priorities by evaluating and comparing the level of risk against predetermined standards, target risk levels or other criteria. *(COAG, Natural Disasters in Australia: Reforming mitigation, relief and recovery arrangements: 2002).* Incorporates the process of risk identification, risk analysis and risk evaluation. *(ISO Guide 73:2009 Risk management – Vocabulary).*

District Disaster Coordinator (DDC)
The role of the DDC in addition to other duties is the responsibility for coordinating operations in the Disaster District for the District Disaster Management Group.

District Disaster Management Group (DDMG)
The group established under the Disaster Management Act 2003 to provide coordinated State government support and resources to Local Disaster Management Groups

District Disaster Management Plan (DDMP)
A plan prepared under the Disaster Management Act 2003 that documents planning and resource management to counter the effects of a disaster within the disaster district.

Event
An event means any of the following:

- A cyclone, earthquake, flood, storm, storm tide, tornado, tsunami, volcanic eruption or other natural happening;
- Bushfire, an explosion or fire, a chemical, fuel or oil spill, or a gas leak;
- An infestation, plague, or epidemic;
- An attack against the State; or
- Another event similar to the above events.

An event may be natural or caused by human acts or omissions *(Disaster Management Act 2003, S16(1)&(2)).*

Executive Officer DDMG
A person appointed to the position of Executive Officer to the District Disaster Management Group by the Commissioner, Queensland Police Service

Executive Team
The Chair, Deputy Chair and Local Disaster Coordinator of a local group. (*Disaster Management Act 2003*).

Functional Lead Agency
An agency allocated responsibility to prepare for and provide a disaster management function and lead relevant organisations that provide a supporting role.

Guidelines
Guidelines are developed under s63 of the Disaster Management Act 2003 to inform the SDMG, DDMGs and local governments about the preparation of disaster management plans, matters to be included in disaster management plans and other appropriate matters about the operation of a DDMG or LDMG.

Hazard
A source of potential harm, or a situation with a potential to cause loss *(Emergency Management Australia 2004).*

Lean Forward
An operational state prior to 'stand up' characterised by a heightened level of situational awareness of a disaster event (either current or impending and a state of operational readiness. Disaster coordination centres are on standby; prepared but not activated.

Local Disaster Coordinator
A person appointed under the *Disaster Management Act 2003* who is responsible for the coordination of disaster operations for the Local Disaster Management Group.

Local Disaster Management Group (LDMG)
The group established under the Disaster Management Act 2003 to manage disaster planning and operations on behalf of the local government

Local Disaster Management Plan
A plan that documents arrangements to manage disaster planning and operations within the local government area of responsibility.

Mitigation
Measures taken in advance of a disaster aimed at decreasing or eliminating its impact on society and environment *(Australian Emergency Management Glossary, 1998)*

National Emergency Risk Guidelines
The National Emergency Risk Assessment Guidelines (NERAG) provides a methodology to assess risks from emergency events and is principally concerned with risk assessment.

Natural Disaster Relief & Recovery Arrangements
NDRRA provide a cost sharing formula between the State and Commonwealth Governments as well as a package of pre-agreed relief measures that may be activated by the Queensland Government on a needs basis.

Post Disaster Assessment
Addresses performance during and the risks revealed by a disaster event in order to improve future development of mitigation measures. Post-disaster assessment forms part of continuous improvement of the whole system. (Adapted from COAG, *Natural Disasters in Australia: Reforming mitigation, relief and recovery arrangements: 2002).*

Primary Agency
An agency allocated responsibility to prepare for and respond to a specific hazard based on their legislated and/or technical capability and authority

Preparedness
Measures to ensure that, should an emergency occur, communities, resources, and services are capable of coping with the effects *(Australian Emergency Management Glossary, 1998)*

Prevention
Measures to eliminate or reduce the incidence or severity of emergencies *(Australian Emergency Management Glossary, 1998)*

Queensland Disaster Management Arrangements (QDMA)
Whole-of-government arrangements to ensure the collaborative and effective coordination of planning, services, information and resources for comprehensive disaster management

Reconstruction
Actions taken to re-establish a community after a period of rehabilitation subsequent to a disaster. Actions would include construction of permanent housing, restoration of all services, and complete resumption of the pre-disaster state *(Australian Emergency Management Glossary, 1998)*

Recovery
The coordinated process of supporting emergency affected communities in reconstruction of the physical infrastructure and restoration of emotional, social, economic, and physical wellbeing *(Australian Emergency Management Glossary, 1998).*

Rehabilitation
The operations and decisions taken after a disaster with a view to restoring a stricken community to its former living conditions, whilst encouraging and facilitating the necessary adjustments to the changes caused by the disaster *(Australian Emergency Management Glossary, 1998)*

Relief
The provision of immediate shelter, life support and human needs of persons affected by, or responding to, an emergency. It includes the establishment, management and provision of services to emergency relief centres *(Australian Emergency Management Glossary, 1998)*

Residual Risk
The level of risk remaining after implementation of a risk treatment. Residual risk can contain unidentified risk. Residual risk can also be known as ‘retained risk’ (*AS/NZS ISO 36000:2009)*

Response
Measures taken in anticipation of, during and immediately after an emergency to ensure its effects are minimised *(Australian Emergency Management Glossary, 1998)*

Risk
The chance of something happening that may have an impact on the safety and wellbeing of your community. It includes risk as an opportunity as well as a threat and is measured in terms of consequences and likelihood *(Adapted from AS/NZS ISO 36000:2009)*

Risk Identification
The process of identifying what can happen, why, and how *(Australian Emergency Management Glossary, 1998)*

Risk Management
The culture, processes, and structures that are directed towards realising potential opportunities whilst managing adverse effects *(AS/NZS ISO 36000:2009)*

Risk Management Process
The systematic application of management policies, procedures and practices to the activities of communicating, consulting, establishing the context, and identifying, analysing, evaluating, treating, monitoring and reviewing risk. (*ISO Guide 73:2009 Risk management - Vocabulary*)

Risk Reduction
Actions taken to lessen the likelihood, negative consequences, or both, associated with a risk *(AS/NZS ISO 36000:2009)*

Risk Treatment
Process of selection and implementation of measures to modify risk *(AS/NZS 4360:2004).* Risk treatment can involve avoiding the risk by deciding not to start or continue with the activity that gives risk to the risk; taking or increasing the risk in order to persue an opportunity; removing the risk source; changing the likelihood; changing the consequences; sharing the risk with another party or parties; and retaining the risk by informed decision. (ISO Guide 73: 2009 Risk Management – Vocabulary and ISO 36000:2009).

Serious Disruption
Serious disruption means:

- loss of human life, or illness or injury to humans; or
- widespread or severe property loss or damage; or
- widespread or severe damage to the environment *(Australian Emergency Management Glossary, 1998)*

Stand Down
Transition from responding to an event back to normal core business and/ or recovery operations. There is no longer a requirement to respond to the event and the threat is no longer present.

Stand Up
The operational state following 'lean forward' whereby resources are mobilised, personnel are activated and operational activities commenced. Disaster coordination centres are activated.

State Disaster Coordinator
A person appointed under the Disaster Management Act 2003 who is responsible for the coordination of disaster response operations for the State Disaster Management Group.

State Disaster Management Plan
A planning tool for disaster managers which provides an overview of Queensland's disaster management arrangements, including agency roles and responsibilities

State Recovery Coordinator
A person appointed under the Disaster Management Act 2003 who is responsible for the coordination of disaster recovery operations for the State Disaster Management Group.

Vulnerability
The conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of a community to the impacts of hazards (National Emergency Risk Assessment Guidelines).

Abbreviations

The following abbreviations are used throughout the Local Disaster Management Plan – Cairns Region:

ADF	Australian Defence Force
AHD	Australian Height Datum
ASA	Air Services Australia
ARFF	Aviation Rescue & Fire Fighting
BoM	Bureau of Meteorology
CPA	Cairns Port Authority
CRC	Cairns Regional Council
DCS	Department of Community Safety
DDC	District Disaster Coordinator
DDCC	District Disaster Coordination Centre
DDMG	District Disaster Management Group
DM	Disaster Management
EMA	Emergency Management Australia
EMQ	Emergency Management Queensland
GBRMPA	Great Barrier Reef Marine Park Authority
HazMat	Hazardous materials (in the context of emergency response)
JCU	James Cook University
LDC	Local Disaster Coordinator
LDCC-CR	Local Disaster Coordination Centre – Cairns Region
LDMG-CR	Local Disaster Management Group – Cairns Region
LDMP-CR	Local Disaster Management Plan – Cairns Region
LRC	Local Recovery Coordinator
LRG	Local Recovery Group
MSQ	Maritime Safety Queensland
NDRP	Natural Disaster Resilience Program
NDRRA	Natural Disaster Relief and Recovery Arrangements
NPWS	National Parks and Wildlife Service
PPRR	Prevention, preparedness, response and recovery
QAS	Queensland Ambulance Service
QDMA	Queensland Disaster Management Arrangements
QFRS	Queensland Fire and Rescue
QFRS (RFS)	Queensland Fire and Rescue Service Rural Division
QPS	Queensland Police Service
Q-Rail	Queensland Rail
RFB	Rural Fire Brigade
SDCC	State Disaster Coordination Centre
SDMG	State Disaster Management Group
SES	State Emergency Service
SITREP	Situation Report
TMR	Transport & Main Roads

PART 1 ADMINISTRATION AND GOVERNANCE

1.1 Authority to Plan

Cairns Regional Council has a legislative responsibility to develop a Disaster Management Plan in accordance with *Section 57(1) Disaster Management Act 2003*.

"s57 Plan for disaster management in local government area

> *(1) A local government must prepare a plan (a local disaster management plan) for disaster management in the local government's area.*
>
> *(2) The plan must include provision for the following—*
>
> *a) the State group's strategic policy framework for disaster management for the State, and the local government's policies for disaster management;*
> *b) the roles and responsibilities of entities involved in disaster operations and disaster management in the area;*
> *c) the coordination of disaster operations and activities relating to disaster management performed by the entities mentioned in paragraph (b);*
> *d) events that are likely to happen in the area;*
> *e) strategies and priorities for disaster management for the area;*
> *f) the matters stated in the disaster management guidelines as matters to be included in the plan;*
> *g) Other matters about disaster management in the area the local government considers appropriate".*

The Cairns Local Disaster Management Plan has been prepared by the Local Disaster Management Group – Cairns Region in accordance with the above section of the Disaster Management Act 2003 ("The Act") to confirm the effective coordination of resources and counter disaster operations in the Cairns Regional Council area.

1.2 Requirements of Plan

This plan is developed using the National Emergency Risk Assessment Guidelines, the Australian/New Zealand Standard AS/NZS ISO 31000:2009 Risk management – Principles and guidelines and the Department of Community Safety – Qld Disaster Management Planning Guidelines to effectively identify, analyse and treat risks faced by the local community.

In accordance with s58 of The Act this plan is prepared using the Queensland Local Disaster Management Guidelines and ensuring integration with the District Disaster Management Plan and the State Disaster Management Group strategies.

1.3 Purpose

1.3.1 The Disaster Management System in Queensland

The Disaster Management Act 2003 (the Act) provides the legislative basis for the Queensland Disaster Management Arrangements (QDMA) including:

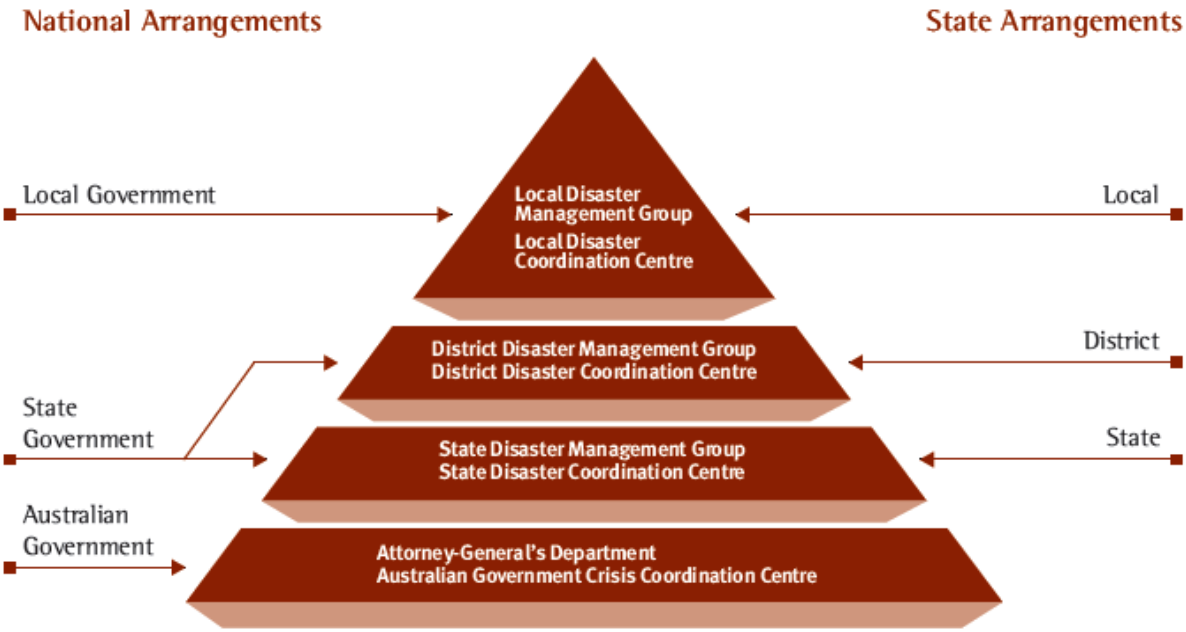
- Establishment of disaster management groups for the State, disaster districts and local government areas;
- Detailing planning requirements at each level;
- Maintaining the role and operations of the State Emergency Service (SES) and establishment of Emergency Service Units; and
- The conferring of powers on selected individuals and groups.

Queensland's whole-of-government disaster management arrangements are based upon partnerships between government, government owned corporations, non-government organisations, commerce and industry sectors, and the local community.

These arrangements recognise each level of the QDMA must work collaboratively to ensure the effective coordination of planning, services, information and resources necessary for comprehensive disaster management. The QDMA is based on a four-tiered system, incorporating the three levels of government (Australian, State and Local), with an additional State government tier known as disaster districts.

Figure 1:

STRUCTURE



The principal structures comprising the Queensland Disaster Management Arrangements are:

- Local, District and State disaster management groups, responsible for the planning, organisation, coordination and implementation of all measures to mitigate, prevent, prepare for, respond to and recover from disasters.
- Local, district and State coordination centres to support disaster management groups in coordinating information, resources and services necessary for disaster operations.
- State government functional lead agencies through which the disaster management functions and responsibilities of the State are managed and coordinated.
- State government hazard-specific primary agencies responsible for the preparation of plans for, and management of, specific hazards.

1.3.2 Purpose of the Plan

The purpose of the Cairns Local Disaster Management Plan is to:

- Ensure the safety and sustainability of the Cairns Region community
- Reduce or eliminate risk to the community and community infrastructure
- Inform disaster management responses at the District and State levels
- Be consistent with best practice disaster management issues
- Promote effective liaison between the Council and other agencies involved in disaster management
- Ensure compliance with the Disaster Management Act 2003.

NB It is important that all agencies understand that there are major differences between 'Incident Management' and 'Disaster Management';

Incidents can be managed via the emergency services or other agencies, employing resources normally available to them. This includes traffic accidents, missing persons, etc. Incidents do not usually cause major community disruption.

Disasters require a coordinated multi-agency, multi-jurisdictional response, and usually result in some sort of community dislocation or severe disruption.

Table 1: Comparative features of Incident and Disaster Management

Incident Management	Disaster Management
• Single site response • Minor off-site co-ordination • Single agency responsibility • Resources available • Support available • Support agencies practiced • Day to day business • Core function • Short term effects	• Multi-site response • Major off-site co-ordination • Multi-agency responsibility • Multi-faceted problems • External resources required • External support required • Government Dept. involvement • Community affected • Long term effects

The Local Disaster Management Plan has not been developed for the management of:

(a) Commonly occurring incidents which are within the capacity of the individual combat Agencies of the DES & QPS; or

(b) Major incidents which are within the capacity of the nominated lead agency with a threat specific role.

However, elements of the Local Disaster Management Plan may be activated in support of a lead agency responding to a major incident.

1.4 Objective

The objective of the Local Disaster Management Plan is to facilitate the implementation of effective and efficient disaster management strategies and arrangements including:

The development, review and assessment of effective disaster management for the local government area, including arrangements for mitigating, preventing, preparing for, responding to and recovering from a disaster;

Compliance with the State Disaster Management Group's (SDMG) Strategic Policy Framework; the State Disaster Management Plan; the Local Disaster Management Guidelines, and any other Guidelines relevant to local level disaster management and disaster operations;

The development, implementation and monitoring of priorities for disaster management for the local government area; and

To improve community safety through the identification, evaluation and mitigation of risks that might otherwise be classified as disasters.

Where it is not plausible or possible to mitigate the risks, the plan offers contingencies for disaster management response and recovery procedures for the Cairns Regional Council area.

1.5 Strategic Policy Framework (SPF)

Disaster management and disaster operations in Cairns Region are consistent with the Disaster Management Strategic Policy Framework. This is achieved by:

- ensuring a comprehensive, all hazards, all agencies approach by achieving the right balance of prevention, preparedness, response and recovery.

- supporting the mainstreaming of disaster preparedness and mitigation into relevant areas of activity of government, non-government, small business and corporations.

- aligning disaster risk reduction, disaster mitigation, disaster resilience and climate change adaptation policy and actions with international and national reforms.

- promoting a transparent, systematic and consistent approach to disaster risk assessment and management, based on the Australian/New Zealand Standard AS/NZS ISO 31000:2009 Risk management – Principles and guidelines.

- recognising the commitment of stakeholders and the need for collaboration across all levels of government, community, industry, commerce, government owned corporations, private and volunteer organisations, and local communities in all aspects of disaster management.

- emphasising building and maintaining sincere relationships, trust, teamwork, consultative decision-making and shared responsibilities among stakeholders promoting community resilience and economic sustainability through disaster risk reduction.

In line with the Council of Australian governments (COAG) report Natural Disasters in Australia, Reforming Mitigation, Relief and Recovery Arrangements (2002), the SPF identifies elements of disaster management as follows;

a) Disaster research;
b) Policy and governance;
c) Disaster risk assessment;
d) Disaster mitigation
e) Disaster preparedness;
f) Disaster response;
g) Disaster relief and recovery; and
h) Post-disaster assessment.

The SPF can be found at www.disaster.qld.gov.au/publications or from Cairns Regional Council's Disaster Management Officer.

1.6 Scope

This plan details the arrangements necessary to undertake disaster management of the communities within the Cairns Regional Council local government area. This area adjoins Douglas Shire Council to the north, Cassowary Regional Council to the south and the Tablelands Regional Council and Mareeba Shire Council to the west. The

Cairns Regional Council local government area includes the major population areas of; Aeroglen, Babinda, Barron, Bayview Heights, Bentley Park, Brinsmead, Buchan Point, Bungalow, Bramston Beach, Cairns City, Cairns North, Caravonica, Clifton Beach, Deeral, Fisheries Falls, East Russel, East Trinity, Edge Hill, Edmonton, Ellis Beach, Fishery Falls Forest Gardens, Freshwater, Gordonvale, Goldsborough, Holloways Beach, Kamerunga, Kanimbla, Kewarra Beach, Lake Placid, Lamb Range, Macalister Range, Machans Beach, Manunda, Manoora, Mirriwinni, Mooroobool, Mount Sheridan, Mount Peter, Palm Cove, Park Ridge, Parramatta Park, Portsmith, Redlynch, Smithfield, Stratford, Trinity Beach, Trinity Park, Westcourt, White Rock, Whitfield, Wooroonooran, Woree, Yorkeys Knob

1.7 Disaster Management Priorities

Cairns Regional Council (CRC) has an active Disaster Management philosophy which embraces prevention, preparedness, response and recovery strategies. Disaster management priorities for CRC ensure compliance with the disaster management legislation and provide sound legal grounding for disaster management within the Cairns region.

The Local Disaster Management Plan (LDMP) also identifies a number of issues which are addressed as part of the hazard and risk assessment process undertaken in concert with the development and maintenance of this Local Disaster Management Plan. Such issues include governance, collaboration, health, the environment, economic and infrastructure development; all of which can impact on the resilience of the community.

Not only has each area been identified as a priority for the general business of Council, but they are also priorities for Council's broader disaster management efforts; documented as a part of this Local Disaster Management Plan.

The Cairns Regional Council Local Disaster Management Group will ensure that the Local Disaster Management Plan and arrangements complies with the Disaster Management framework and all relevant legislation and policies.

All relevant legislation and policies are to be reviewed on a regular basis to ensure compliance.

Relevant legislation and policies include but are not limited to:

- Disaster Management Act 2003
- SDMG – Re-supplying isolated communities policy and procedures
- SDMG – Natural Disaster Relief and Recovery Arrangements
- Strategic Policy Framework – State Disaster Management Group

1.8 Aim of Plan

The aim of this Plan is to minimise the effects of, co-ordinate the response to, and the recovery from, a disaster or major emergency affecting the community of the Cairns local government region.

Local Government underpins the Queensland Disaster Management System as the key management agency at the local level.

The primary focus of the Cairns Regional Disaster Management System is to mitigate the effects of disasters on the community wherever possible or practical, and being prepared to respond when disasters do occur. Plans and management arrangements have been developed with a community focus.

The plan shall:

- Ensure there is a consistent approach to disaster management in the Cairns Region;
- Create an auditing tool for disaster management functions;
- Demonstrate a commitment to the safety of our community;
- Ensure there is central coordination of disaster management in the Cairns Region;
- Demonstrate mitigation efforts and accountability for the purpose of eligibility for available funding;
- Reduce the impact of a disaster and consequences to the community following an event.

1.8.1 Principles of Disaster Management

Queensland has developed five main principles of disaster management which form the basis of the QDMA:

The Comprehensive Approach:
Section 4A of the Act provides that disaster management in Queensland should be planned according to the four phases of this approach - prevention, preparation, response and recovery. The use of the comprehensive approach ensures a balance between the reduction of risk and the enhancement of community resilience.

The all Hazards Approach:
This approach assumes that the functions and activities applicable to one hazard are most likely applicable to a range of hazards. This approach allows for a general, not specific, approach to the delivery of services. It does not however affect the need for specific plans and arrangements for identified hazards and risks that require specific technical capability or authority to effect or direct a response.

The all Agencies Approach:
This approach recognises that no single agency can prepare for and deal with the disruption to community life and infrastructure that can result from a disaster. Agencies have a responsibility for ensuring an understanding of the QDMA and contribute to the arrangements by giving effect to their legislation, as relevant to an event. It is necessary for a lead or primary agency to coordinate the activities of the large number or organisations and agencies involved as these can be drawn from all

levels of government, non-government and private sectors.

Local Disaster Management Capability
Local level capability is recognised as the frontline of disaster management. Section 4A of the Act provides that local governments should primarily be responsible for managing events in their local government area.

A Prepared, Resilient Community
A high level of community resilience will reduce vulnerability and reliance on response agencies; and results in individuals and the community embracing and assisting those who are unable to provide for themselves.

1.8.2 Agency – Roles and Responsibilities

The following Table describes the roles and responsibilities of agencies that may be involved in the Disaster Management arrangements.

It is to be remembered that no organisation will be required to be involved in any activity which is not part of that agency's core business. The roles and responsibilities outlined in this section are seen as an extension of the normal day to day business of the agencies involved.

All agencies should be involved in the formulation of the Local Disaster Management Strategies.

Table 2: Roles & Responsibilities of Core LDMG Agencies

Agency	Roles & Responsibilities
Cairns Regional Council	▪ Maintenance of the Local Government function (via Local Government Business Continuity Contingency Planning) ▪ Maintenance of normal Local Government services to the community o Water o Sewerage o Refuse disposal o Public health o Animal control o Environmental protection o Roads o Drainage ▪ Maintenance of a disaster response capability ▪ Design, maintenance and operation of Local Disaster Co-ordination Centre, including the training of sufficient personnel to operate the Centre ▪ Maintenance of telemetry and warning systems ▪ Collection and interpretation of information from telemetry systems ▪ Short term welfare
Local Disaster Management Group - Cairns	▪ Development of the comprehensive Local Disaster Management Planning strategies ▪ Design and maintenance of public education/awareness programs ▪ Coordination of support to response agencies ▪ Reconnaissance and impact assessment ▪ Provision of public information prior to, during and following disaster impact events

Region	▪ Recommendations re areas to be considered for authorised evacuation (see Storm Tide Warning/Response Handbook, where appropriate) ▪ Public advice regarding voluntary evacuation (SDMG/BoM) – more appropriately the role of the DDC (**for storm tide only)** ▪ Provision of locally based community support services ▪ Identification, resourcing, staffing and operation of Evacuation Centres
Queensland Police Service	▪ Preservation of peace and good order. ▪ 'Mandatory' evacuation orders ▪ Investigation of the criminal aspect of any event. ▪ Prevention of crime. ▪ Security of any site as a possible crime scene. ▪ Coronial investigation procedures. ▪ Traffic control, including assistance with road closures and maintenance of road blocks. ▪ Crowd management/public safety. ▪ Co-ordination of search and rescue (see State Rescue Policy). ▪ Security of evacuated areas. ▪ Registration of evacuated persons (activity undertaken by Red Cross, where they have a presence).
Queensland Fire & Emergency Service	▪ Fire control ▪ Fire prevention ▪ Rescue of trapped persons (see State Rescue Policy) ▪ Assist in pumping out of flooded buildings ▪ Assist in clean-up of flood affected buildings ▪ Management of hazardous material situations ▪ Provision of Hazardous Material Incident Management Information (ChemData) relative to hazardous materials ▪ Provision of expert advisory services (through the Special Operations Units RACE *[Response Advice on Chemical Emergencies]* Team) The role of Queensland Fire & Emergency Services (QFES), with respect to disaster management response and recovery operations, is to provide advice and assistance to all agencies and committees within the Queensland disaster management system as a core member of the LDMG and oversee additional responsibilities during disaster operations associated with Re-supply, etc.
Queensland Ambulance Service	▪ Assessment, treatment and transportation of injured persons ▪ Assistance with evacuation (for medical emergencies) ▪ Provision of advice regarding medical special needs sectors of the community
State Emergency Service	▪ Assisting the community to prepare for, respond to and recover from an event or disaster. ▪ Public Education ▪ Rescue of trapped or stranded persons (See State Rescue Policy) ▪ Search operations for missing persons. ▪ First Aid ▪ Traffic Control ▪ Short term welfare support ▪ Assistance with impact assessment ▪ Assistance with communications ▪ Assistance with lighting ▪ Flood boat operations ▪ Assistance with evacuations ▪ Assistance with staffing of Disaster centres
	▪ Maintenance of electrical power supply ▪ Advice in relation to electrical power

Ergon Energy	▪ Restoration of power ▪ Safety advice for consumers
Industry	▪ General contractors under existing contracts with Cairns Regional Council
Tourism Tropical North Queensland	▪ Tourism industry to provide assistance in the coordination of accommodation, travel, etc. for affected interstate and international tourists. ▪ Liaison with accommodation providers on emergency ▪ Accommodation ▪ Provide Tourists with advice & warnings on event / disaster ▪ Disseminating information to other Visitor Information Centres in the region
District Disaster Management Group	▪ Department of Communities – Community Recovery Role ▪ Queensland Transport – Transport and transport engineering ▪ Department of Public Works (Q Build) o Building and engineering services o Emergency supply o Communications ▪ Queensland Health – Health issues
District Disaster Community Recovery Committee	▪ Chaired by Department of Communities ▪ Development, maintenance and implementation of the Cairns Disaster District Community Recovery Plan ▪ Disaster District-wide coordination and provision of short term, medium term and longer term recovery strategies and services, such as: o care and comfort, personal support, counselling, mental health services, financial assistance, case management and temporary accommodation arrangements (excluding evacuation centres). o On-going psychological services, community engagement and development, and the re-establishment of social and cultural activities, systems and structures, networks and services. ▪ Support to assist eligible disaster affected people and organisations in the repair or demolition and reconstruction of homes or community facilities
Queensland Health	▪ Coordination of medical resources ▪ Public health advice and warnings to participating agencies and the community ▪ Psychological and counselling services for disaster affected persons ▪ Ongoing medical and health services required during the recovery period to preserve the general health of the community
Aviation Rescue and Fire Fighting	▪ Aviation specialists for large flammable fuel fire control, rescue of trapped persons, first aid, water rescue service and structural fire fighting. Mutual aid support to State based emergency services.
Queensland Rail	▪ Advisor on Qld Railway resources
Main Roads	▪ To assist in the planning of the management of disaster within Cairns Region, with a focus on the safe and efficient transport of people along the state-controlled road network. ▪ To manage and operate the state-controlled road network prior, during, and post disaster as required. ▪ To provide engineering advice, inspect and repair road and bridge

	infrastructure on the state-controlled road network following a disaster and to assist with the provision of machinery and personnel resources through the DDMG, when called upon by the LDMG-CR.
Joint Operations Support Staff Australian Defence Force (ADF)	▪ Advisor on Australian Defence resources
Cairns Port Authority	▪ Advisor on airport and seaport infrastructure capability ▪ Advisor on possible asset availability for air or sea evacuation tasks
Cairns Airport Pty Ltd	▪ Advisor on Airport operations and resources
Maritime Safety Queensland	Regulates the Safety of Vessels and the Marine Environment through: ▪ Vessel Registration ▪ Marine licensing ▪ Installation and maintenance of port navigational systems ▪ Vessel Traffic Management within Port and Coastal Waters (VTS Centre manned 24/7); ▪ Management of Marine Cyclone Contingency Plans; ▪ Marine Pollution response within Coastal Waters and GBR through MoU with GBRMPA

1.9 Key Objectives

The broad objectives of the Local Disaster Management Group - Cairns Region (LDMG-CR) are to:

- Detail specific objectives to meet the overall purpose of the plan; and
- Include specific statements relating to Prevention, Preparedness, Response and Recovery (PPRR).

Prevention

- Increase adherence to and introduction of systems, procedures and regulations that reduce disaster risks.
- Lists the studies that have been conducted, provide a short summary and identify other studies which need to be conducted; and
- Ensure the community is aware of methods of mitigating the adverse effects of an event, and preparing for, responding to and recovering from a disaster in order to reduce the impact.

Preparedness

- Identify and implement risk treatment strategies that have been determined by studies;
- Increase community safety through public awareness, information and education;
- Detail how a multi-agency, all hazards approach will be used by the LDMG-CR and how some agencies will provide guidance for the group on specific hazards;

- Identifying resources to maximize response;
- Establish relationships to increase disaster management capability; and
- To ensure the community is aware of methods of mitigating the adverse effects of an event, and preparing for, responding to and recovering from a disaster so as to reduce the impact.

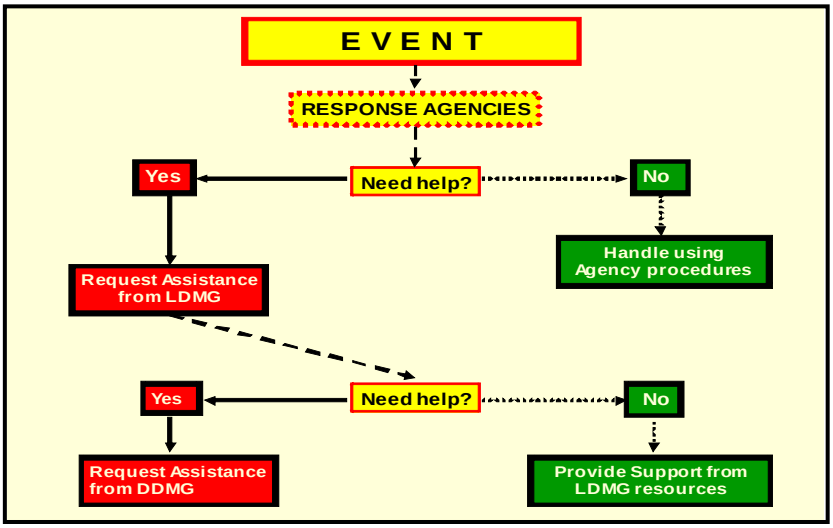
Response

- Ensure there is centralised local co-ordination of disaster management;
- Try to minimize the impact on the community of a disaster event through good response;
- Assist with the re-establishment of the community as effectively and efficiently as possible;
- Detail the strategic manner in which elements of the LDMG-CR shall deal with day to day disaster management business and how information will be passed out on events that impact on the group; and
- Demonstrate a commitment to the safety of the Cairns Region communities.

Recovery

- Adequately provide immediate post event assistance and advice to the affected community;
- Ensure the recovery priorities of the community are met;
- Ensure the community is aware of action that can be taken after the impact to assist with a speedy recovery and return to normality;
- To reduce the community consequences following an event;
- Provide advice and/or support to the Cairns Disaster District Recovery Committee and State disaster management and recovery agencies;
- Ensure a consistent approach to disaster management; and
- Demonstrate a commitment to the safety of the Cairns Regional communities.

Figure 2: The following chart depicts the Disaster management System in operation at the local level



1.10 Local Government Policy for Disaster Management

This plan is consistent with the State Disaster Management Group Strategic Policy Framework which focuses on a comprehensive, all Agency, all hazards approach with all levels of government working in partnership to reduce the effects of disasters.

The Cairns Regional Council and the Local Disaster Management Group – Cairns Region are committed to ensuring that the city's responsibilities under the Disaster Management Act 2003 are executed in full by:

- Working within the State Disaster Management Strategic Policy Framework, which focuses on a comprehensive, all hazards approach with all levels of government working in partnership to reduce the effects of disasters
- Protecting health, safety and quality of life and economic vitality
- Protecting our natural and built environment
- Recognising and valuing the benefits of partnership and collaboration across all levels of government, community and industry, in all aspects of disaster management
- Respecting the diversity of Queensland communities
- Ensuring accountability and transparency of disaster management in Queensland.

1.11 Local Government Functions

Section 80 of the Act outlines the functions of the local government:

- To ensure it has a disaster response capability
- To approve its local disaster management plan; and
- To ensure information about an event or a disaster in its area is promptly given to the District Disaster Coordinator (DDC).
- A 'disaster response capability' for a local government means the ability to provide equipment and a suitable number of persons, using the resources available to the local government, to effectively deal with or help another entity to deal with, an emergency situation or a disaster in the local governments area.
- Section 4A of the Act provides that District Disaster Management Groups (DDMGs) and the State Disaster Management Group (SDMG) should provide local governments with appropriate resources and support to help the local governments carry out disaster operations.

This plan also addresses the requirements of the Local Government Finance Standard 2005 - Part 5, Division 1, Sections 29 and 30, as follows:

(1) A local government must, when identifying the local and regional issues affecting its area, have regard to its role in relation to the following:

(a) The development of art or culture;
(b) Disaster management;
(c) Economic development;
(d) Environmental management;
(e) The provision, maintenance, restoration or replacement of infrastructure in its area;
(f) Public health management;

(g) Dealing with the issues relating to the following—

(i) Community development;

(ii) Human services;

(iii) Housing for people living in its area;

(iv) Population change.

(2) Also, a local government must, when identifying the local and regional issues affecting its area, have regard to any foreseeable future issues that may affect its area.

1.12 Integration with Council's Corporate, Strategic and Operational Planning Processes

Disaster Management is an integral part of Council's core business and is an activity identified within Council's new Corporate and Operational Plans.

The Corporate Plan is the strategic business plan of Cairns Regional Council. The Plan sets out the strategic direction for Council over the next five years. It defines the strategies and programs that Council aims to deliver and allows Council to respond effectively to key regional and local issues. The Corporate Plan also provides direction for Council to achieve a sustainable future for the region. Contained in the Corporate Plan are Strategic Goals, Outcomes and Strategic Actions forming the basis from which other Council plans, policies and strategies are developed. The Corporate Plan objectives will be delivered through its annual Operational plans which demonstrate Council's progress in implementation of the Corporate Plan.

The Corporate Plan identifies the following key strategic action;

1.5 An effective disaster management response
1.5.1 Continue to liaise with emergency service providers regarding resource planning and provision.
1.5.2 Build resilience and capacity in our communities to manage natural or man-made events and adversity.
1.5.3 Implement responsible Town Planning measures to encourage resilient and adaptive community housing and infrastructure

Council incorporates Disaster Management into its core business functions through:

(a) Assigning Council resources to maintain a capability to coordinate the response and resources for an event or disaster within the Cairns Regional Council area.

(b) Actively providing information and warnings about an event or disaster to the public and appropriate emergency services as per legislative responsibility.

(c) Annually reviewing and exercising disaster management plans.

(d) Actively providing public education on disaster preparedness and resilience.

(e) Actively mitigating against potential disaster situations to reduce community vulnerability.

(f) Liaising with Queensland Fire & Emergency Services on disaster management planning.

(g) Assisting local SES groups to maintain operational standards.

(h) Assisting SES Groups with annual recruitment program.

(i) Actively providing disaster management training to staff and the Local Disaster Management Group.

(j) Actively working with the community towards strengthening community resilience against disasters.

(k) Assisting State and Federal agencies in the recovery of the community after an event or disaster.

While it is a State Government role to oversee operations of the Local State Emergency Service (SES) Group, Council contributes funding for the maintenance and operations of vehicles, equipment, buildings and supplies used by nine (9) Cairns Region SES Units.

1.12.1 Local Government Development Priorities

In accordance with the 'State Planning Policy – Mitigating the Adverse Impacts of Floods, Bushfire & Landslide', development approvals (Planning and building) are adopted and assessed against the relevant legislation and Planning Scheme for the region.
.

1.13 Review and Assessment

1.13.1 Internal Review

In accordance with Section 59 of the Act, the LDMG-CR will review the effectiveness of the 'Cairns Local Disaster Management Plan' and all associated sub-plans annually. The Local Disaster Coordinator will instigate the annual review and will involve the LDMG-CR membership.

Table 3: The timeline for the annual review will be as follows:

June - August	Working group reviews and amends (as required) the main plan
September	Revised plan submitted to full Local Disaster Management Group for acceptance/amendment
October	Reviewed plan submitted to Council for approval
November	Updated plan submitted to the District Disaster Management Group

The master contact list for all organisations/persons involved in Council's disaster management arrangements shall be reviewed / updated at each meeting of the Local Disaster Management Group (and any subordinate Groups) and will be held by the Local Disaster Coordinator.

1.13.2 External Assessment

On completion of each internal review, the 'Cairns Local Disaster Management Plan' will be provided to the DDMG for the purpose of assessing consistency across the district and conducting external assessment of the Plan. The DDMG will ensure the review process addresses the external assessment requirements of Section 16A(b) and 23(d) of the Act. Unless the external review highlights a critical change, the required amendments will be implemented with the next annual review of the Plan.

1.13.3 Other Triggers Requiring Review

In addition to the requirement for the annual review of the 'Cairns Local Disaster Management Plan', the following range of conditions may trigger the need for the Plan to be reviewed independent of the review program. These include:

- an exercise or operational activation of the Plan highlights significant deficiencies in arrangements, systems or processes;
- changes to the boundaries to which the Plan is applicable resulting in altered risk levels;
- changes to the risk profile of the local government area resulting in altered risk levels;
- changes within the environment, community population, demographics or hazards resulting in increased risk levels;
- changes to available resources or agencies with a role in delivery of disaster management response and recovery which impacts on group capability;
- changes to legislation, policy or arrangements; or
- at the request of the DDC.

Where one or more of these triggers are identified within the local area, the review will be undertaken as soon as practical, regardless of the existing timeframes of programmed reviews.

PART 2 LOCAL DISASTER MANAGEMENT GROUP TERMS OF REFERENCE

2.1 Establishment

The Local Disaster Management Group - Cairns Region has been established in accordance with *Section 29 Disaster Management Act 2003* which states:

> ***"****s 29 Establishment*
>
> *A local government must establish a Local Disaster Management Group (local group) for the local government's area".*

2.2 Functions

The functions of the Group are set out in *Section 30 Disaster Management Act 2003* and below in Table 2.

Table 4: Legislated Functions of Disaster Management Groups

Function	Description
(a) to ensure that disaster management and disaster operations in the area are consistent with the State group's strategic policy framework for disaster management for the State;	Ensure local disaster management arrangements are consistent with the eight elements of the SPF.
(b) to develop effective disaster management, and regularly review and assess the disaster management;	Local disaster management arrangements are to be developed consistent with the Act, the SPF, the SDMP and any guidelines. Local arrangements should be tested annually by exercise or operational activity
(c) to help the local government for its area to prepare a local disaster management plan;	Development of disaster plan and sub-plans for the local government area that mitigates against the identified risks outlines roles and responsibilities of agencies and includes a comprehensive, all-hazards, all agencies and prepared communities approach.
(d) to identify, and provide advice to the relevant district group about, support services required by the local group to facilitate disaster management and disaster operations in the area;	Support services identified and communicated to the DDMG to inform district level planning.

(e) to ensure the community is aware of ways of mitigating the adverse effects of an event, and preparing for, responding to and recovering from a disaster;	Ensure community education and awareness programs include local hazards and their potential impact; local arrangements; mitigation strategies; and promote self-reliance and build resilience.
(f) to manage disaster operations in the area under policies and procedures decided by the State group;	Ensure disaster operations are managed in accordance with the SPF, the SDMP and any guidelines.
(g) to provide reports and make recommendations to the relevant district group about matters relating to disaster operations	LDMG representation on the DDMG will provide avenue for regular communication, reporting and recommendations.
(h) to identify, and coordinate the use of, resources that may be used for disaster operations in the area;	Identify those resources that will be required and are accessible within the local area. A gap analysis and contingencies are implemented to ensure the shortfall can be accessed from outside the local area, by request to the disaster district.
(i) to establish and review communications systems in the group, and with the relevant district group and other local groups in the disaster district of the relevant district group, for use when a disaster happens;	Establish, test and maintain communications systems, including redundancy systems, to ensure communication can be maintained during a disaster event.
(j) to ensure information about a disaster in the area is promptly given to the relevant district group;	Establish and maintain clear information reporting arrangements with the DDMG for use during disaster operations.
(k) to perform other functions given to the group under this Act;	Performance of other functions as delegated within the Act.
(l) to perform a function incidental to a function mentioned in paragraphs (a) to (k).	Performance of other functions which are required to be undertaken in support of the listed function.

2.3 Membership Details

2.3.1 Appointment of Members

The Queensland Local Disaster management group Guidelines 2012 (section 4.4) recommend the Local Disaster Management Group (LDMG) membership include representatives with the necessary expertise or experience and delegation authority to assist with the comprehensive, all-hazards, all-agencies approach to disaster management.

The LDMG must consist of the following Members;

- Chairperson (must be a Councillor) appointed by the relevant local government;

- Deputy Chairperson (recommended to be a Councillor) appointed by the relevant local government Local Disaster Coordinator (recommended to be the CEO of the local government) appointed by the relevant local government;

- At least one (1) person nominated by the Chief Executive, Department of Community Safety (normally the responsible QFES Area Director, appointed by the relevant local government);

- Other persons appointed by the relevant local government area, incl. Council representatives, local emergency services (i.e. EMQ, Queensland Police Service, Queensland Ambulance Service, Queensland Fire and Rescue Service and State Emergency Service), non-government organisations, or other representatives as identified by the local; government's functional requirements.

Under Section 40A of the Act, LDMG Members must have an appointed deputy, who has the necessary expertise or experience and is appropriately trained to take on their responsibilities, should they be unavailable, or to provide additional support during extended operations.

Members and deputies to LDMG – Cairns Region shall be appointed in writing with signed approval from the Chair of the LDMG-CR. As per Section 37(a) of the Act, the LDMG-CR will provide written notice of the members and deputies of the group to the District Disaster Coordinator and the Chief Executive, Department of Community Safety, at least once a year.

2.3.1 Appointment of the Local Disaster Coordinator

The Chief Executive Officer (CEO) for Cairns Regional Council has delegated authority to appoint the Local Disaster Coordinator for the LDMG-CR. It is the view of Council that the LDC appointee has the necessary experience or expertise to perform the function. The appointee has the authority and necessary delegations within Council to perform the role effectively.

2.3.2 Accountability and Authority of Members

- The principal Local Disaster Management Group Members and Working Group Members and liaison officers from each organisation must have:

- The authority to commit their respective organisation to the Local Disaster Management Group's agreed decisions.

- The authority to commit their respective organisation's resources without having to confer with superiors.

- ...A sound understanding of the Local Disaster Management Plan.
  The principal Local Disaster Management Group Members and Working Group Members and liaison officers from each organisation shall:

- Regularly submit appropriate disaster control or mitigation information to the Local Disaster Coordinator.

- Ensure adequate planning and control measures for disaster control are implemented within their own organisation.

- ...Upon activation of the LDMG-CR in a disaster, to forward situation reports to the Local Disaster Coordinator at intervals as may be required by him on the activities of the members' organisations.

- Absence from the locality of a principal Local Disaster Management Group member, and the possibility of protracted operations, require that a standby representative (i.e. deputy) from each organisation be identified and briefed on the requirements of their roles and responsibilities under the plan.

The Local Disaster Management Group - Cairns Region consists of the following appointed positions and the relevant persons are appointed in accordance with *Section 33- 37 of the Disaster Management Act 2003*. The membership of the Group is to be reviewed annually

.

The Mayor or another Councillor of the local government should be appointed Chair of a LDMG. The chief Executive Officer, or another employee of the local government, should be appointed as the Local Disaster Coordinator (LDC).

Table 5: LDMG-CR Membership details

LDMG Executive Membership	
Cairns Regional Council	Chair, LDMG - Delegated Councillor
Cairns regional Council	Deputy Chair, LDMG - Councillor
Cairns Regional Council	Local Disaster Coordinator (LDC)
Cairns Regional Council	Manager Buildings & Facilities Management (Deputy LDC)

LDMG Membership	
Core members	
Cairns Regional Council	Manager of Sports Recreation & Community Development / Community Support Coordinator
Cairns Regional Council	Manager of Marketing and Communications
Cairns Regional Council	Works Manager
Cairns Regional Council	Principle Environmental Health Officer
Cairns Regional Council	Manager Water & Waste
Cairns Regional Council	Manager, Buildings & Facilities Management
SES	Local Controller
QFRS	Cairns Area Director– *position delegated to Manager Community Safety Operations*
QFRS Rural	First Officer
QPS	Divisional Inspector/Officer in Charge
QAS	Officer in Charge - *position delegated to Operations Supervisor - Cairns & Coastal, Intensive Care* Paramedic
Emergency Management	Area Director

Queensland	
Department of Communities	Recovery Representative
Cairns Base Hospital	Executive Director Corporate Services
Air Services Australia	Fire Station Manager
Cairns Airport	General Manager– *position delegated to Security and* *Emergency Services Coordinator*
Ports North (Seaport)	Manager Operations Seaport - *position delegated to Security and Emergency Manager*
Ergon Energy	Area Operations Manager

2.3.3 Advisors to the LDMG

The LDMG may invite participants from a range of entities, such as industry and community organisations to participate in the business of the group in an advisory capacity, as required.

It is suggested the list of LDMG advisors is regularly reviewed to reflect current disaster management arrangements for the local government area. Whilst advisor input is considered by members in their decision making, meeting resolutions will only be carried by member consensus and advisors will not be included in the calculation of a quorum.

Where it is important that an advisor has full voting rights, the LDMG should consider whether to appoint the person as a member under s. 33 of the Act.

It is recommended that contact details for advisors are maintained, updated and treated the same as member details in order to be prepared for operational and post-operational activities.

2.3.4 Induction

The LDC will ensure that all LDMG-CR Members including Deputies and replacement Members will undertake LDMG Induction as soon as possible

Records of LDMG-CR Induction will be maintained within the Queensland Disaster Management Training Framework Register.

2.4 LDMG Sub-Groups

LDMGs may have cause to create sub-groups, whether permanent or temporary, to assist the group with its business. Examples of this may be a Local Recovery Group, an evacuation project team, a cyclone shelter operations management group or a sub-group formed to deal with a particular issue relating to that local government area.

In these circumstances, the creation of a sub-group must be passed as a LDMG meeting resolution. Terms of Reference should be established to give clear guidance on the establishment, role and function, required outcomes and conduct of business of the sub-group. All sub-groups should be required to provide the LDMG with regular updates at LDMG meetings.

It should also be noted that any decisions made or actions taken by or on behalf of these sub-groups should be endorsed by the LDMG during normal business, or during disaster operations by the LDMG or LDC, to ensure the validity of decisions under the Act.

At present the Local Disaster Management Group – Cairns Region has one established Sub Group – The Community Support Sub-Committee. The Terms of Reference for the establishment of the Evacuation and Communications Sub-Committees and the re-establishment of the Evacuation Sub-Committee are before the LDMG-CR for consideration.

2.4.1 The Community Support Sub-Committee

The function and membership of the Community Support Sub-Committee is set out below.

Meetings:

- Meetings are held at least twice per year.

Chair:

- Coordinator Community Development, CRC

Membership:

- Local Disaster Coordinator LDMG-CR
- Environmental Health Services
- State Emergency Service
- Australian Red Cross
- St Vincent De Paul
- Uniting Care Community
- Salvation Army
- St Johns Community Care
- Blue Care
- Centacare Cairns
- Anglicare

Responsible for:

- Reviewing Community Support Operational Sub-Plan and associated Standard Operating Procedures
- Revising the level of resources necessary to assist the LDMG-CR in its response to disaster events.

2.4.2 Local Recovery Sub-Committee

The function and membership of the Local Recovery Sub-Committee is set out below;

Meetings:

- Meetings are held twice a year.

Chair

- To be determined by resolution of the LDMG-CR

Membership:

- Local Disaster Coordinator LDMG-CR
- Deputy Chair of LDMG-CR
- Coordinator Community Development, CRC
- Disaster Resilience Officer, CRC
- Manager, Infrastructure Services CRC
- Manager, Cairns Works, CRC
- Manager, Marketing & Communications, CRC
- Manager, Development & Regulatory Services, CRC
- Area Coordinator, Emergency Planning QFES
- Senior Advisor, Community Recovery, Disability & Community Services

Responsible for:

- Develop maintain and regularly review the Recovery Plan
- Provide an annual report to the LDMG-CR
- Coordinate training on disaster recovery
- Coordinate Council's community support recovery operations
- Establish priorities and strategies for mid and long term recovery
- Ensure the community's recovery needs are met
- Represent the community's recovery need in other forums
- Engage with the community on recovery issues and priorities
- Liaise with State and District agencies
- Liaise with NGO's
- Ensure local needs assessment is done and regularly updated
- Coordinate resource management priorities, including staff, locations, centres, depots, physical resources (e.g. hire, maintenance, etc.)
- Ensure appropriate management for Council staff on recovery tasks.

2.4.3 Evacuation Sub-committee

Meetings:

- Meetings are held at least annually (November)

Chair

- Disaster Management Officer, CRC

Membership:

- Local Disaster Coordinator LDMG-CR
- Cairns Airport Pty Ltd
- Ports North
- Dept. Transport and Main Roads
- Qld Rail
- Qld Police Service
- Maritime Safety Queensland
- Council's Infrastructure Services
- Area Coordinator, Emergency Planning, QFES
- SES Area Coordinator, QFES

Responsible for:

- Reviewing and maintaining the list of transport resources available to assist the LDMG-CR with its response to disaster events
- Reviewing the evacuation process and evacuation routes required

2.5 Organisational Responsibilities

In undertaking LDMG-CR responsibilities, members must ensure that they:

- Attend LDMG-CR activities with a full knowledge of their agency resources and services and the expectations of their agency;
- Are available and appropriately briefed to actively participate in LDMG-CR activities to ensure that plans, projects and operations use the full potential of their agency or function, while recognising any limitations;
- Are appropriately positioned within their agency to be able to commit agency resources to LDMG-CR normal business activities; and
- Attend and complete appropriate disaster management training to ensure an adequate level of understanding of the Queensland Disaster Management Arrangements and Framework.

2.6 General Duties of the LDMG-CR

The Duties of the LDMG-CR include:

(a) Preparation and revision of the Local Government Disaster Management Plan;

(b) Provision of assistance to the Local Disaster Coordinator during Disaster Management operations.

(c) Promotion of disaster management education to the community

Table 6 LDMG-CR Functional Register

Organisation/Person	Disaster Management Function	Key Role
Chairperson and local Disaster Coordinator	ACTIVATION OF LOCAL DISASTER MANAGEMENT GROUP	To determine an activation process for the LDMG in response to a disaster event.
LDMG-CR Local Disaster Coordinator	OPERATION AND MANAGEMENT OF DISASTER COORDINATION CENTRE	To determine standard operating procedures for the activation and conduct of the Local Disaster Coordination Centre (LDCC) in response to a disaster event.
LDMG-CR Local Disaster Coordinator and CRC Finance	FINANCIAL MANAGEMENT	To outline Local Government and other responding agency internal financial arrangements in support of a disaster event and the eventual financial claiming process to recoup funds
Community Support Coordinator (*Community Support Sub Committee*	COMMUNITY SUPPORT	The provision of immediate and continuing care of disaster affected persons who may be threatened,

Chairperson)		distressed, disadvantaged, homeless or evacuated and the maintenance of health, well-being and prosperity of such persons with all available community resources until their rehabilitation is achieved.
LDMG-CR Local Disaster Coordinator and QPS	EVACUATION	To provide for the planned relocation of persons from dangerous or potentially dangerous areas to safer areas and eventual return
Community Support Coordinator, CRC Community Dev., SES CRC Environmental Health CRC Works Maintenance Australian Red Cross	DISASTER CENTRE MANAGEMENT	To provide for the management of facilities which provide affected people with basic human needs; Storm tide cyclone shelters – shelter, food and water Places of Refuge/Evacuation Centres -accommodation, food and water, and welfare/recovery processes.
QFES/LDMG-CR Cairns Regional Council Infrastructure Services	IMPACT ASSESSMENT	To assist the LDMG-CR in planning, formatting, and conducting a complete initial impact assessment. This assessment gathers information on the magnitude of the event, and the extent of its impact on both the population and the community infrastructure.
LDMG-CR Local Disaster Coordinator	LOGISTICS	To develop a process to manage the receipt and delivery of the appropriate supplies, in good condition, in the quantities required, and at the places and time they are needed.
Queensland Health	MEDICAL SERVICES	To provide coordination of the health and medical resources needed in responding to medical care needs following a disaster event.
LDMG-CR Local Disaster Coordinator And CRC Manager Marketing & Communications	PUBLIC INFORMATION & WARNINGS	To provide for the effective collection, monitoring, management and dissemination of accurate, useful and timely information and warnings to the public during disaster events
Cairns Regional Council Water & Waste	WATER SUPPLY & SEWERAGE	To provide for the continuity of service of essential water and sewerage services
Cairns Regional Council Infrastructure Services	PUBLIC WORKS & ENGINEERING	Building inspections, road, rail, bridge assessment, maintenance or repair, and demolitions and debris clearing as required.
QPS/QFES/SES	RESCUE	Coordinate the use of resources in search and rescue in response to an

		actual or potential disaster condition
LDMG-CR Local Disaster Coordinator	TRANSPORT	To coordinate the use of transportation resources to support the needs of local government, voluntary organisations and other disaster support groups requiring transportation capacity to perform their emergency response, recovery and assistance missions.
LDMG-CR Local Disaster Coordinator	DONATION MANAGEMENT / OFFERS OF ASSISTANCE	To coordinate the delivery, storage and distribution of goods donated by the public that has not been donated directly to community services and clubs. To coordinate Offers of Assistance by the public.

2.7 Membership Records

Each LDMG is required to maintain a register of its current members and advisors for reference during both general business and operational periods. As a minimum, details should consist of:

- full name;
- designated position title;
- department/organisation or agency name;
- work address;
- business and after hours telephone numbers (both landline and mobile); and
- email address.

Templates to collect and store LDMG member contact details, for agencies to advise the LDMG of a change to their member details and to develop a membership register are available on the DM Portal.

Membership records must be collected, stored and disposed of in accordance with the Information Privacy Principles contained in Schedule 3 of the Information Privacy Act 2009.

The State Disaster Management Group and the District Disaster Management Group (DDMG) are to be advised annually of membership of the Group under the requirements of Section 37 Disaster Management Act 2003.

When the LDMG member register is altered, an updated copy should be provided to the relevant DDC. If the alteration relates to a member of the Executive Team of the LDMG, it is also important that the SDCC is advised to maintain currency of contact details in case of a disaster event.

Refer to Appendix F for contact details.

2.8 Meeting Schedules and Processes

Observers, Advisors and guests may attend the meeting and participate in discussions but do not form part of the Local Disaster Management Group - Cairns Region or have voting rights

In accordance with s. 38 of the Act, the LDMG may conduct its business, including its meetings, in a way it considers appropriate.

The Act prescribes the following requirements with regards to the conduct of meetings:

- Meetings must be held at least once every six months at times and places decided by the Chairperson (s. 39). Additional meetings may be held as required, but must be held if asked for in writing by at least one-half of LDMG members, or by the DDC.

- A quorum is required for meeting resolutions to be officiated (s. 40) equal to one-half of LDMG members plus one, or when one-half is not a whole number, the next highest whole number. An appointed deputy attending a meeting on behalf of a LDMG member is to be counted in the quorum (s. 40A). A template for recording attendance at LDMG meetings is available on the DM Portal.

- The Chairperson or Deputy Chairperson is to preside at meeting (s. 41). If both are absent the Chairperson or Deputy Chairperson may appoint another member of the group to preside. If both offices are vacant the group will choose a member to preside.

- Meetings may be held, or members may take part using any technology that reasonably allows them to hear and take part in discussions (s. 42). Members participating through these means are taken to be present at the meeting.

- Resolutions may be passed at meetings, however are also considered valid if a majority of members give written agreement and notice of the resolution is given under the group's approved procedures (s. 42).

- Minutes of meetings must be kept (s. 43).

A variety of templates to assist LDMGs to manage business and meetings are available on the DM Portal.

<u>Attendance</u>
If a member, or their appointed Deputy, continually does not attend LDMG-CR meetings the LDMG Executive Team will meet with the member to discuss the ongoing non-attendance at LDMG meetings. A formal record of LDMG-CR member attendance should be maintained and this can be used to monitor member attendance across meetings.

A register monitoring progressive meeting attendance is maintained by the Disaster Management Unit, Cairns Regional Council.

<u>Meeting Minutes</u>

The LDMG meeting minutes should provide a summary of key discussion points and resolutions and may be subject to public scrutiny under the Right to Information Act 2009. It should be noted in the minutes whether or not a quorum was established at the meeting. The meeting attendance sheet should then be attached to the back as an accurate account of who attended the meeting and whether the meeting had a quorum, thus making any resolutions or decisions valid.

Meeting minutes are maintained by the Disaster Management Unit, Cairns Regional Council.

Flying minute

A flying minute may be used to progress business of an urgent nature in the instance where convening a meeting of the LDMG-CR is not practicable. The passing of resolutions via flying minute is allowed under s. 42 of the Act if a majority of members provide written agreement.

Records of LDMG-CR flying minutes, LDMG-CR briefing papers and LDMG-CR agendas are maintained by the Disaster Management Unit, Cairns Regional Council.

Resolution statement

In addition to meeting minutes, the LDMG-CR Secretariat maintains a resolution statement providing a running log of actions undertaken and an audit trail through to the acquittal of those resolutions. Once acquitted the resolution should be recorded on a resolution register.

Resolutions register

For governance purposes, a register detailing each resolution passed by the LDMG-CR and details of actions undertaken to acquit the resolution is kept by the LDMG-CR Secretariat. This provides an easy reference document and a historical record of past LDMG-CR resolutions.

Letterhead/Logo

As LDMG-CR business is conducted on behalf of the Cairns Regional Council, the CRC letterhead and logos should be used for all LDMG-CR business.

Records Maintenance

When managing LDMG-CR records, the LDMG-CR complies with the requirements of the Public Records Act 2002.

The Queensland State Archives General Retention and Disposal Schedule for Administrative Records outlines the requirements for retaining documents in accordance with the Public Records Act 2002.

2.8.1 Meeting Deputies

S. 40A of the Act provides for Meeting deputies for particular members

- A member of a disaster management group may, with the approval of the chairperson of the group, appoint by signed notice another person as his or her

deputy.

- The deputy may attend a group meeting in the member's absence and exercise the member's functions and powers under this Act at the meeting.

- A deputy attending a group meeting is to be counted in deciding if there is a quorum for the meeting.

Any member of the LDMG-CR may appoint a delegate to attend the meetings on the member's behalf, and the delegate will have the authority to make decisions and commit resources affecting that organisation.

2.8.2 Frequency of Meetings

The LDMG-CR meets bi-monthly except for the cyclone season when the group meets monthly from November to April.

2.9 District Disaster Management Group Representative

Section 24 of the Act requires the local government to nominate a representative to the District Disaster Management Group and advise the Executive Officer of the State and District Groups of the appointment. The LDC, CRC has been appointed to this position. Should we comment on not having representation at the DDMG through an event?

The role of Council's representative on the DDMG is to:

(a) Attend meetings of the DDMG.

(b) Assist the chairperson to coordinate the prevention, preparation, response and recovery activities associated with the disaster event at the district level.

(c) Commit the Council's resources, as required, in support of efforts to combat the disaster event.

2.10 Reporting Requirements

The LDMG-CR shall report its activities to:

- Cairns Regional Council in an annual report prepared by the Local Disaster Coordinator. The annual report shall be in accordance with the requirements of the *Disaster Management Act 2003.*

- Council in the form of meeting minutes; and

- DDMG– A status report is supplied to the DDMG XO as required prior to scheduled meetings of the Cairns DDMG.

- Operational Reporting shall be as required during an event and be in accordance with; *A.2 Local Disaster Coordination Centre Operational Plan-Cairns Region.*

2.10.1 Agency Status Reports

Member status reports on behalf of member agencies are used to update other LDM-CR members on the status of the member agency's disaster management initiatives, projects, training, community awareness, disaster management plans, operations or contact information.

This information assists the LDMG-CR to evaluate the status of the disaster management and disaster operations for the local government area. Member status reports are provided at LDMG-CR meetings.

2.10.2 Annual Reports

The LDMG-CR is required to complete a status report at the end of each financial year and provide the completed report to the District Disaster Coordinator, Cairns Disaster District.

The report will be furnished in the format and at the time stipulated by the DDC.

This report will also be furnished to Council as an Annual Report of the activities of the Local Disaster Management Group-Cairns Region.

The Local Disaster Coordinator is responsible for the development of the report.

2.11 Roles and Responsibilities of LDMG-CR Members

Refer to ***Appendix B*** for the membership list and the Roles and Responsibilities for members.

PART 3 DISASTER RISK MANAGEMENT

3.1 Community Context

The following is relevant information regarding Cairns Regional Council and the associated Disaster Management considerations.

3.1.1 Geography

Cairns Regional Council contains Queensland's most northern city of Cairns which is located approximately 1700 km (by road) from Brisbane.

The Cairns Regional Council local government area encompasses 1687 km2 of land on a narrow coastal strip between the Great Dividing Range and the Coral Sea. It extends from the Eubenangee Swamp (near Mirriwinni) in the south to the Macalister Range (near Ellis Beach) in the north.

Cairns city is the principal centre of the region and is centrally located along the coastal strip with sub-regions to the north and south consisting predominantly good quality agricultural land and areas of high ecological significance. The region is an important gateway to the nearby Atherton Tablelands, Daintree and Wet Tropics rainforest, and the outback Savannah region beyond the Great Dividing Range.

The Cairns area is comprised primarily of a corridor of coastal flood plains bounded on the west by mountain ranges which mark the eastern edge of the Atherton Tablelands. The Barron and Russell/Mulgrave Rivers traverse these plains and have regularly flooded their river deltas, isolating Cairns. A network of small creeks flow into Trinity Inlet which acts as the harbour for the city. These small creeks can flood and together with a high tide could cause flooding in the city. The region also includes Double, Fitzroy and Green Islands.

The main arterial road south is the Bruce Highway. This highway and the railway line to the south, traverse the flood plain of the Russell/Mulgrave Rivers. Flooding can quickly isolate various communities. Other access roads to the Atherton Tablelands in the west and Cooktown to the north, are also prone to flooding and landslides.

The natural vegetation of the area consists mainly of eucalypt and woodland tropical rainforests. Extensive areas of this rainforest type exist along the ranges and are incorporated, under World Heritage listing, into the Wet Tropics Management Area with more than 80% of Far Northern Cairns subject to World Heritage listings, National Parks and/ or forestry reserves. Rainforest grades to various forms of eucalypt dominated forest or woodland and grassland are exposed to frequent burning. Most of the valley and coastal plain areas not occupied by urban development are under sugar cane cultivation or are covered by mangrove communities. The region hosts two of Australia's natural World Heritage areas, the northern half of the Great Barrier Reef and the Wet Tropics rainforest.

The region is characterised by extensive areas of steep, mountainous terrain in the north, west and south which defines limited areas of alluvial coastal plain, estuarine

flats and coastal dunes. The mountainous areas generally retain their natural vegetation while the coastal plain and associated valleys have largely been cleared for cultivation, grazing and settlement. Although some areas have been cleared as a result of agricultural or urban development much of the foreshore riverine and estuarine vegetation remains intact (Refer to Figure 1).

The location of the Great Dividing Range has created many catchment areas which have well defined catchments with relatively quick run off times (12 hours or less) for rainfall.

The main drainage features are:

- The Barron River which rises on the Atherton Tableland and enters the coastal plain through the Barron Gorge

- Freshwater Creek which joins the Barron River below the Gorge and drains the Lamb and Whitfield Ranges. Freshwater Creek is dammed at Copperlode Falls to create Lake Morris – the main storage for Cairns water supply

- The network of small creeks which flow into Trinity Inlet. This system represents the original delta of the Mulgrave River

.

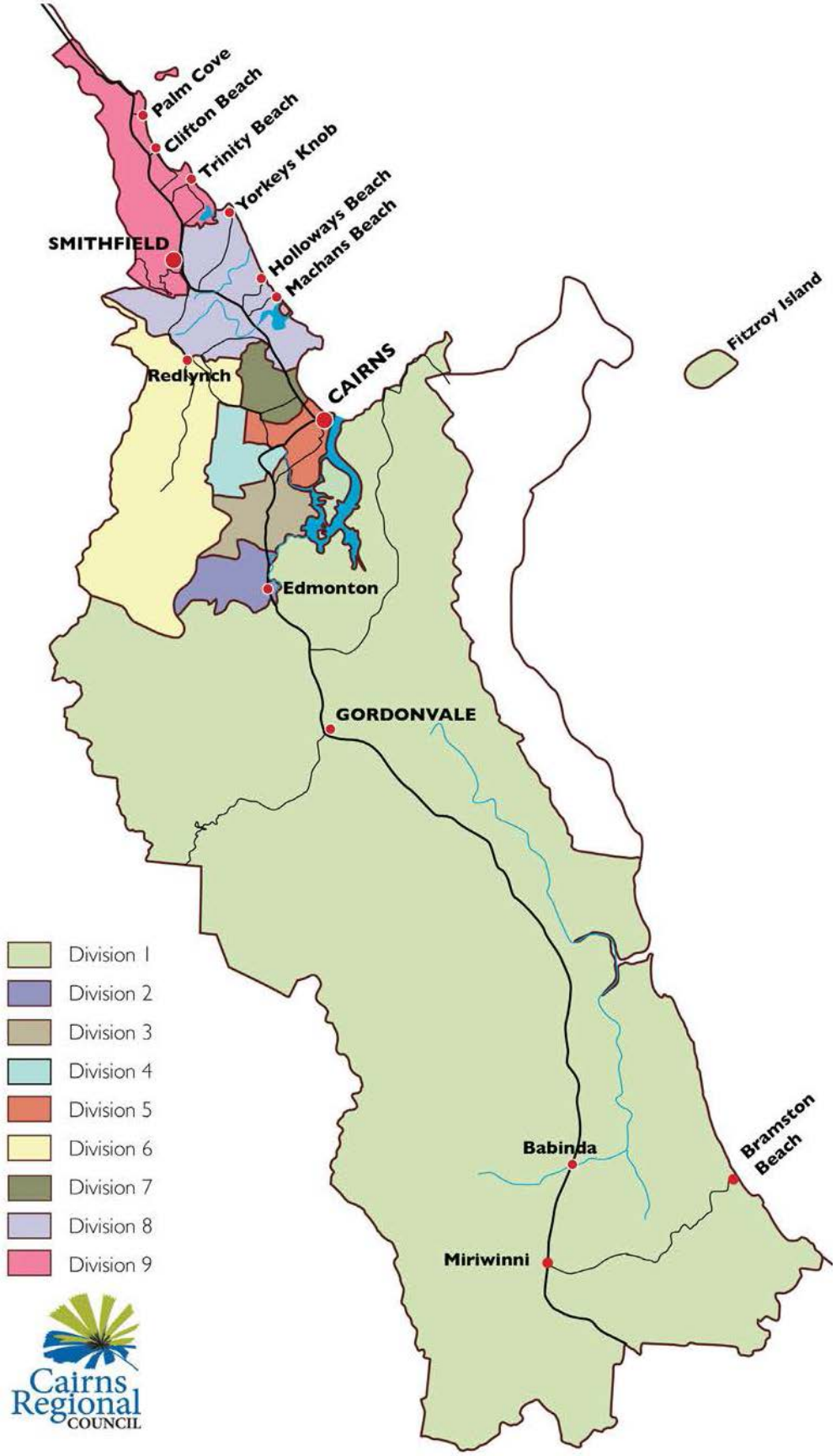
3.1.2 Geology

The simplified surface geological conditions are clearly reflected in the physiology of the landscape and may be summarised as:

- Coastal plain (flat coastal lowlands)
- Coastal ranges – isolated mountain masses

The marine sector (offshore) of Cairns City comprises the Continental Shelf (inner and middle) a shallow, gently sloping platform (with depth below sea level ranging from 30 to 200m) mantled by both marine and terrestrial sediments a few million years old, upon which the coral reefs of the Great Barrier Reef have grown. The complex structural domain that exists today can be inextricably linked to the regional plate tectonics in the development of the Coral Sea Basin.

Figure 3 *Map of Cairns Regional Council and Environs*



3.1.3 Human Settlement

The main population centre is based around Cairns itself.

In the Cairns area the northern beaches contain pockets of significant development with smaller towns to the south of Cairns such as Gordonvale, Babinda and Mirriwinni, situated along the main arterial road with a number of smaller townships in between.

The *Northern Beaches* consist of a number of beach communities extending north along the coast. In general, each beach suburb is located at the end of a spur road extending from the Captain Cook Highway. From south to north, these are Machans Beach, Holloways Beach, Yorkeys Knob, Trinity Park, Trinity Beach, Kewarra Beach, Clifton Beach, Palm Cove, and Ellis Beach.

The suburb of Smithfield is located inland against the mountains of the Great Dividing Range, between Yorkeys Knob and Trinity Park. It serves as the main hub for the Northern Beaches, with a modern shopping arcade, called Smithfield Shopping Centre.

Located south of Smithfield and inland from the Northern Beaches along the edge of the Barron River flood plain are the suburbs of Caravonica, Kamerunga, Freshwater, and Stratford. This area is sometimes referred to as Freshwater Valley, though it is actually the lower part of Redlynch Valley; further up the valley are the suburbs of Redlynch, on the western side of Redlynch Valley, and Brinsmead on the eastern side. Stratford, Freshwater, and Brinsmead are separated from Cairns city by Mount Whitfield (elevation 365 m (1,198 ft)) and Whitfield Range.

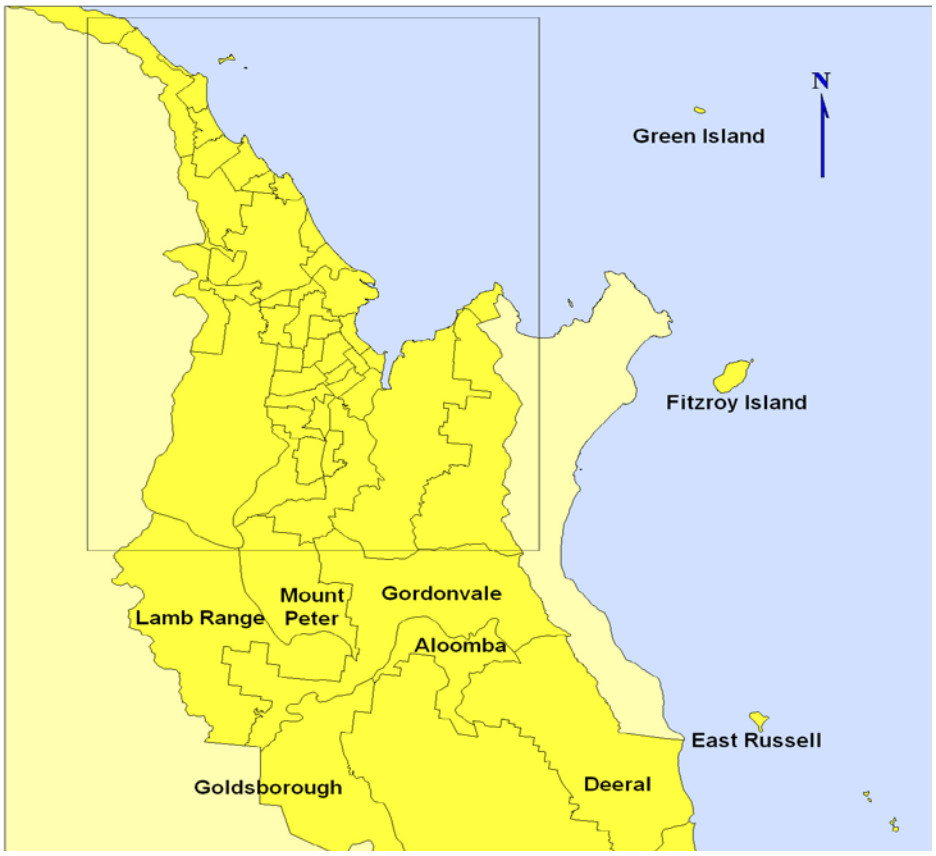
The city centre of Cairns is adjacent to the suburbs of Cairns North, and Parramatta Park, Bungalow, Portsmith, and close to Westcourt, Manunda, Manoora, Edge Hill, Whitfield, Kanimbla, Mooroobool, Earlville, Woree and Bayview Heights. The small suburb of Aeroglen is pressed between Mount Whitfield and the airport, on the Captain Cook Highway between Cairns North and Stratford.

Southside Cairns, situated in a narrow area between Trinity Inlet to the east and Lamb Range to the west, includes the suburbs of White Rock, Mount Sheridan, Bentley Park and Edmonton. The townships of Goldsborough, Little Mulgrave, and Aloomba are near Gordonvale, located on the Mulgrave River. This area is serviced by the Bruce Highway. Several other small towns and communities within Cairns' jurisdiction are sparsely located along the Bruce highway, the furthest being Mirriwinni, 66 kilometres south of Cairns city; the largest of these townships is Babinda, about 60 kilometres from the city.

The Cairns regional concentration of population is indicated in the following illustrations; Figure 2 depicts City (central) and Figure 3 depicts southern suburbs.

Figure 4: Cairns Regional Council – Central Suburbs

Figure 5: Cairns Regional Council – Southern Suburbs



Offshore Island Populations

Green Island, Fitzroy Island and Double Island, have some permanent staff on the islands and at the respective resorts. Temporary residents and day visitors can easily exceed 500.

Green Island

Green Island is a coral cay 27 km (17 mi) offshore from Cairns located within the Great Barrier Reef Marine Park World Heritage Area. The island is surrounded by coral reef and in the protected Green Island National Park. Most visitors come for the day. A luxury resort with 46 rooms is situated on the island. There are 35 permanent residents on the island.

Fitzroy Island

Fitzroy Island is a continental island out from (formally known as Cape Grafton), 29 km south east of Cairns. It is a large tropical island, with a rainforest covering and its own fringe coral reef system; total area being 339 hectares (838 acres), National Park Area 324 hectares (796 acres) and a Summit Height of 269 metres (882 feet). 97 percent of the four square kilometre continental island is National Park, covered in tropical rainforest and freely accessible to the public via an established network of walking tracks. The island has a number of 'Fast Cat' services travelling back and forth daily from Cairns. The island has one resort offering different types of accommodation ranging from deluxe rooms to campground and Day Visitor facilities. There are 16 permanent residents on the island.

Double Island

Double Island is approximately 1.5 km, north east of Palm Cove and about 30 km north of Cairns. Double Island is also the location of an exclusive resort. The privately held property is only for rental on a "whole-of-island" basis, meaning only one party has the exclusive use of the 19 x ½ km island and its facilities.

3.1.4 Climate and Weather

Cairns Regional Council lies on the coast of Queensland at approximately 17˚ south latitude and has a moist tropical climate. Rainfall is seasonal, with the heaviest rain occurring during the summer months. Extreme rainfall events are associated with tropical cyclones. Cairns comes under the influence of tropical cyclones on average at least once every two years. Temperatures rarely exceed 35˚C or go below 15˚C for extended periods.

The tropical climate of the Cairns Region is characterised by:

- relatively high temperatures with only small variations between daily maximum and minimum temperatures;
- relatively small, yet discernible, variations in seasonal temperatures;
- relatively high humidity with generally little variation between morning and afternoon humidity levels;
- relatively small, yet discernible, variations in seasonal humidity levels; and
- relatively high rainfall with greater concentrations of rainfall in the summer months (December to April).

These climatic characteristics have a number of implications for human activity and development in the Region, including:

- the marked seasonality of rainfall in the Region, together with more comfortable temperatures during the winter months, have given rise to a quite marked seasonality in tourist visitation;

- the high number of rain days during the December to April period tend to restrict construction work during this period as it is more cost-effective to operate mainly during the drier months;
- in conjunction with the steep mountain slopes the high rainfall intensity has greater implications for soil erosion and land slippage;
- the high rainfall and its intensity also gives rise to greater road damage; and
- the high rainfall tends to render less effective septic and sullage waste disposal through absorption trenches.

Climate Change

As the whole area experiences a summer monsoon (wet season) November to April (strongest and most regular in the north), followed by a lower rainfall winter and early summer dry season, May to October. The Cairns region is one of the most vulnerable regions to climate change in Australia, most significantly due the potential increased frequency of cyclones and sea level rise.

Refer to Figures 6 and 7 below which respectively illustrate monthly annual rainfall and temperature figures for Cairns.

Figure 6: Monthly average annual rainfall *(Source: Bureau of Meteorology):*

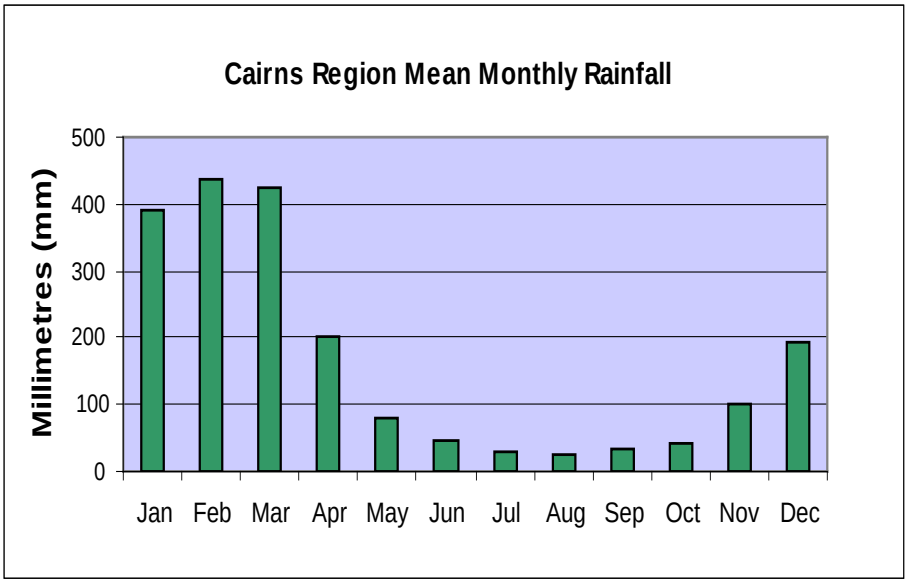
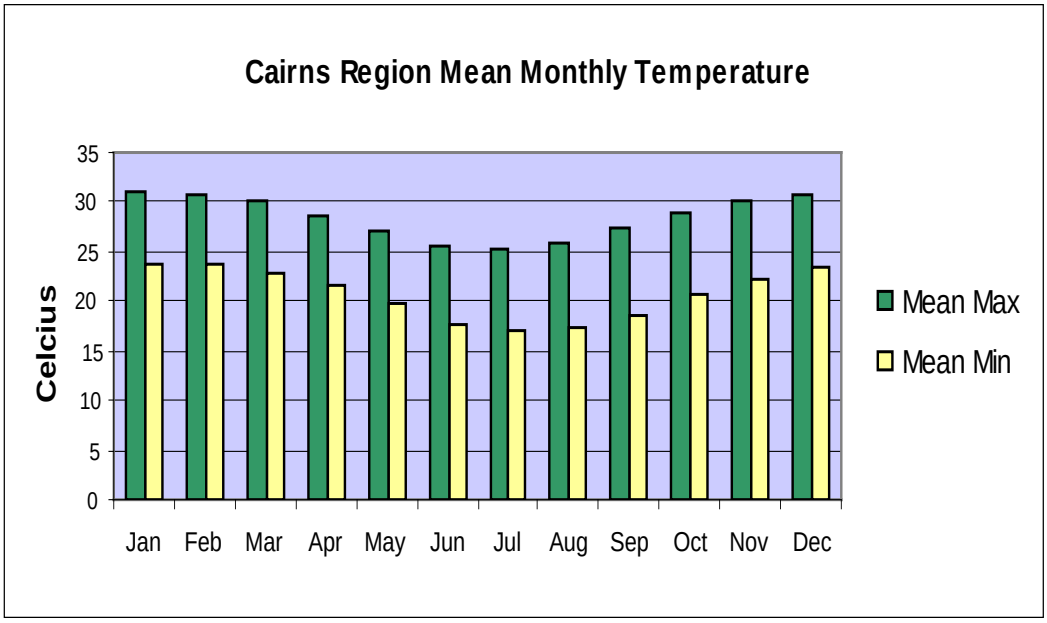


Figure 7: Monthly average annual temperature figures
(Source: Bureau of Meteorology)



3.1.5 Population

At the time of the 2011 Census figures, 180,569 persons were counted in the Cairns Regional Local Government area. This figure includes overseas and domestic visitors to the region and excludes those that usually live in Cairns but were away visiting other areas.

The usual resident count from the Census was 156,169 persons.

The region has experienced an average annual growth rate of 2.8% over the last 10 years. It is predicted that two thirds of Tropical North Queensland's population growth (approximately 70,000 people) will be accommodated within the Cairns region, with up to 50,000 ultimately accommodated within the Mount Peter Master Planned Area.

Selected medians and averages taken from the 2011 census provide an overview of the Cairns region population;

Table 7: Medians and averages taken from the 2011 census

Median age	37
Number of Families	58,596
Average children per family	1.9
All private dwellings	102,510
Average people per household	2.5
Median weekly household income	$1,057
Median monthly mortgage repayments	$1,647
Median weekly rent	$240
Average motor vehicles per dwelling	1.7

Detailed Statistics

The following statistics displayed are the most recent for the region, compiled from the 2011 Census.

Table 8: Total Population - Cairns Regional Council, 2011

Local Government Area (a)	Usual Residence (b)	Enumeration Count (c), (d)
Cairns Regional Council	— number —	
	156,169	180,569

(a) Based on ASGC 2011.
(b) Usual Residence represents the total number of persons who usually live within the local government area.
(c) Enumeration Count represents the total number of persons who were located within the local government area on the night of the 2011 Census.
(d) Includes overseas visitors.
Source: Australian Bureau of Statistics, Census of Population and Housing, 2011, Place of Enumeration Profile. Australian Bureau of Statistics, Census of Population and Housing, 2011, Basic Community Profile. (QRSIS database maintained by the Office of Economic and Statistical Research (OESR)).

Table 9: Population (a) - Cairns Regional Council (and Queensland), 2011

Local Government Area	2001	2006	2011	Average Annual Growth Rate	
				2001 to 2006	2001 to 2011
Cairns Regional Council	— number —			— per cent —	
	148,621	165,014	180,569	2.1	2.0
Queensland	3,655,139	4,046,881	4,457,909	2.1	2.0

(a) Includes overseas visitors
Based on Place of Enumeration
Source: Australian Bureau of Statistics, Census of Population and Housing, 2011, Time Series Profile. (QRSIS database maintained by the Office of Economic and Statistical Research (OESR)).

Cairns is the main point of entry to Far North Queensland and the region is a major tourist destination throughout the year. The peak tourist season are the months of July and August with the population increasing by approximately 27,000 visitors per night.

Cairns Regional Council offers a Community Profile featured on the Council website for public information. The profile provides demographic analysis of the Council regional area based on the results from the 2011, 2006, 2001, 1996 and 1991 Censuses of Population and Housing. The profile is updated with population estimates when the Australian Bureau of Statistics (ABS) releases new figures. The profile provides comprehensive demographic information, including age and cultural profiles as well as housing structure and family types.

The following tables are representative of the information and are reproduced here as well as utilising socio-economic indicators (from ABS) in the assessment of community vulnerability; an indication of resilience can be gauged within the region

through language profiles, to be used in the development of communication strategies.

Table 10: Selected Person Characteristics by Sex

	Males	*Females*	*Persons*
Total persons	111,878	112,558	224,436
Age groups:			
0-4 years	8,389	7,805	16,194
5-14 years	16,184	15,539	31,723
15-19 years	7,583	7,170	14,753
20-24 years	5,978	6,291	12,269
25-34 years	13,285	14,733	28,018
35-44 years	16,027	17,198	33,225
45-54 years	16,553	16,704	33,257
55-64 years	14,155	13,368	27,523
65-74 years	8,679	7,848	16,527
75-84 years	3,979	4,097	8,076
85 years and over	1,065	1,806	2,871
Counted on Census Night:			
At home	104,211	107,184	211,395
Elsewhere in Australia	7,665	5,376	13,041
Indigenous persons:			
Aboriginal	7,091	7,895	14,986
Torres Strait Islander	2,375	2,593	4,968
Both Aboriginal and Torres Strait Islander(a)	1,500	1,664	3,164
Total	*10,966*	*12,152*	*23,118*

Source: Australian Bureau of Statistics. (2011).

3.1.6 Language

The diverse Indigenous history of the Far North Queensland region means that the Cairns area has been home to several dozen Indigenous languages, some of which are still spoken. The Torres Strait region has four language dialects, the Cape York region and the Gulf region traditionally have more than twenty languages, and the Wet Tropics has six language groups. Non-English language use is relatively high in some remote communities and occasionally indigenous languages are spoken in Cairns. The multilingual atmosphere of Cairns is increased by tourism and the proximity to other nations, which leads to high levels of non-English language speaking, signage, and translation services

Table 11: Language Spoken at Home – Cairns Regional Council, 2011

Local government area	Speaks English Only	Speaks other language	Not stated	Total population	Speaks other language as a proportion of total
	— number —				*Per cent*
Cairns Regional Council	127,402	17,070	11,698	156,170	10.9

(a) Based on place of usual residence.

Source: Australian Bureau of Statistics, Census of Population and Housing, 2006, Basic Community Profile. (QRSIS database maintained by the Office of Economic and Statistical Research).

Table 12 Total Household Income (Weekly)

Weekly household income

Cairns	2011		
Weekly income	**Number**	**%**	**Regional QLD %**
Negative Income/Nil Income	768	1.4	1.3
$1-$199	798	1.4	1.5
$200-$299	1,572	2.9	2.7
$300-$399	3,160	5.7	6.4
$400-$599	4,989	9.0	10.6
$600-$799	5,032	9.1	9.5
$800-$999	4,845	8.8	8.7
$1000-$1249	4,603	8.3	8.0
$1250-$1499	4,357	7.9	7.4
$1500-$1999	6,515	11.8	10.9
$2000-$2499	4,661	8.5	7.5
$2500-$2999	3,188	5.8	6.2
$3000-$3499	1,840	3.3	3.5
$3500-$3999	725	1.3	1.4
$4000-$4999	491	0.9	1.0
$5000 or more	380	0.7	1.0
Not stated	7,205	13.1	12.3
Total households	**55,129**	**100.0**	**100.0**

Source: Australian Bureau of Statistics, Census of Population and Housing 2011

3.1.7 Age Structure

Overall, Cairns has a young median age (as against typically higher age profiles of the Tablelands and Cassowary Coast areas). The Cairns region has a marked deficiency in the 18 to 24 age group, and a comparatively low proportion of population aged over 65 at 12 per cent of total population.

Table 13:

Age (Years)	Males	Females	Persons
0-4 years	8388	7,805	16,193
5-9 years	8063	7673	15,736
10-14 years	8123	7865	15,988
15-19 years	7582	7170	14,752
20-24 years	5977	6290	12,267
25-29 years	6704	7108	13,812
30-34 years	6581	7626	14,207
35-39 years	7780	8515	16,295
40-44 years	8251	8683	16,934
45-49 years	8389	8548	16,937
50-54 years	8167	8153	16,320
55-59 years	7341	7225	14,566
65-69 years	5090	4645	9,735
70-74 years	3584	3210	6,794
75-79 years	2431	2285	4,716
80-84 years	1547	1810	3,357
85-89 years	777	1210	1,987
90-94 years	229	463	692
95-99 years	56	115	171
100 years +	3	17	20
TOTAL	111,877	112559	224,436

Source: Australian Bureau of Statistics. (2012). 'Cairns Census Community Profiles'

3.1.8 Ethnicity and diversity

The region has a relatively high proportion of population born overseas. In addition, the region has a significant proportion of people born in Australia, but with non-English speaking backgrounds, particularly Italy, but also from China, India, and Indonesia. More recent migration has predominantly been from southern Australia. International tourists and strong links with Papua New Guinea and the Pacific Islands adds to the mix

Table 14: Country of Birth (a) by statistical area level 4 (SA4), Queensland, 2011

AREA	Australia	United Kingdom	New Zealand	South Africa	India	Philippines	China	Germany	Vietnam	United States	Other country	Total
Cairns	**166,797**	**9,971**	**6,644**	**875**	**1,230**	**1,870**	**505**	**1,653**	**211**	**853**	**17,016**	**224,437**

(a) Based on the top 10 country of birth responses by Queensland usual residents
(b) Source: Australian Bureau of Statistics, Census of Population and Housing, 2011, Basic Community Profile

3.2 Community Capacity

The community is regarded as having the capacity to respond to and recover from most situations but the Cairns Region is not a self-sufficient community. It depends on outside sources for its food, energy and material requirements as well as its principal sources of income. Such dependence imposes limits to the community resilience.

3.2.1 Community Resilience

The population of the Cairns region continues its annual increase with people moving to North Queensland for either employment opportunities or staying for the lifestyle. This has created a community where a significant percentage of residents are new to the Far North Queensland environment and weather. Long term and particularly, rural residents with previous experiences of disaster events are generally resilient and to a large extent self-supportive, at least for several days, after a natural disaster. Newer and younger residents with no memory or experience of a disaster event, such as Tropical Cyclone Larry and more recently Tropical Cyclone Yasi, are likely to be less prepared to cope and more dependent on government services. As Cairns is the major regional centre in the Far North Queensland area, there is a vast range of State and Federal Department support readily available to the community. There is also an extensive range of non-Government organisations (NGOs) and community groups established within the region.

However, the majority of these organisations are experiencing ageing and the dwindling of membership numbers (an Australia wide trend). This places pressure the ability and effectiveness of community service groups to respond in emergencies.

3.2.2 Cairns Regional Council

Cairns Regional Council is one of the major employers in the region, and has sufficient resources and competent personnel to contribute considerably to the physical response demands of any disastrous event.

Cairns Regional Council Administration Building is located at 119-145 Spence Street, Cairns.

Other Customer Service Centres are;

- Smithfield Library Office - 70 Cheviot Street, Smithfield
- City Library, 151 Abbott Street, Cairns

- Statford library – 11 Kamerunga Road, Stratford
- Manunda library – Raintrees Shopping Centre, Cnr Alfred & Koch Streets
- Earlville library - Stockland Shopping Centre, Mulgrave Road
- Gordonvale library - 88 Norman Street, Gordonvale
- Babinda Library - 24 Munro Street, Babinda

The main Cairns Regional Council Operational Works Depots are located at Babinda, Gordonvale, Martyn Street (city), Arnold Street (Stratford) and Buchan's Point. The main Water & Waste Depots are situated at Magazine Street, MacNamarra Street and Gordonvale.

3.2.3 Cairns Area Commercial Facilities

There is a large retail industry in Cairns with over 1000 retail shops in Cairns City Council shire. This is a turbulent industry that has been affected by an oversupply and lack of demand for the past five years. It is only now showing some signs of recovery.

The main shopping precincts are located in the Cairns CBD with other centres at Edmonton, Mt. Sheridan, Earlville, Manunda, Smithfield, Westcourt and numerous local centres.

There are 10 Bowls Clubs, 3 Surf Life Saving Clubs, 4 Golf Clubs, 2 Yacht Clubs, 15 boat ramps, 2 marinas, 311 km of bikeways/footways, 2100 ha. of recreational parks and reserves, Cannon Park Racecourse, several football clubs and numerous other sporting clubs.

3.2.4 Industry

Tourism is considered the major industry for the Cairns Region with Cairns City being the tourism hub and the resultant service industries reliant on tourism (accommodation, transport, entertainment).

Some of the important natural tourism features include the Great Barrier Reef and the many resort islands situated off the eastern coastline, world heritage listed rainforests and National Parks.

Rural industry in the district is predominantly sugar cane, fruit and vegetable cropping on the coastal areas, and fishing and prawning off the coast.

Cairns has a ship building industry that is dominated by one company NQEA. They have developed a reputation as one of the leading ship building companies in the world. Cairns has a large maritime servicing sector that is fostered by a large fleet of small vessels (fishing and tourism, trading in the region and the Australian Navy's operational base). Marine services markets extend into the Pacific due to a lack of land transport infrastructure in the Cape and Cairns' strategic position in relation to Papua Indonesia. However, there are currently no direct international shipping services to PNG or Asia.

Cairns is the base for a large fishing fleet, predominantly prawn fishing for the Gulf of Carpentaria and Torres Strait. The port also services freighters from around the world picking up various export produce such as sugar and mineral ores.

Cairns airport is recognised as the leading hub airport in the north and Australia's major north-eastern gateway. More recently, a large regional and general aviation sector has led to the development of an aviation servicing cluster including aircraft maintenance and training at Cairns airport, again with markets stretching up into PNG and the Pacific.

The region has a significant bulk sea port at Cairns Trinity Inlet which also receives eleven (11) cruise ships annually.

A typical yearly breakdown of the value of each of the major industry sectors and their overall income per annum is:

Table 15 Major industry sectors and their overall income per annum

Type of Industry	Income p.a.	% of Total
Tourism	AUD $1.2 Billion	40%
Agriculture	AUD $594 Million	20%
Mining	AUD $428 Million	14%
Manufacturing	AUD $330 Million	11%
Fishing	AUD $230 Million	8%
Other	AUD $200 Million	6%

Source: "Economy.id' Economic profile

Cairns Regional Council area's Gross Regional Product is estimated at $8.11 billion, which represents 3.1% of the state's GSP (Gross State Product).

The Cairns region is also serviced by a range of economic development associations including:

- Advance Cairns
- Cairns Chamber of Commerce
- Tourism Tropical North Queensland

3.2.5 Workforce and Employment

The region has the largest workforce in Far North area of Queensland. The Cairns region offers lifestyle advantages and has little trouble attracting and holding population. High unemployment rates and high job creation rates have been typical in recent years, largely influenced by external circumstances. The region's unemployment rate peaked in 2009/10 at over 13 per cent, but by mid-2012 has returned to the 8-9 per cent range.

In the year ending June 2012 there were 87,138 residents employed in Cairns Regional Council area. The following table is a breakdown of employment by industry.

Table 16: Employment by Industry

Industry	*Total Persons*
Agriculture, forestry and fishing	4,296
Mining	447
Manufacturing	5,040
Electricity, gas, water and waste services	936
Construction	5,952
Wholesale trade	2,718
Retail trade	11,089
Accommodation and food services	8,851
Transport, postal and warehousing	5,135
Information media and telecommunications	815
Financial and insurance services	1,503
Rental, hiring and real estate services	1,756
Professional, scientific and technical services	4,233
Administrative and support services	2,589
Public administration and safety	6,782
Education and training	7,629
Health care and social assistance	11,319
Arts and recreation services	1,523
Other services	3,656
Inadequately described/Not stated	869
Total	**87,138**

Source: Australian Bureau of Statistics. (2011).

3.2.6 Emergency Services

There is a solid base of emergency service response capacity spread across the region, with Queensland Police Service, Queensland Fire & Emergency Service, both urban and rural volunteer, Queensland Ambulance Service, and State Emergency Service (SES) volunteers are represented in some most communities.

SES Groups are located in the Cairns Area at Buchan Point, Trinity Beach, Yorkey's Knob, Holloways Beach, Machans Beach, Cairns, Edmonton, Gordonvale and Babinda. The SES Headquarters is located at the Cairns Unit in McNamara Street.

Police Stations are located at Babinda, Gordonvale, Edmonton, Cairns and Smithfield. To enhance community safety, Police Beats are located at Cairns Central Shopping Centre, Cairns Esplanade, Holloways Beach, Manoora, Mooroobool, Raintrees Shopping Centre, Earlville Shopping Centre, Trinity Beach, White Rock and Yorkeys Knob.

3.2.7 Transportation – Road System

Cairns Area

In the Cairns Area, public transport infrastructure is focussed around main trunk roads and numerous collector roads. This means that most people who are living further way from the city have to rely on private transport to travel to work and to access some services like shopping centres, afterhours medical services, etc. Most communities are connected by a network of sealed roads, but there is no train network; only a public bus network which is operates mainly between 7.00 am and 10.30pm 7 days a week. Taxi and car rental services are also available in the region.

Although transportation services are available up to some degree hazardous driving condition and road closure may cause problems in the response to a major event. It is not uncommon in the wet season one of the major roads in the Cairns region to be closed for a period of time due to flooding or landslide.

The major road transport routes are:

North: The Captain Cook Highway, from Cairns to Ellis Beach. This road is subject to flooding between Yorkeys Knob and Holloways Beach roundabouts. During severe weather conditions this road is also subject to closure at Arnold Street, Stratford. Fallen rocks have been reported many times between Palm Cove and Port Douglas. Landslides have occurred in the past along this road as well.

The Cairns Western Arterial Road also services the western suburbs north of Cairns CBD. It provides an alternate route from the city to the northern suburbs in the case where the Captain Cook highway is closed, although it does become prone to severe congestion when this occurs

South: The Bruce Highway, from Cairns to Babinda and onto Innisfail. This road is subjected to flood mainly between December and March at many locations. It is the only corridor to the south.

West: The Kennedy Highway through the Kuranda Range, from Smithfield to Kuranda. This road is subject to landslides.

The Gillies Highway from Gordonvale to Atherton via the Gillies Range. This road is subject to regular landslides and flooding at the bottom of the range, within the Cairns Regional Council area.

East: The Kennedy Highway from Mareeba to Cairns via the Kuranda Range. This road is subject to landslides.

3.2.8 Transportation – Railway

Cairns Area
Though there is no proper intra-city train network in the region Queensland Rail and private rail operators provide regular passenger and/or freight services to and from Cairns to Mareeba and Brisbane. Railway passenger and freight facilities are provided at some of the following locations; Portsmith Marshalling Yards, Cairns Station, Freshwater station, Redlynch maintenance depot, Gordonvale Station and Babinda Station. All rail freight currently carried in and out of the Cairns is done by Private Rail Operators; QR National and Pacific National Queensland. Passenger services are operated by Queensland Rail and Kuranda Steam (private rail operator). Queensland Rail operates 3 services per week with the Sunlander services to and from Cairns and Brisbane as well as 2 services for the tilt train. Queensland Rail also operates 2 Kuranda Scenic Rail trains to and from Kuranda on a daily basis. Kuranda Steam operates a weekly service on Wednesday from Cairns to Forsayth and return however this is a tourist enterprise only

The rail line traverses the Kuranda range and much of the line is not accessible by road transport. Past weather events have seen the line closed for a number of days, the most serious event being in February 2000, when the Granite Creek Bridge in Mareeba was washed away. This was replaced in 8 days. Queensland Rail sits under department of Transport and Main Roads portfolio at District Disaster Level.

3.2.9 Airports

Throughout the region there are numerous locations where rotary wing aircraft can land in emergency situations and comprise of sporting fields, resorts, school ovals, etc.

Cairns International Airport

The Cairns International Airport is the seventh biggest airport in Australia which has a 3200 meter long runway capable of handling 737-400, 747-800 and 767 aircrafts. Qantas, Jetstar, Air New Zealand, Continental and Air Nuigini are some of the international airlines that are serviced by Cairns International Terminal. Domestic servicing airlines are Qantas, Jetstar, Tiger, Skytrans and Virgin Blue. The airport accommodates light aircraft and rotary wing aircrafts as well. Average daily aircraft movement of the airport is about 220. This includes jets, non-jets and helicopters.

There are helicopter landing points located at Cairns Airport (General Aviation), near Cairns Base Hospital and a commercial heliport (Cairns City Heliport) at the Pier Marketplace.

3.2.10 Sea Ports

The Cairns seaport is located in the sheltered natural harbour of Trinity Inlet and is owned and operated by Ports North. It is the most northern port on the eastern seaboard and is the closest port to the Great Barrier Reef. It is a small multi-purpose regional port that caters for a diverse range of customers.

The Port's bulk cargo includes petroleum products, sugar, fertiliser and liquid petroleum gas. It has long been the natural consolidation and redistribution centre for

supplies that are shipped to the coastal communities north of Cairns as well as the Torres Strait Islands and the Gulf of Carpentaria. The Port is also a supply and service centre for mine operations in Papua New Guinea and Indonesia with regular mine servicing shipping operations out of the Port.

The Port is one of the countries busiest cruising destinations with both major international cruise ships and a number of domestic cruise vessels operating out of Cairns on a regular basis. The Cairns Marlin Marina is a 217 berth Marina accommodating a variety of cruising vessels, super yachts and reef vessel operations servicing the Great Barrier Reef.

Sailfish Quay, within the Cairns Marlin Marina, provides world class super yacht berths for vessels up to 80m. The recently constructed Reef Fleet Terminal provides the gateway to the Great Barrier Reef for more than 650,000 passengers that visit the reef from Cairns each year.

The Port is home to Australia's largest fishing fleet. It offers extensive and experienced ship building and repair services with a number of slipways and dry docks up to 3,000 tonne capacity for a diverse range of ship maintenance requirements. The shipyards offer some of the most experienced, quality assured luxury repair facilities for super yachts in the southern hemisphere.

HMAS Cairns Naval base is located in Draper Street, Portsmith on the northern shore of Trinity Inlet. The base has a responsibility extending from Rockhampton to Thursday Island and has 900 Navy and civilian personnel and is the homeport for 14 Naval Vessels.

3.2.11 Essential Services

Telecommunications

The telecommunication network has a number of providers the main provider being Telstra. Mobile telephone communication is generally readily available to most inhabited localities of the Region. Mobile telephone communications in the Brampton Beach locality and in the Goldsborough Valley is generally less reliable, however NextG mobile network and the use of satellite telephones has improved this, but many smaller centres are still devoid of coverage..

Many rural properties rely on solar-powered telephone systems, utilising a battery back-up, which is vulnerable to failure in extended periods of inclement weather. Similar problems have been experienced with the failure of batteries and generators at exchanges.

The whole area is covered by broadcast radio, via ABC Far North on either AM or FM frequencies. Commercial radio providers have variable coverage of the area. The area is reasonably well served by free to air broadcast television, and subscription satellite television is becoming more popular in all areas. Broadcast radio and TV services are provided from studios in the City, Earlville and Parramatta Park and transmitters are located on Mt. Bellenden Ker, near Gordonvale and Trinity East. Dedicated telecommunications networks are also operated by the ADF units, Air Services Australia and numerous private sector networks such as fishing and mining. Council also has a dedicated Trunk Mobile Radio (TMR) network, which is the first line of communication for out-side Council staff and can be utilised as an alternative communication means during an event. TMRs rely on two communication towers, which are located at Yarrabah and Mt Bellenden Ker.

High speed internet connection is available in the larger centres, but dial-up or satellite-based access is still required in the more remote areas of the far north area. The internet is a communication medium used more and more but it is not 100% reliable. The planned National Broadband Network is scheduled to commence throughout the Cairns region in 2013 and the speed of internet services should be increased as a result of this service to a large section of the community.

Many of the private UHF and VHF networks such as taxis, police, emergency services, Council, etc. operate from base stations on Bellenden Ker and/or on prominent features on the coastal escarpment.

The above-ground telecommunications infrastructure has similar vulnerabilities to that of the power supply network and is also very heavily power-dependant.

Telstra land-line infrastructure is all underground reticulation. The system is therefore designed and installed to be robust against the ingress of water. The pit and conduit system is regularly inundated with water as part of the natural stormwater dissipation. The cable connection pillars, which are located above ground, are also sealed and positively pressurised to prevent the ingress of water.
Words around Telstra's current infrastructure with three optical fibre cables now installed to provide triple redundancy.

Generally a network site will continue to operate if power is maintained, water ingress is prevented and the link to the control exchanges is maintained. Telstra will determine the priority of site restoration in consultation with Emergency Services. Restoration of sites that have immersed may not be possible until water levels return to normal. Increase in site generation back-up and fuel storage following STC Yasi in 2011.

It should be noted that mobile phone base stations may be out of service due to high winds that can damage towers; therefore, the use of mobile phones should not be relied upon during emergencies. The mobile network can also become overloaded when a large number of people try to make calls on the one local cell.

Power Supply

Power supply for the Cairns Area is managed by Ergon Energy and is sourced from power stations near Rockhampton and Gladstone to the Bulk Supply Station at Caravonica for the Northern Beaches, Woree for the city and Edmonton for the southern area. There are two transmission lines into Cairns via the escarpment.

Cyclones are a major issue for power infrastructure. Lighting storm, landslide and wildfire could also affect major power transmission lines. In December 2008 at least 33,000 Cairns residents were left without power due to simultaneous lighting strikes to the major power supply lines of the region.

Referable Dams

Dams are deemed to be referable based on a failure impact assessment (FIA) which states that the dam has or will have a Category 1 (these put between two and 100 people at risk) or Category 2 (which put more than 100 people at risk) failure impact rating. Cairns has three such dams listed below;

- Copperlode Dam, Lake Morris Road
- McKinnon Creek Detention Basin, Edmonton

- Moody Creek Detention Basin, Kanimbla (under construction)

Water Supply

Water supply for the Cairns Area is drawn from Lake Morris which has a capacity of about 45,000 mega litres and also from the Behana Creek Weir. Water is piped to the Freshwater Creek Water Treatment Plant and distributed to consumers by gravity feed from at least 16 reservoirs and water towers throughout the Cairns Area. Reticulation involves over 1,909 km of water mains of various sizes, material and age.

Small supply systems provide for residents south of Aloomba and the Mulgrave Valley. These systems range from bores to creek supplies. Treatment includes mechanical filtration and disinfection with Chlorine.

Minor reservoirs are located at;

- Palm Cove - Captain Cook Highway
- University Reserve – Captain Cook Highway
- Whites Gap - Reservoir Rd
- Robson Street Reserve
- Henley's Hill - Yara Street
- Red Hill - Kite Close
- Roberts Road
- Draper Road
- Goldsborough - Foster Rd
- Frenchmen's Creek Babinda - Jago Street

Sewerage

Wastewater treatment plants are located at Babinda, Gordonvale, Edmonton, Southern (Portsmith), Marlin Coast (Smithfield) and Northern (adjacent to Cairns Airport) for the Cairns Area.. There are in excess of 100 wastewater pumping stations throughout the Cairns Area, most being in the low-lying areas.

The northern, southern, Marlin Coast and Edmonton plants recently underwent a major upgrade to improve the quality of wastewater being discharged into the local marine environment. Details of each WWTP are provided below:

a) Marlin Coast WWTP

Location: McGregor Rd, Smithfield
Service Area: Yorkeys Knob, Kewarra Beach, Palm Cove, Trinity Beach, Clifton Beach and suburbs in between including Caravonica.
Capacity: 30740 people or 8.3 ML/day
Treatment Standard: Tertiary
Treatment Process: The liquid stream is a 5 stage EBPR (Enhanced Biological Phosphorus Removal) configuration with 3 Clarifiers. Effluent is treated with UV and discharged to a feeder drain that enters Half-moon Creek. Sludge is dewatered from an Aerobic digestion system using a Belt filter press.
Recycled water initiatives: Yorkeys Knob State School, Half Moon Bay and Paradise Palms Golf Courses, Marlin Coast recycled water network. Scroll down for more information on the Marlin Coast Recycled Water network.

b) Northern WWTP

Location: Greenbank Rd, Aeroglen
Service Area: Brinsmead, Edge hill, Cairns North, Parramatta Park, Cairns City, Portsmith (from Fearnley St), Holloways, Machans and suburbs in between including Redlynch, Kamerunga.
Capacity: 71851 people or 19.4 ML/day.
Treatment Standard: Tertiary
Treatment Process: The liquid stream is a 5 stage EBPR (Enhanced Biological Phosphorus Removal) configuration with separate reactor tank for Submerged Membrane filtration (SMF). Effluent is discharged to the Barron River. Sludge is dewatered from an Aerobic digestion system using a Belt filter press.
Recycled water initiatives: some on-site use

c) Southern WWTP

Location: Machonachie St, Woree
Service Area: Part Mt. Sheridan, Part Whiterock, Westcourt, Bungalow, Portsmith to Fearnley St, Manunda, Manoora and suburbs in between.
Capacity: 71851 people or 19.4 ML/day
Treatment Standard: Tertiary
Treatment Process: The liquid stream is a modified Oxidation Ditch with separate anaerobic reactor and with separate reactor tank for Submerged Membrane filtration. Effluent is discharged to Trinity Inlet. Sludge is dewatered from an Aerobic digestion system using a Belt filter press.
Recycled water initiatives: Cairns Golf Club plus some on-site use

d) Edmonton WWTP

Location: Swallow Rd, Edmonton
Service Area: Southern estate on Peterson Road to Foster Road (western side of highway) and to Griffin Road on the Eastern side of the highway, Edmonton, Part Mt Sheridan, Part Whiterock.
Capacity: 24814 people or 6.7 ML/day
Treatment Standard: Tertiary
Treatment Process: The Liquid stream treatment is an Oxidation ditch with Clarifier. Effluent is treated with UV and discharged to Trinity Inlet. Sludge is dewatered directly out of the Bioreactor using a Belt filter press.

e) Gordonvale WWTP

Location: Rushworth Rd, Gordonvale
Service Area: Gordonvale
Capacity: 7037 people or 1.9 ML/day
Treatment Standard: Secondary
Treatment Process: The Liquid stream treatment is an Oxidation ditch with Clarifier. Clarifier Effluent is chlorinated and discharged to the Mulgrave River. Sludge is dewatered from anaerobic lagoons via centrifuge as required.

f) Babinda WWTP

Location: Clyde Rd, Babinda
Service Area: Babinda
Capacity: Just over 1000 people
Treatment Standard: Secondary
Treatment Process: Biological Trickle Filter system. Effluent is chlorinated and discharged to Babinda Creek. Sludge is sucked out of the Primary digester and taken to another plant as required

Cairns Regional Council operates a remote monitoring and operational system (SCADA) that enables instantaneous feedback on all water and sewerage infrastructure.

Backup power supplies are located at each WWTP and at major pump station facilities.

Solid Waste Facilities

There are a number of transfer stations located throughout the region, however in the event of storm damage easy accessible sites will be required for the disposal of green waste.

The transfer stations are located at:

- Lyons Street, Portsmith
- Dunne Road, Smithfield
- Bruce Highway, Aloomba
- Kruckow Road, Babinda

The refuse from the transfer stations is transported to regional landfill facilities in the Tablelands Regional Council area

Historically in the wake of significant events green waste dump areas have been established in the local community for community members to access.

Reticulated Gas Supplies

There are limited (part of Forest Gardens, the CBD and Port Douglas) reticulated gas supplies for Cairns and Far Northern Areas with the main method of supply for the region being in bottles.

Stormwater

Piped stormwater systems, culverts, open channels, bridges and floodways are in place in the more populated areas of the Cairns Regional Council area. Stormwater infrastructure in rural areas is typically limited to bridges, culverts, open channels and flood-ways.

Control of stormwater is essential to:

- providing access for emergency vehicles, residents, farms and businesses; and
- controlling damage to property and the environment.

Council has in place a series of Drainage Management Plans for the major catchments across the Council area. Council has in place strategies to systematically address known problem areas to improve management of flooding issues. It can be considered however, given the nature of the catchment area, that flooding is a part of life.

Given the low lying nature of the majority of the Council area along the coastal fringe, the development of effective drainage strategies is essential for maintaining access to many of the suburbs in the area.

Some key flood mitigation projects include;

- O'Leary's / Hemming's Creek Culvert Upgrade

- Kamerunga Road drainage upgrade
- Lake Placid Flood Mitigation infrastructure (Bund wall)
- Cairns CBD South Flood Mitigation Infrastructure:

The latter is an important flood mitigation project in the CBD; constructed primarily to manage inundation from heavy weather (rain). The system will drain under gravity at lower tides - gravity flows happening much of the time. At higher tide, the pumping capacity is 5 cubic meters/sec. A large volume of water is retained in the 1.6 metre diameter pipes beneath Lake and Wharf Streets and in the underground pump station itself.

Medical Facilities

Queensland Health provides public hospitals in Cairns, Mossman, Babinda and Gordonvale. Primary Health Care Centres are located in Cairns North, Edmonton and Smithfield. Ramsay Health provides a private hospital and day surgery facilities in Cairns.

Cairns Base Hospital

Cairns Base Hospital provides community and specialist hospital services for Cairns and its immediate surroundings and is the major referral centre for Tropical North Queensland. Services include all major health specialties (medicine, surgery, women's health, paediatrics and mental health) and more than 30 sub-specialties. The hospital also is a major provider of outreach specialist services to remote and rural areas, including:

- Division of surgery
- Obstetrics and Gynecology
- Speech pathology
- Anaesthetics
- Orthopaedics
- General Medicine
- Renal Medicine
- Diabetes
- Thoracic Medicine
-

The hospital has around 450 overnight beds.

A current $454 million redevelopment of the Cairns Base Hospital is in the final stages of completion and will result in a bigger and better hospital for the region, with an additional 168 beds.

In addition to cyclones, The Cairns Base Hospital is located in a storm surge zone which is a major natural hazard issue for the hospital. On 2nd of February 2011 the hospital was evacuated due to Severe Tropical Cyclone Yasi. Critical patients were sent to Brisbane hospital and other patients who required medications were sent to regional/private hospitals. In an emergency situation Queensland Health , Ramsay Health Care (Cairns Private Hospital) and Cairns Day Surgery, communicate and assist each other and surgery facilities can be provided by each party, if required.

In an emergency situation normal operations of the hospital are suspended including some elective surgeries. Only emergency services and temporary medical services like first Aid are provided. Communication of QLD Health staff is by two-way radios, two fixed in satellite phones at Cairns Base Hospital and other satellite phones.

These satellite phones can only be used outside of the building. Telecommunications will not be affected if power is maintained to computer racks and the PABX. Information Technology Systems are primarily affected by the availability of power and network links. The information Division identify and prioritise essential communications services like medical imaging and paging system for the disaster and recovery period. All hospitals have generators which are tested each month.

Cairns Base Hospital has 6 emergency power supply generators 4 of them in Block B and 2 of them are located at Block C. In an emergency situation these generators can supply Cairns Base Hospital power demand independently for 3 to 4 days. Cairns Base Hospital has standby power generator (trailer mounted) to supply power to alternative site if necessary. Generator rating is 100kVA 3 phase 415V 50Az – Olympian GEH100-2. Generator base fuel tank is 300 litres and extra mobile 1000 litre fuel bladder also acquired for back up fuel purposes. Cairns Base Hospital has a total of 150,000 litres of water on site; 30,000 litres in Block A, 60,000 litres in Block B and 60,000 litres in Block C. Essential services-water will last for 2 days whereas normal-services water capacity is 1 day.

Three alternative care sites have been identified if Cairns Base Hospital is required to evacuate due to a disaster incident. These alternative sites are TAFE (1.7 km form Cairns Base Hospital), James Cook University (14 km from Cairns Base Hospital) and Woree State Primary School (5.8 km form Cairns Base Hospital). Utilization of each alternative site is depends on type and size of the disaster.

TAFE Nursing Education Block J located in the TAFE facility Eureka Street, Manunda is the closest alternative to Cairns Base Hospital and was built in 2010. It offers stretcher access, vehicle flow ability, large open area for triage, 16 bed bays, patients/staff - toilet/shower access, three phase power and power outlets, digital two-way communication network access and multiple buildings are some of the core facilities of the site.

JCU Nursing Education Building A2 and JCU Dental Building 1 located in the JCU facility, McGregor Road, Smithfield. None of the buildings are in a flood zone and have an undercover drop off zone, vehicular flow, stretcher access 6 bed bays (2 offer privacy), toilets, kitchen, staff rest area and generator on site.

Woree State Primary School (sporting building) was built in 2011. It is not in a flood zone and has stretcher access, vehicular flow, access to other buildings, three phase power, kitchen/staff area and good lighting are some of the core facilities of the site.

Each of the above sites has helicopter landing facilities.

Babinda Hospital

The Babinda Hospital is a 20 bed facility providing Accident & Emergency; Acute Medical; Restorative Care Services; Palliative Care; Emergency in-hospital Respite Care; Pharmacy; Radiography and limited inpatient physiotherapy. It also provides community health nursing services.

It provides outreach ATSI health services and receives significant visiting specialist services.

Gordonvale Hospital

The Gordonvale Hospital comprises of a 12 bed Palliative Care inpatient unit, an Outreach Palliative Care Service and Sub acute services in the 12 bed Older Persons Evaluation Rehabilitation and Assessment Unit (OPERA Unit).

While the hospital primarily provides Palliative Care and Sub Acute Services, there is an emergency response service in which patients are treated and referred appropriately.

Community Health Centres

Community health services include: before and after hospital care; cardiac rehabilitation; community nursing; counseling services; hearing health screening; health education and promotion; home care services; immunisation services; oral health (dental clinics); Positive Parenting Program; school health; baby clinics. Community Health Centres are located at:

- Cairns North
- Edmonton
- Smithfield

Cairns Private Hospital
Cairns Private Hospital's medical services cover a range of needs including:

- Cardiology
- Endocrinology
- Gastroenterology
- Respiratory Medicine
- Dermatology

Cairns Private Hospital has a fully-equipped 7 bed intensive and coronary care unit. An extensive range of surgical services is offered including orthopaedic, vascular, urological, gynaecological and general services.

Private Medical Practitioners

Private medical practitioners are located throughout the Cairns region including Cairns, Edmonton, Gordonvale, and Babinda.

Mortuary Capacity (formal)
The following facilities have mortuary capacities available for use in the event of a natural hazard. The LDMG-CR is undertaking further discussions with these facilities to determine the actual capacity available.

- Cairns Base Hospital
- Cairns Private Hospital
- Gordonvale Hospital

3.3 Public and Other Major Buildings, Spaces, and Events

Cairns has a number of major shopping centres and a CBD area that attracts a significant number of shoppers and tourists on a daily basis. Two of the major shopping centres include cinema complexes and the CBD has a very active entertainment precinct along with many restaurants.

3.3.1 Public and Other Buildings

Throughout the Region there are a number of public and other major buildings, including but not limited to:

- Cairns Regional Council Administration Building
- Cairns Regional Council Local Disaster Coordination Centre
- Cairns Regional Art Gallery
- Cairns City Library plus seven branch libraries
- Cairns Civic Theatre
- Cairns Convention and Conference Centre
- Cairns Reef Casino
- Cairns Corporate Tower
- Major resorts and accommodation precincts.

3.3.2 Major Public Spaces

- Cairns Esplanade
- The Pier Shopping Precinct
- Cairns Night Markets

3.3.3 Annual Special Community Events

- New Year's Eve;
- Australia Day celebrations
- ANZAC Day
- Cannon Park special race-days;
- Cairns Festival;
- Sustainable Living Expo
- Seniors week
- Chinese New Year
- Cairns Show;
- Cairns Airport Adventure Festival
- Carols by candlelight
- Christmas events

3.4 Critical Infrastructure

Cairns Region contains:

- 2713 km of road network including 338 km of unsealed roads
- 234 road and pedestrian bridges including 16 timber bridges
- 311 km of bikeways/footways
- 2100 ha. recreational parks and reserves
- 442 km of underground drainage
- 182 km lined and unlined drains
- 23 boat ramps
- 3 marinas
- 1909 km water supply pipelines
- 2442 km sewerage pipelines

3.5 Hazardous Sites

There are a number of potential hazards and hazardous sites in the Cairns Region as follows:

- The Bruce Highway to the south, the Captain Cook Highway to the north, the Kennedy Highway to the west and the rail links to the south and west all carry bulk hazardous substances in a variety of containers
- Bulk fuel and gas storage facilities are concentrated in Portsmith, with secondary (especially operational) storage of specialist products at facilities such as the airport (avgas and jet fuel), HMAS Cairns (bunker and diesel fuel) and some of the larger industrial and transport facilities (mostly diesel)
- There are major hardware and cooperative warehouses at Portsmith, Bunning's in Cairns CBD and Smithfield, Cairns Hardware in Bungalow, and Masters Hardware in Cairns CBD
- Marine facilities adjacent to Portsmith
- Bulk storage and distribution centres for products such as cement, paint, agricultural chemicals, pharmaceuticals, raw sugar, molasses, timber and hardware, as well as transport and handling equipment are concentrated close to the port and rail- head facilities of Portsmith
- Gordonvale Sugar Mill

Asbestos Probability Risk Mapping

Cairns Regional Council has undertaken mapping of residential areas in Cairns where the potential of the houses to contain asbestos has been identified. In large post event clean-up (e.g. Tully Heads post TC Yasi), these maps will enable the LDMG and Council to better understand the magnitude of task and better execute its management plans.

These maps will also allow the different organisations that would carry out refurbishment / demolition of residential properties after a disaster event, to be aware of the potential for asbestos to be present and therefore take appropriate measures to deal with the asbestos disposal.

In Cairns, the Portsmith Waste Transfer Station is the only waste transfer station that is nominated to accept the disposal of asbestos. Asbestos must be in small manageable size and total quantity has to be less than 250kg to be accepted at the Portsmith Transfer Station.

The Springmount Waste Transfer Station on the Tablelands is the nearest facility to accept large volumes of Asbestos for disposal.

PART 4 IDENTIFIED NATURAL HAZARDS

The *Cairns Natural Disaster Risk Management Report 2002* was adopted by the City of Cairns in 2002 and the *Cairns Natural Hazard Context Report (*AECOM, 2014*)* was adopted by the Cairns LDMG in 2014.

The studies were undertaken to provide updated information on risks within the previous Council areas and took into consideration earlier studies.

A significant element of the process was the consideration of how a reduction in disaster risk can protect the community against loss of infrastructure, damage to the natural environment, compromised standard of living and economic failures brought about by disasters.

Other studies and relevant reports are:

- Community Risk in Cairns – AGSO Cities Project 1999, this report considered threats from earthquake, landslide, flood and cyclone and their effect on the Cairns community;
- The Flood Risk in Cairns – Bureau of Meteorology 2001;
- Treating Risks in Cairns – Ken Durham 2000;
- Cyclone and Storm Surge Threat to Cairns Regional Council Area C. Norris Cairns CC;
- The Tropical Cyclone Risk in Cairns – BoM 2001;
- Cyclone Surge and Community Preparedness – James Cook University 1999;
- Cairns Counter Disaster Plan – 1999;
- Copperlode Falls Dam Emergency Action Plan – October 2013;
- CairnsPlan - 2005
- CairnsPlan – Consolidated Planning Scheme 2009;
- Natural Disaster Risk Management Study – 2002
- Cairns Natural Hazard Risk Assessment 2013
- AS/NZS 31000:2009 – Risk Management.

4.1 Context

The natural disaster risks in the Cairns Regional Council boundaries range from low to extreme (based on previous studies) and require continuing management by Council to offset the risks.

As defined in the Disaster Management Act 2003:

> "*A **disaster** is a serious disruption in a community, caused by the impact of an event, that requires a significant coordinated response by the State and other entities to help the community recover from the disruption*."

Included in the impacts of a disaster is the threat to cause any of the following:

- widespread or severe property damage
- widespread or severe human injury or illness
- loss of human life.

A **natural disaster** includes any of the following:

- cyclone
- storm surge
- flooding
- landslide
- severe thunderstorm
- wildfire
- earthquake
- Tsunami.

In disaster risk management, a risk is defined as a concept used to describe the likelihood of harmful consequences arising from the interaction of hazards, communities and the environment. Consequences may include loss of life, personal injury, property damage, persons isolated from essential services and supplies and economic activity disrupted. Risk is measured in terms of likelihood and consequences.

Management is the policy, administrative decisions and operational activities relating to disaster prevention and mitigation, preparedness, response, and recovery.

Drought and non-natural disasters, such as an explosion, any accident; any disease; a failure of or disruption to an essential service or infrastructure; and an attack directed against the State are not included in the scope of a natural hazard.

4.2 All Hazards Description

A significant volume of work has been undertaken on the description and impacts of natural hazards in the Cairns region. The following commentary has been based on extracting information from those reports. A key document in preparing the following commentary has been the *"Community Risk in Cairns - A Multi-Hazard Risk Assessment"*, prepared by the Australian Geological Survey Organisation in 2001. Rather than rework the existing information it has been reproduced below with the intention of updating it with more recent information as the study progresses.

4.2.1 Cyclones

Tropical cyclones pose a considerable threat to Cairns. In the 134 years since the settlement was established there have been in excess of 60 cyclones that have had some effect on the town - that is, an average of a cyclone every two years. They bring with them the multiple threats of destructive winds, heavy rain and storm tide inundation.

Due to its latitude the Cairns region is vulnerable to tropical cyclones from two directions, either from the Pacific Ocean to the east or from the Gulf of Carpentaria from the north-west.

The conventional response to an impending cyclone impact is for people to take shelter in their own homes. In those areas that would be subject to storm tide inundation, however, this is not an appropriate option as many people in such areas would be exposed to a significant risk of drowning, especially if the level of inundation exceeds 1 m over floor level. Recent experiences with Cyclone Yasi highlighted issues associated with voluntary and forced evacuations of at risk areas in the community.

Evacuation of those people at risk must be completed before the cyclone impact reaches certain strength, typically 75 km/hour; the strength at which it ceases to be safe for anyone to be out of doors. For storm tide events with annual exceedence probabilities of 1% or greater (an average recurrence interval of at most 100 years) the numbers of people involved are relatively small and could be easily managed with appropriate warning, planning and community awareness. Beyond that level, however, a considerable effort would be required to manage the numbers of evacuees involved unless the vast majority were prepared to undertake their own evacuations beginning at least 24 hours before the forecast cyclone impact time. Delay in commencing a major evacuation process will increase the risk of people being caught in the open or in their transport when the cyclone hits because of gridlock on the roads leading out of the danger area.

Figure 8: Australian Tropical Cyclone Categories

Category	Strongest Gust (km/h)	Typical Effects (indicative only)
1 (Tropical Cyclone)	Less than 125 (Gales)	Negligible house damage. Damage to some crops, trees and caravans. Craft may drag moorings.
2 (Tropical Cyclone)	125-169 (Destructive winds)	Minor house damage. Significant damage to signs, trees and caravans. Heavy damage to some crops. Risk of power failure. Small craft may break moorings.
3 (Severe Tropical Cyclone eg. *Roma*)	170-224 (Very destructive winds)	Some roof and structural damage. Some caravans destroyed. Power failure likely.
4 (Severe Tropical Cyclone eg. *Tracy*)	225-279 (Very destructive winds)	Significant roofing loss and structural damage. Many caravans destroyed and blown away. Dangerous airborne debris. Widespread power failures.
5 (Severe Tropical Cyclone eg. *Vance*)	More than 280 (Very destructive winds)	Extremely dangerous with widespread destruction.

Whilst a severe cyclone will have a major immediate impact on Cairns with potentially significant loss of life and massive damage, the long term impact will also be catastrophic. In an extreme event, most survivors would need to be evacuated to centres as far away as Brisbane and Sydney (as was the experience of Darwin following the impact of Cyclone *Tracy* in 1974). The loss of facilities on which the community relies would be such that the city would be virtually uninhabitable for an extended period. Figure 13 shows the annual number of cyclones in Australia.

The application of building code standards for domestic structures since 1982 and the inclusion of storm tide hazard as a constraint in the urban planning process in Cairns since the early 1990s have certainly slowed the rate at which risk would otherwise have increased. Significant reduction in risk will not be possible until the concentration of population, economic activity and community services in the highest risk areas of Aeroglen, Cairns North, City, Machans Beach, Manunda, Parramatta Park and Portsmith is reduced significantly. Figure 14 demonstrates cyclones from 1970 to 2004.

Figure 9: Average Annual Number of Tropical Cyclones in Australia

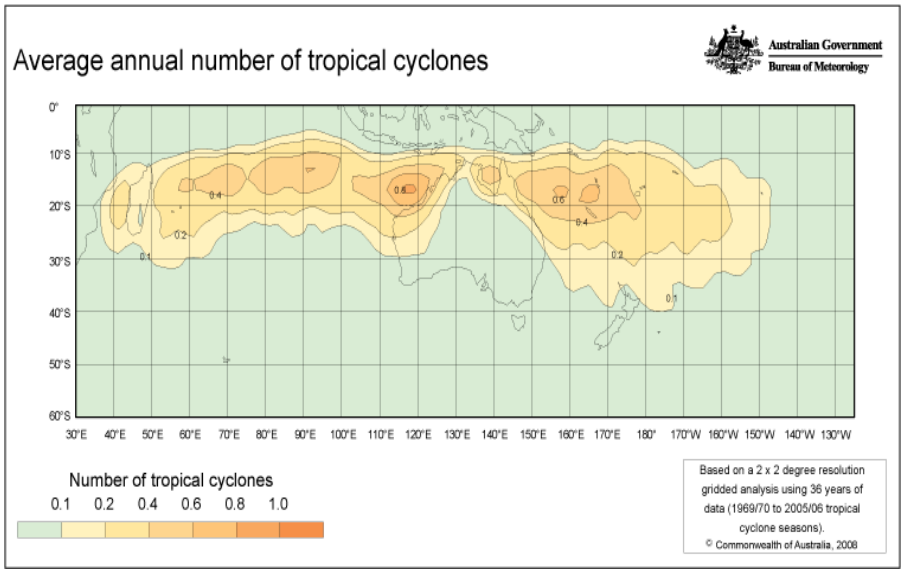
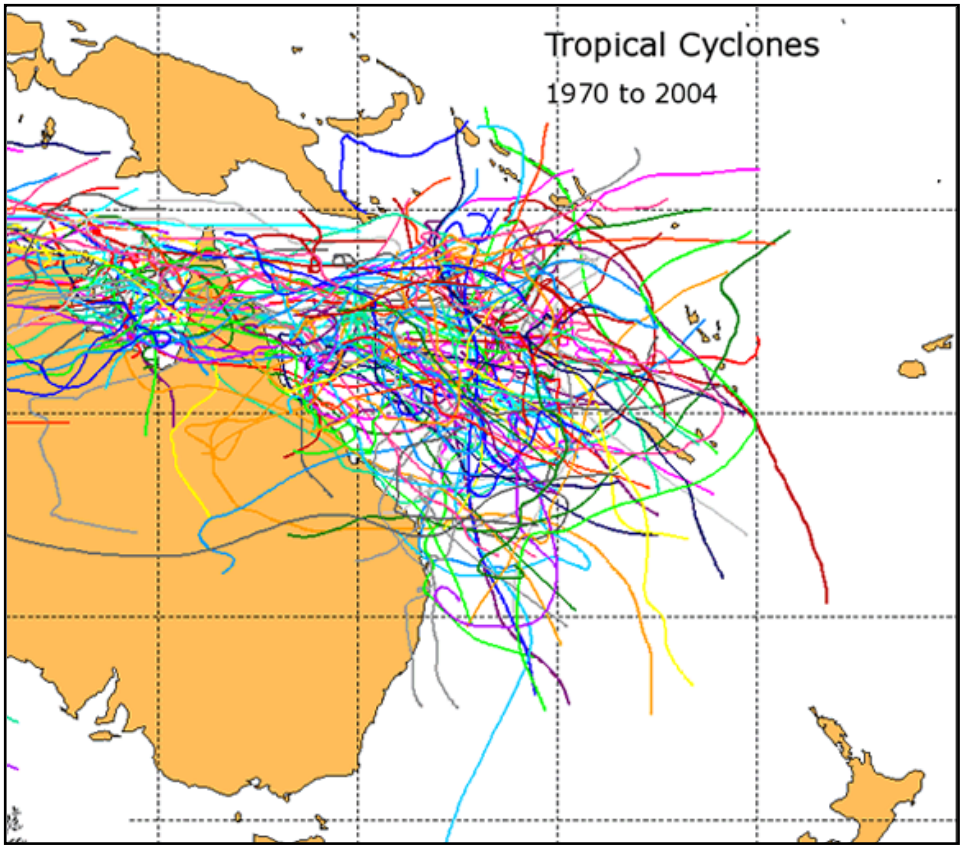


Figure 10: Incidence of Tropical Cyclones 1970 – 2004



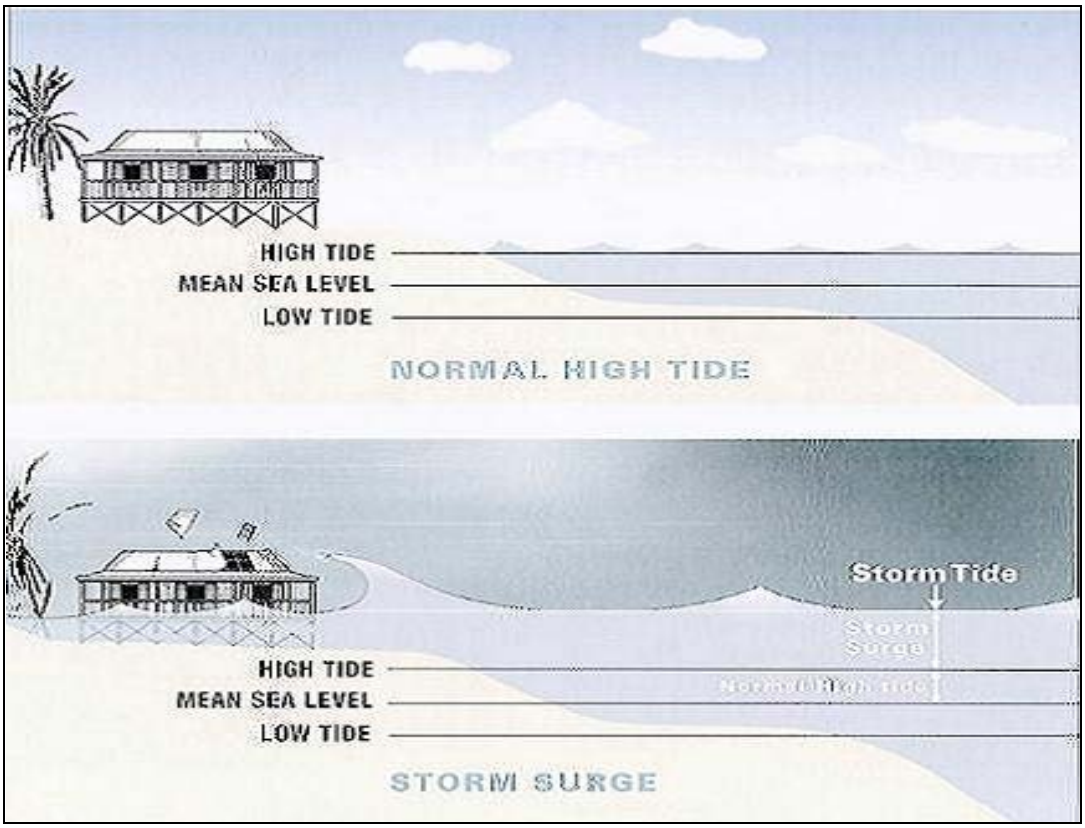
4.2.2 Storm Surge

The Bureau of Meteorology describes a storm surge as a rise above the normal water level along a shore that is the result of strong onshore winds and/or reduced atmospheric pressure. Storm surges accompany a tropical cyclone as it comes ashore. They may also be formed by intense low-pressure systems in non-tropical areas.

The combination of storm surge and normal (astronomical) tide is known as a 'storm tide' (refer to Figure 17 Storm Surge).

The worst impacts occur when the storm surge arrives on top of a high tide. When this happens, the storm tide can reach areas that might otherwise have been safe. On top of this are pounding waves generated by the powerful winds. Communities that front the coast line are at most risk from storm surge.

Figure 11: Storm Surge



(http://www.bom.gov.au/info/cyclone/storm_surge/storm_surge.shtml)

Storm surge is of particular concern to the Cairns local authority area coastline. Significant damage to coastal communities to the south of Cairns during cyclone Yasi in 2011 provides a clear example of the risks facing Cairns in the event of a direct impact from a severe tropical cyclone.

The need to evacuate “at risk” populations in the period leading up to the impact of the cyclone has been discussed in section 3.2.3 above.

Generally the Cairns coastline is at severe risk of storm surge.

The first recorded instance of a significant storm tide in Queensland is the 3.1m surge in 1884 at Bowen however Green Island was reputedly overtopped by waves in 1858 (Jones 1976). Much of the earliest collected data remains in unpublished form with the Bureau of Meteorology in Brisbane.

Table 17: Significant storm tide events on the Far North Queensland east coast

Year	Place	Event	Est. Central pressure (hPa)	Surge height (m)	Reference
1899	Bathurst Bay	Mahina	914	13=	Prof Nott, Green, Townsend & Callaghan (2013)
1918	Innisfail	-	928	<3	Harbours & Rivers Dept. (1918)
1920	Cairns	-	988	>1.5	Jones 1976
1934	Port Douglas	-	968	>1.8	Moorhouse (1936)
1934	Cape Tribulation	-	978	9.1	Bureau of Meteorology
20	Mission Beach	Yasi	929	5	Bureau of Meteorology

(= exceeded HAT)

(Source: Storm Tide Threat in Qld, History, prediction and relative risks, B Harper 1998)

4.2.3 Flooding

Flooding is caused by prolonged periods of monsoonal rains, severe thunderstorms and rain from cyclonic weather systems. When runoff from heavy rainfall becomes concentrated in creek and river systems that are unable to cope with these large quantities of water, the breaching of creek and river banks occurs and the inundation of normally dry land results.

Slow onset flooding occurs in areas of vast, flat, low-lying topography. Slow onset flooding generally results in major losses of livestock, damage to crops and extensive damage to rural communities and to roads and rail links.

Flash flooding results from relatively short, intense bursts of rainfall quite often from severe thunderstorms. Flash flooding poses the greatest threat of loss of life as people are often swept away after entering floodwaters on foot or in vehicles. These floods can also result in significant property damage, dislocation and isolation of people.

For the purpose of classification, the Bureau of Meteorology divides floods into the following descriptive categories depending on their frequency and associated consequences:

- Minor flood: Occurs quite frequently, results in some inconvenience such as temporary closure of local and rural access roads and water over low level causeways and culverts;
- Moderate flood: Expected to occur every few years, low-lying areas affected, removal of livestock and/ or evacuation of some homes necessary, low-lying access roads and culvert and bridge structures submerged, generally minor to moderate impacts, some response action required;

- Major flood: Average Recurrence Interval (ARI) > 10 years, extensive areas affected including higher areas, towns and properties isolated, evacuations of many houses and business premises necessary, widespread flooding of rural areas, major disruptions to road and rail links, possible loss of life, major response and recovery action required.

Extreme flood: ARI > 100 years, large areas of developed and rural land severely flooded, severe to catastrophic impacts, likely loss of life, major response action, recovery may take years.

Whilst flooding causes inconvenience and some dislocation in Cairns on average about once every two/three years, it poses a relatively limited threat to people and buildings because urban development has largely been excluded from the most flood-prone areas of the Barron River delta. This exclusion reflects the community's experience of at least nine episodes of major flooding since the establishment of the Trinity Inlet settlement in 1876.

The loss of sugar cane and damage to roads and other infrastructure on the delta and along Freshwater Creek carries with it a significant economic loss. The most significant inconvenience caused by moderate to major flooding in the Barron River system is the isolation of the northern beachside suburbs from downtown Cairns, with its critical facilities such as hospitals and airport. The Cairns Western Arterial Road will be inundated in a Q50 flood or greater at sections of the road adjacent to Caravonica and Lake Placid. Refer to figure 7 below.

Road and rail access to Cairns can also be blocked from the south by flooding in the Mulgrave and Russell Rivers. A recent upgrade of the Mulgrave River bridge has improved southern road access to Cairns.

Limited flood mitigation works have been established, the main work being the levees that protect the airport. The flood warning system for the Barron River operated by the Bureau of Meteorology is very effective and provides residents in flood-prone areas with adequate time to prepare for flood and/or to evacuate if that is indicated. Formal land use planning constraints on development within the area likely to be affected by a flood with an average recurrence interval of 100 years have been in force since the early 1990s.

Other mitigation works in the CBD south catchment and in the Caravonica area have been undertaken since 2005.

Flash flooding in the other catchments, especially the streams that flow into Trinity Inlet, is a potentially significant problem. Not only are there significantly more properties exposed to urban drainage surcharge in the downtown area than there are on the Barron delta, but also the risk to life is significant because of the rapid onset of flash floods and the propensity for careless or foolish behaviour by some people in and around floodwaters.

The *Community Risk in Cairns* report assessed the number of buildings, length of roads and area of cane land in each of the Barron River delta suburbs which would be affected by Barron River flood scenarios of various annual exceedence probabilities (average recurrence intervals). The impact on these communities, emergency management issues, and key facilities affected are discussed in that report.

Subsequent to the *Community Risk in Cairns* report being prepared CRC has undertaken significant flood studies and associated mapping to identify inundation areas.

4.2.4 Landslides

Generally until recent events such as the Thredbo landslide there had been little public recognition that landslides were a significant threat to life in Australia. Where landslides occur, their physical impact is typically confined to a few properties or a short length of road or railway. Their effect, however, can be disturbing and disruptive and occasionally fatal.

Insurance policies in Australia do not normally cover landslide, and this can add to the anguish of property owners.

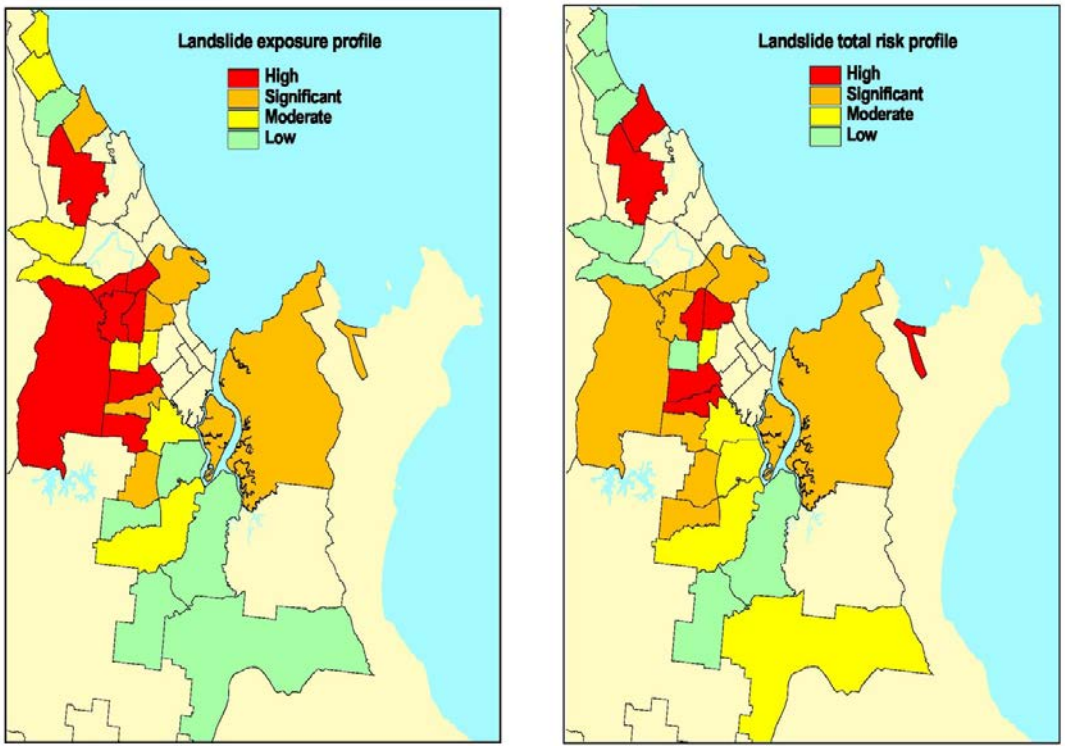
For Cairns, landslide has been, and remains, a significant risk, as evidenced by events such as the massive Ellis Beach debris flows that buried 10 km of the Captain Cook Highway in 1951, and the frequent impact on road and rail links to Kuranda and elsewhere. Recent wet seasons have seen significant repeated closures of the Captain Cook Highway to Port Douglas as well as the above referenced Kuranda Range impacts, closing the road for periods. Minor landslides occur in and around Cairns disrupting local traffic for short periods e.g. the Cairns West Arterial Road near Park Ridge.

Most landslides recorded in the Cairns area appear to be associated with disturbances of the natural surface by activities such as the construction of roads and the excavation of building sites. As development extends increasingly onto the hill slopes in areas such as the Freshwater valley, the risk of landslide impact will increase unless appropriate mitigation strategies and engineering design standards are adhered to. Experience over at least 70 years has demonstrated that flash flooding and/or debris flows in the Freshwater valley have the potential to severely dislocate the Cairns water supply.

The landslide study undertaken as part of the *Community Risk in Cairns* report was a quantitative landslide risk assessment carried out at a relatively broad reconnaissance level. The mapping below was developed however should not be interpreted, without more detailed geotechnical investigation, at the individual property level.

Figure 12 below show the profile of exposure to landslide and the total risk (based on community vulnerability). Again, similar mapping is not available for the old Douglas Shire local government area.

Figure 12: Cairns Landslide Profile



4.2.5 Wildfires

There is a broad variance in wildfire risk across Cairns.

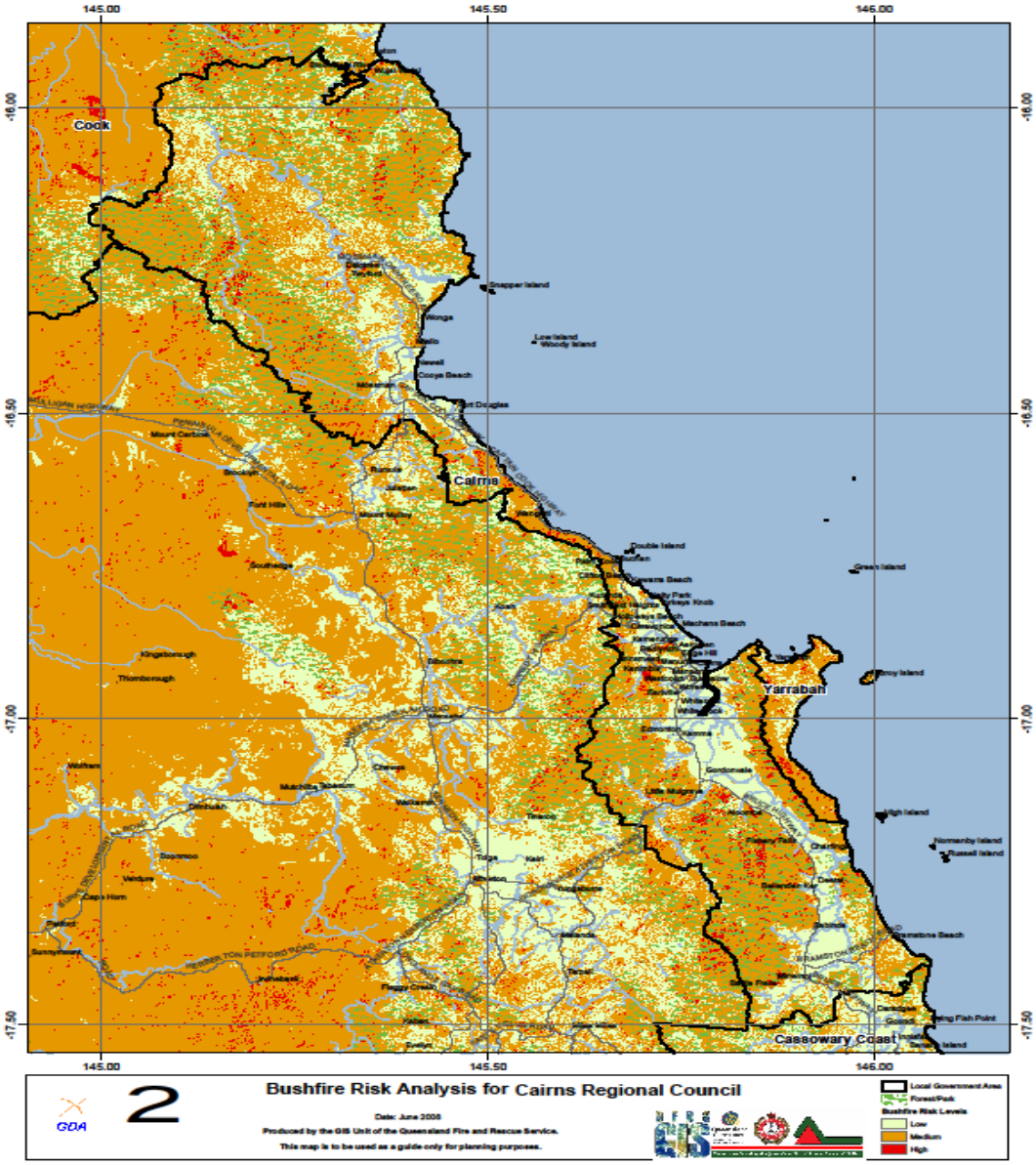
In the more built up areas of the city the risk is minimal due to the lack of vegetation. Moving out of the built up areas and into the more heavily treed hill slope areas the risk rises to medium risk in many areas to extreme risk in others.

During the drier moths it is not uncommon to observe bushfire in isolated areas throughout the local government area.

With the increase in development across the region it is quite important that where rural residential lots impinge into the bushlands appropriate risk analysis be conducted and mitigation strategies be applied to reduce the threat of bush fire.

Mapping of the bushfire risk across the local government area is contained in the planning schemes for Cairns Regional Council for each planning area. Figure 14 below shows a consolidated plan for Cairns.

Figure 13: Bushfire Risk Analysis for the Cairns Regional Council



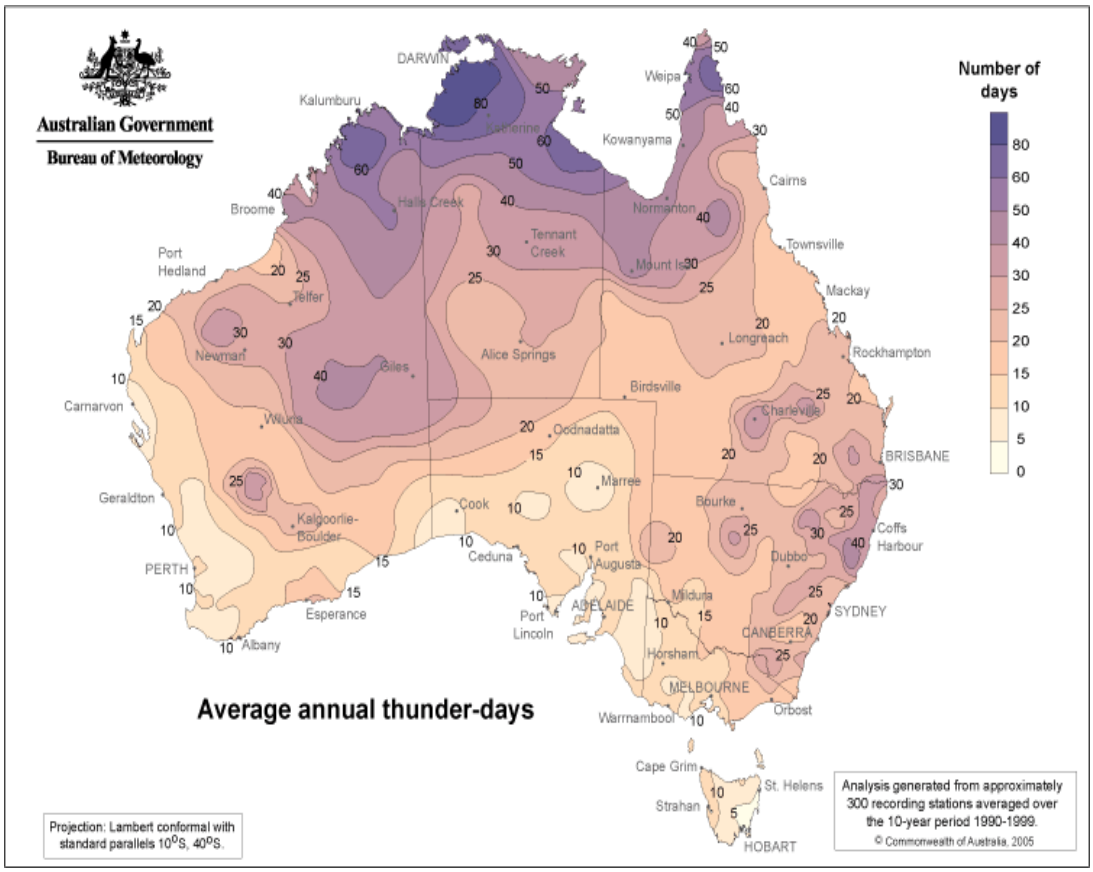
4.2.6 Severe Thunderstorms

A thunderstorm is deemed severe if it produces one or a combination of the following events:

- flash flooding
- hailstones (2cm diameter or greater at the ground)
- destructive wind gusts (90km/ h or greater)
- tornado vortexes.

Thunderstorms that lack the intensity required to produce the above phenomena, although not regarded as severe, still have potential to cause death, injury and damage to infrastructure due to lightning strikes.

Figure 14: Average Annual Thunder Days in Australia



Impacts of storms are generally very isolated, with strong downdraughts and mini tornado vortices causing damage to small areas of trees or one or two buildings only. The duration of impact is generally limited to under an hour and the area of coverage is isolated. Impacts usually occur suddenly but the build-up of a severe storm is generally noticeable.

The sparse distribution of meteorological observation stations and population in Far North Queensland makes the compilation of information on the characteristics and frequency of severe thunderstorms difficult. The recording of such information is currently reliant on observations and the submission of reports from people who experience the thunderstorm.

The Cairns area is known to be subject to severe thunderstorms on a regular basis.

4.2.7 Earthquakes

An earthquake is a release of energy to the earth's surface that occurs when stresses stored in rocks are suddenly converted to horizontal, vertical and lateral displacements. Stresses are created at the interfaces of the tectonic plates of the Earth's crust by plate movement and collision.

Vibrations in the forms of waves (seismic waves) are produced and travel outwards in all directions at up to 14 kilometres per second. The waves cause peak ground velocity or acceleration, which are horizontal, vertical and lateral ground motions.

The epicentre is the point on the Earth's surface directly above the source, or focus, of the earthquake. It is at this point on the surface that the effects of an earthquake will be most strongly felt.

Small, low energy faulting events that cause little or no damage to the environment and to man-made structures occur more frequently than do large severe events. They can last for only a few seconds or for minutes. After an initial impact, after-shocks usually of lesser intensity can impact in a series over a number of hours or days.

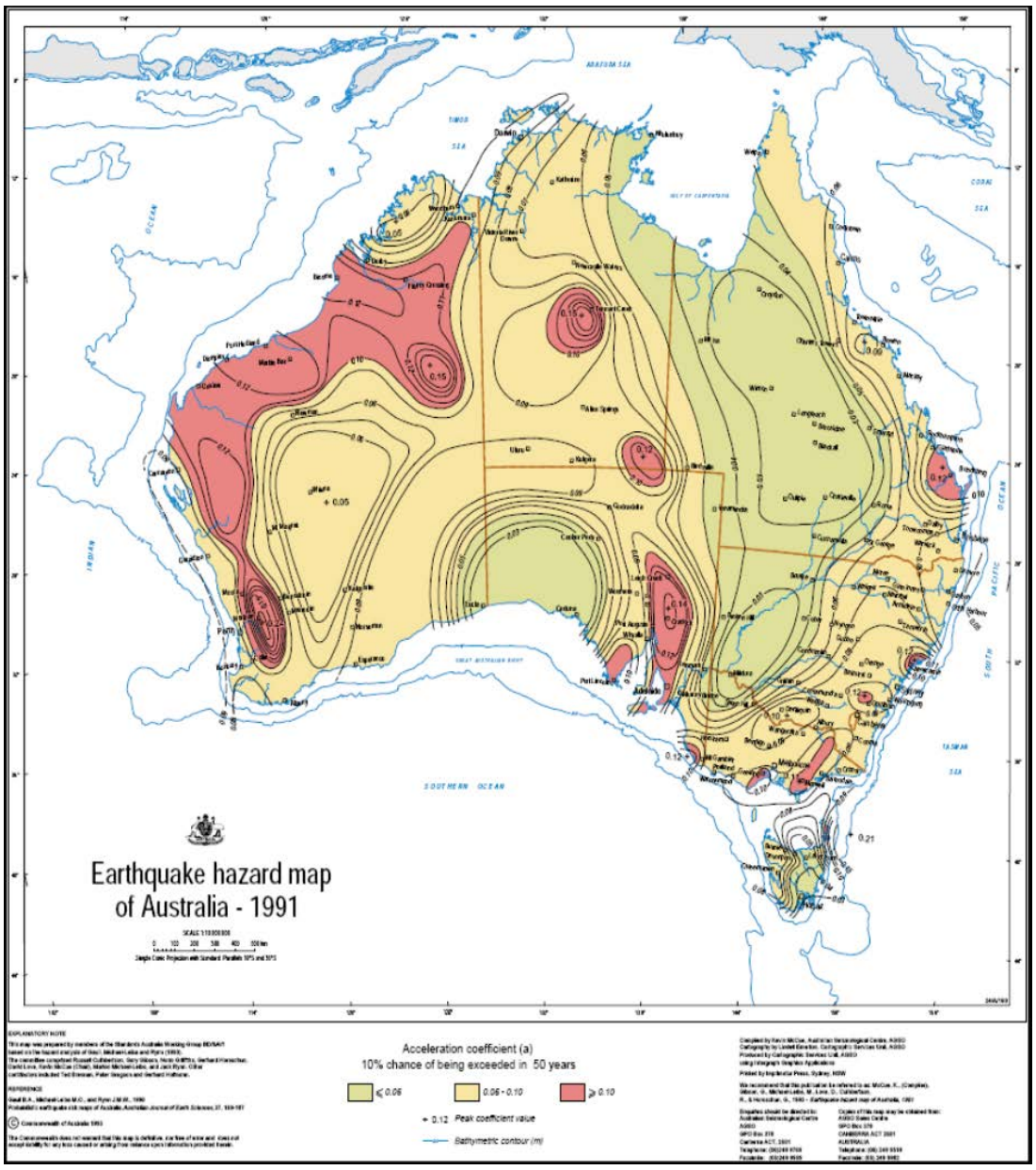
The Magnitude Scale is used to measure the magnitude of an earthquake. For every unit increase in magnitude on the Magnitude Scale, there is roughly a thirty-fold increase in the energy released by an earthquake, i.e. a magnitude 2 earthquake releases 30 times more energy than a magnitude 1 earthquake.

Table 1 displays the general effects of earthquakes of differing magnitudes on populated areas.

Table 18: General Effect of Earthquakes of Differing Magnitudes

Earthquake Magnitude	General Effect
2.0 – 3.4	May be felt within a few kilometres of the epicentre only otherwise recorded only by seismographs
3.5 – 4.2	Felt by some people who are indoors
4.3 – 4.8	Felt by many people and windows rattle
4.9 – 5.4	Felt by everyone, while dishes break and doors swing
5.5 – 6.1	Cause slight building damage with plaster cracking and bricks falling
6.2 – 6.9	Cause much building damage and houses move on their foundations
7.0 – 7.3	Cause serious damage with bridges twisting, walls fracturing, and many masonry buildings collapsing
7.4 – 7.9	Cause great damage and most buildings collapse
> 8.0	Cause total damage with waves seen on the ground surface and objects are thrown in the air
> 8.6	Unlikely to occur due to limited amount of stress that rocks can store before breaking

Figure 15: Australian Earthquake Hazard Map



The movement of the ground in an earthquake is seldom the direct cause of death or injury. Most casualties result from falling objects and debris resulting from damage to buildings and other infrastructure. The failure of man-made structures during an earthquake is due to the horizontal and vertical ground displacements caused by earthquake action.

People and infrastructure in large population centres are the most vulnerable to earthquake impacts. The effects of earthquakes on populated areas depend on factors including the distance from the earthquake epicentre, the type and profile of the soil on which infrastructure is situated, and the building construction of the area.

Only since 1993 for the whole of Australia, and previously since 1979 for specific locations in Australia, has earthquake loading for specific building types had to be considered. However, buildings designed in accordance with Australian Standards code requirements for design against wind loads initiated in the 70's and 80's will generally fare better than other buildings constructed prior to wind code requirements due to the provision of lateral bracing.

Generally, braced, low set timber framed houses will fare considerably better than a rigid, tall, heavy concrete or masonry buildings under earthquake loading. Fallen power lines are a hazard, as are fires that may be caused by broken gas lines, fuel reservoirs or by chemical spills, with the fire hazard amplified by broken water mains hindering fire fighting efforts.

Earthquakes have not in the immediate past been a major threat in the Cairns area. *Recent* historical data exists in relation to tremors which have caused minor damage, but none has caused any great concern.

Notwithstanding, the existence of even a slightly volatile seismic environment acts as a prompt for maintaining situational awareness of the threat, and its possible consequences.

Table 19: The ten strongest recorded earthquakes within the Cairns Regional Council's boundaries

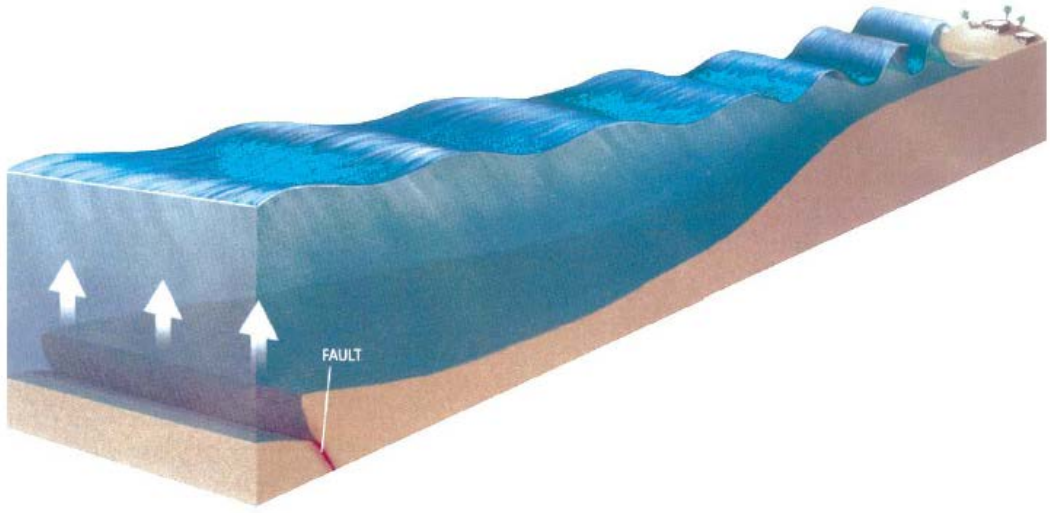
Date	Magnitude (Richter Scale)	Location
04 Sep 1994	4	18km NNW of Chillagoe
27 Feb 1961	3.7	15km N of Wrotham Park
06 Nov 1992	3.5	3 km S of Ravenshoe
11 Feb 1999	3.4	21km NE of Almaden
19 Jun 1950	3.2	1km ESE of Evelyn
20 Mar 2000	3.1	3.7km SE of Yungaburra
24 Jun 1961	2.9	25km SE of Ravenshoe
20 Aug 1993	2.9	35km SW of Wrotham Park
29 Jan 1992	2.7	3.7km SE of Yungaburra
18 Nov 2007	2.5	30km SW of Wrotham Park

4.2.8 Tsunamis

A Tsunami is a series of ocean waves that are generated by underwater disturbances, most commonly caused by earthquakes or landslides. Tsunami is a Japanese word meaning: harbour (tsu) and wave (nami). Tsunami's can travel across large tracts of ocean in relatively short periods of time and can range from a few centimetres to tens of metres in height. Waves can be a few minutes or over two hours apart. In most cases, the first Tsunami wave is not the largest. Subsequent waves, sometimes the fifth or sixth, can be many times larger.

Figure 16 below shows how a rupture with one tectonic plate slipping under another causes a Tsunami wave.

Figure 16: Causes of a Tsunami



In the deep ocean Tsunami waves have extremely long wavelengths. In comparison to wind-driven waves, Tsunami waves may have wavelengths up to hundreds of kilometres between wave crests. Tsunamis are therefore much more destructive than normal waves because the huge flooding body of water can continue to rush onto land for an extended period of time. This may be anything from a few minutes up to an hour, compared to seconds for wind-driven waves.

The impact of a Tsunami can vary widely. A small Tsunami may result in unusual tides or currents that can be dangerous to swimmers or cause damage to berthed boats. A large Tsunami can cause widespread flooding and destruction such as that seen off the west coast of Northern Sumatra on 26 December 2004. The south Java Tsunami (17 July 2006) was caused by a relatively small earthquake (magnitude 7.7) that generated a 0.5 metre Tsunami. This Tsunami inundated the coast by up to four meters in some places, killing over 600 people. Large Tsunamis cause strong rips and currents in oceans around the world for up to a few days after the initiating earthquake.

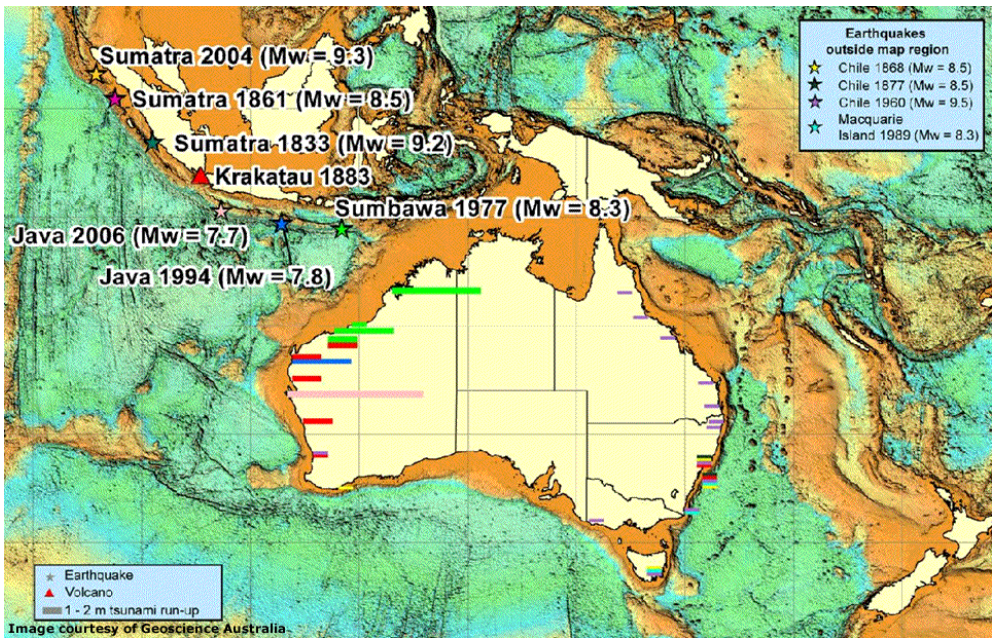
The Australian coastline has experienced tsunami through recorded history, as evidenced by shell, coral and boulder deposits found well above sea level and several kilometres inland. Most tsunami have been marine based threats and have presented little threat of land inundation to our coastal communities. Despite this, unusual rips or currents caused by even relatively small tsunami can be dangerous to marine users and boats.

Minor Tsunami's are recorded about every two years in Eastern Australia, but most are small and present little threat to coastal communities. The largest Tsunami recorded off the east coast of Australia occurred in 1960 as a result of an earthquake in the sea off Chile. The event created waves of approximately 1 metre high.

Figure 18 shows a map of the location of tsunami which have impacted on the Australian coastline. Each event is colour coded and relates to actual undersea earthquakes and volcanic events. The length of each line indicates a tsunami impact

showing the known tsunami **run-up** height. The 2006 Steep Point event has the highest run-up height recorded and is indicated by the pink line on the image.

Figure 17 Tsunami Map of Australia



The occurrence of a tsunami impacting on Cairns is real however is considered a 'relatively low" hazard level occurrence. Significant areas of Cairns urban areas are below RL 6 which can be considered as "at risk" areas. CRC has produced a Tsunami Evacuation Guide posted on its website for public information.

4.3 Cost of the Community of Disaster Events

4.3.1 Tangible Costs

In the years 2008 to 2013, recorded disaster management costs (Natural Disaster Relief and Recovery Arrangements) to Cairns Regional Council totalled approximately $51,743,059 for damage to local government assets and for counter-disaster operational expenses.

4.3.2 Intangible Costs

While extreme events are relatively rare, when they do occur they can have a major impact on the health outcomes of the community. Obviously, such events can claim many lives and disrupt the provision of basic services, but they can also have other more subtle effects on the mental health of the population.

For example, following Cyclone Larry in 2006 residents in the affected region reported experiencing a number of emotional highs and lows. Sleep disturbance, lack of concentration and forgetfulness have also been reported as side effects of the disaster. Some of these symptoms may be associated with Post Traumatic Stress Disorder and many residents also reported feeling anxious as the next cyclone season approached.

5.1 Risk Analysis

Each of the natural hazards identified has an associated element of risk to the people, social structures, buildings, engineering infrastructure, critical facilities, employment, business and industry and environment of the Cairns region. This risk is defined by the likelihood and consequences of the impact of the natural hazard on these vulnerable elements within the community.

For each risk, analysis will be undertaken to estimate the level of risk and to provide input for evaluation and development of risk treatment options. Risk analysis will be undertaken using the following tables and explanatory notes, which provided a structured ranking system allowing risks for each hazard to be prioritised.

Table 19, the 'Risk Classification Matrix', uses the elements of Table 20, 'Likelihood', and Table 21, 'Consequences', to determine the 'Level of Risk', Table 22.

Once the risks are rated and tabulated a prioritised listing of the 'extreme risks' through to the 'low risks' will allow the necessity and priority of risk treatment options to be decided.

Table 20: Risk Classification Matrix

		CONSEQUENCES				
LIKELIHOOD		Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
Almost Certain	A	Medium	Medium	High	Extreme	Extreme
Likely	B	Low	Medium	High	High	Extreme
Possible	C	Low	Low	Medium	High	High
Unlikely	D	Low	Low	Medium	Medium	High
Rare	E	Low	Low	Low	Medium	Medium
Very Rare	F	Low	Low	Low	Low	Medium
Almost Incredible	G	Low	Low	Low	Low	Low

Table 21: Likelihood

Likelihood level	Frequency	Average Recurrence Interval
A - Almost Certain	Once or more per year	< 3 years
B - Likely	Once per ten years	3 – 30 years
C - Possible	Once per hundred years	31– 300 years
D - Unlikely	Once per thousand years	301 – 3,000 years
E - Rare	Once per ten thousand years	3,001 – 30,000 years

Likelihood level	Frequency	Average Recurrence Interval
F - Very Rare	Once per hundred thousand years	30,001 – 300,000 years
G - Almost Incredible	Less than once per million years	> 300,000 years

Table 22: – Consequence table

Consequence Level	People	Environment	Economy	Public Administration	Social Setting	Infrastructure
Catastrophic	Widespread multiple loss of life (mortality > 1 in ten thousand), health system unable to cope, displacement of people beyond ability to cope.	Widespread severe impairment or loss of ecosystem functions across species and landscapes, irrecoverable environmental damage.	Unrecoverable financial loss > 3% of the government sector's revenues, asset destruction across industry sectors leading to widespread business failures and loss of employment	Governing body unable to manage the event, disordered public administration without effective functioning, public unrest, media coverage beyond region or jurisdiction	Community unable to support itself, widespread loss of objects of cultural significance, impacts beyond emotional and psychological capacity in all parts of the community	Long-term failure of significant infrastructure and service delivery affecting all parts of the community, ongoing external support at large scale required.
Major	Multiple loss of life (mortality >1 in one hundred thousand), health system over-stressed, large numbers of displaced people (more than 2 hours)	Severe impairment or loss of ecosystem functions affecting many species or landscapes, progressive environmental damage	Financial loss 1.3% of the government sector's revenues requiring major changes in business strategy to (party) cover loss, significant disruptions across industry sectors leading to multiple business failures	Governing body absorbed with managing the event, public administration struggles to provide merely critical services, loss of public confidence in governance, media coverage beyond region or jurisdiction	Reduced quality of life within community, significant loss or damage to objects of cultural significance, impacts beyond emotional and psychological capacity in large parts of the community	Mid-to-long term failure of significant infrastructure and service delivery affecting large parts of the community, initial external support require.

Consequence Level	People	Environment	Economy	Public Administration	Social Setting	Infrastructure
			and loss of employment			
Moderate	Isolated cases of loss of life (mortality > than one in one million), health system operating at maximum capacity, isolated cases of displacement of people (less than 24 hours)	Isolated but significant cases of impairment or loss of ecosystem functions, intensive efforts for recovery required	Financial loss 0.1-0.3% of the government sector's revenues requiring adjustments to business strategy to cover loss, disruptions to selected industry sectors leading to isolated cases of business failure and multiple loss of employment	Governing body manages the event with considerable diversion from policy, public administration functions limited by focus on critical services, widespread public protests, medical coverage within region or jurisdiction	Ongoing reduced services within community, permanent damage to objects of cultural significance, impacts beyond emotional and psychological capacity in some parts of the community	Mid-term failure of (significant) infrastructure and service delivery affecting some parts of the community, widespread inconveniences
Minor	Isolated cases of serious injuries, health system operating within parameters	Isolated cases of environmental damage, one-off recovery effects required	Financial loss 0.1 -0.3% of the government sector's revenues requiring activation of reserves to cover loss, disruptions at business level leading to isolated cases of	Governing body manages the event under emergency regime, public administration functions with some disturbances, isolated expressions of public concern, media coverage	Isolated and temporary cases of reduced services within community, repairable damage to objects of cultural significance, impacts within emotional and psychological capacity of the	Isolated cases of short to mid-term failure of infrastructure and service delivery, localised inconveniences

Consequence Level	People	Environment	Economy	Public Administration	Social Setting	Infrastructure
			loss of employment	within region or jurisdiction	community	
Insignificant	Near misses or minor injuries, no reliance on health system	Near misses or incidents without environmental damage, no recovery efforts required	Financial loss >0.1% of the government sector's revenues to be managed within standard financial provisions, inconsequential disruptions at business level	Governing body manages the event within normal parameters, public administration functions without disturbances, public confidence in governance, no media attention	Inconsequential short term reduction of services, no damage to objects of cultural significance, no adverse emotional and psychological impacts	Inconsequential short-term failure of infrastructure and service delivery, no disruption to the public services

Table 23: – Level of Risk

Descriptor	Description
Extreme Risk	Immediate action required
High Risk	Senior management attention required
Moderate Risk	Management responsibility must be specified
Low Risk	Managed by routine procedures

Consequences are to be considered across the following categories:

People – Relates to the direct impacts of the emergency on the physical health of people / individuals and emergency services' (i.e. health system) ability to manage.

Environment – Relates to the impacts of the emergency and its effects on the ecosystem of the area, including flora and fauna

Economy – Relates to the economic impact of the emergency on the governing body as reported in the annual operating statement for the relevant jurisdiction, and industry sectors as defined by the Australian Bureau of Statistics

Public Administration – Relates to the impacts of the emergency on the governing body's ability to govern

Social Setting – Relates to the impacts of the emergency on society and its social fabric, including its cultural heritage, resilience of the community

Infrastructure – Relates to the impacts of the emergency on the area's infrastructure/lifelines/utilities and its ability to service the community

- Long term failure = Repairs will take longer than 6 months
- Mid to long term failure = Repairs may be undertaken in 3 to 6 months
- Mid-term failure = Repairs may be undertaken in 1 to 3 months
- Short to mid-term failure = Repairs may be undertaken in 1 week to 1 month

5.2 Risk Evaluation

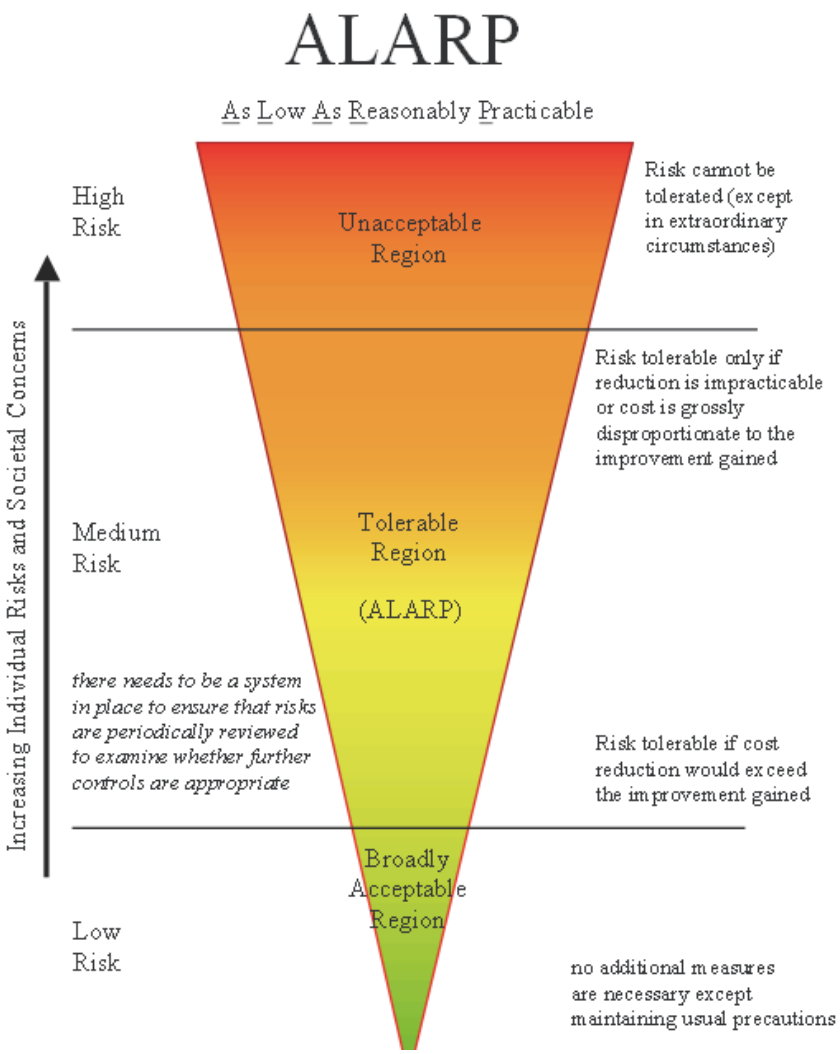
Under the National Emergency Risk Assessment Guidelines (NERAG) risk evaluation is defined as the process of comparing results of risk analysis with risk criteria to determine whether the risk and its magnitude is acceptable or tolerable. Its purpose is to assist decision-making on which risks require further detailed analysis and treatment, and the requirement to implement measures to modify the risks.

The NERAG guidelines groups risks as follows:

- **Generally Intolerable**: Risks that require risk treatment measures whatever their costs, or elimination of the risk.
- **Tolerable subject to ALARP** (As Low As Reasonably Practicable): Risks that are considered tolerable because they are as low as reasonably practicable.
- **Broadly Acceptable**: Risks that are so small that no additional risk treatment measures are required and should be managed by existing systems.

The ALARP principle is represented in the following figure:

Figure 18: ALARP Model



The factors that influence which category a risk falls in are discussed below:

The following risk consequences are considered to be intolerable:

- Fatalities;
- large numbers of persons severely injured and/ or afflicted by illness;
- large numbers of persons requiring hospitalisation for prolonged periods;
- widespread devastation to community infrastructure and facilities;
- road, rail and aerodrome closures for greater than 2 days;
- medium term closures of arterial and access road network (wet season period – up to three to four days);
- large scale and long term damage to environment;

- huge economic loss undermining future community viability;
- extensive personal and financial support necessary; and
- community unable to function without large scale and long term support.

The following risk consequences are considered to be tolerable subject to ALARP:

- some hospitalisation and medical treatment required;
- some damage to community infrastructure;
- short term displacement of people (i.e. 24 hours);
- short term closures of road, rail and aerodrome (i.e. less than 2 days);
- personal support satisfied through local arrangements;
- localised damage which is rectified by routine arrangements;
- community functioning fairly normally with some inconvenience;
- some impact on environment with no long term effect; and
- some financial loss resulting in short term impacts on resident's quality of life.

Risks will be categorised differently depending on what degree of confidence is placed in the ratings that have been determined in the preceding process.

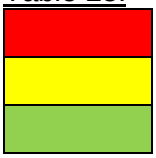
Confidence levels are generally assessed against three criteria being Data/Information, Team Knowledge and Agreement as defined in the following table.

Table 24: Confidence Levels

Confidence Criteria	Low Confidence	Moderate Confidence	High Confidence
Data / Information	Neither community nor hazard specific; anecdotal only	Community or hazard specific; validated historical or scientific	Community and hazard specific; validated historical and scientific
Team Knowledge	Neither hazard nor process (risk assessment) specific	Hazard or process specific	Hazard and process specific
Agreement	Neither on interpretations nor on rankings	On interpretations or ratings	On interpretations and ratings

The use of confidence levels in determining the tolerability of the risk utilises the tables below. Utilising the confidence levels, and applying them to the tolerability matrices below;

Table 25: Tolerability Matrices



Intolerable

Tolerable subject to ALARP

Broadly Acceptable

High Confidence Level

LIKELIHOOD	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain					
Likely					
Possible					
Unlikely					
Rare					
Very Rare					
Almost Incredible					

Moderate Confidence Level

LIKELIHOOD	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain					
Likely					
Possible					
Unlikely					
Rare					
Very Rare					
Almost Incredible					

Low Confidence Level

LIKELIHOOD	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain					
Likely					
Possible					
Unlikely					
Rare					
Very Rare					
Almost Incredible					

Once risk ratings and tolerability levels have been determined, treatment strategies need to be considered.

It is entirely appropriate and accepted practice that risks may be tolerated, provided that the risks are known and managed. The risk evaluation and treatment needs to consider whether any control implementation or improvement opportunity would shift the risk rating, hence indicating key areas and options for risk treatment. For this, assuming that the control implementation or improvement has been completed and satisfies the adequacy requirements, each risk is re-assigned qualitative consequence and likelihood ratings to determine the level of residual risk.

PART 6 RISK ASSESSMENT PRODUCTS

6.1 Risk Analysis and Evaluation Table

Using the procedure outlined in Section 5.0, a risk register was developed and is attached to the LDMP at Appendices J.

Various risk statements were developed and analysed. Each risk statement was made as specific as possible to limit the potential for it to overlap multiple impact categories. The risk statements developed were listed in a table and are presented with a risk rating for each of the natural hazard sources discussed in Section 3 of this plan.

The Summary of Risk Ratings table is attached to the plan at Appendices I

6.2 Risk Evaluation Table

After analysis, the risk statements were evaluated to determine whether they were intolerable, tolerable subject to ALARP or broadly acceptable as referenced in Section 4.

A summary of the risk evaluation results is provided in the table attached at Appendices I.

6.3 Risk Treatment Strategies

Risk Treatment Options, Risk Treatment Evaluation, Responsible Agency for Treatment, Consequential Actions and Implementation Timeframe are included in Appendix J

State Government agency roles and responsibilities, including primary responsibility against disaster management functions, are outlined within the SDMP, which can also be accessed at www.disaster.qld.gov.au/publications.

PART 7 IDENTIFICATION OF OTHER HAZARDS

A Hazard is defined as a source of potential harm, or a situation with a potential to cause loss (Emergency Management Australia 2004). The following identifies the major hazards that may pose a risk to the Cairns Region (Note: Hazards are listed in alphabetical order).

7.1 Exotic Animal or Plant Disease

There are various types of animals in existence in the Region, so the possibility of an occurrence of exotic animal disease is always present. There are holdings of animals susceptible to an outbreak of disease, in the region. Disease source, identification, tracking and quarantine are a major issue once livestock has reached a focal point.

Australia is currently free of the world's worst animal diseases such as foot-and-mouth disease and avian influenza, but has been recently impacted by other diseases, such as Equine Influenza and Australian bat lyssavirus.

Australia‘s agricultural industries are fortunate to experience a relative freedom from many pests that adversely affect plant industries worldwide. Maintaining this pest and disease freedom is vital for the ongoing productivity, sustainability and quality of Australia‘s agricultural industries. The introduction of pests can cause serious production losses to plant industries, jeopardise exports of plants and plant material, and have a significant impact on the environment and economy.

Far North Queensland was affected by papaya fruit fly from 1995 to 1998. This affected a large range of fruit and vegetable crops. Over 700 growers were affected within a 15,000 square kilometre quarantine area. The incursion cost Queensland industry around $110 million in lost trade, control, treatment and eradication. The Australian Quarantine and Inspection Service (AQIS), through the Northern Australian Quarantine Strategy maintains a system of fruit fly traps across northern Australia.

In the event of an outbreak of exotic animal or plant disease immediate implementation of QPlan (DPI plan of action) would be required and may necessitate the provision of assistance from local resources

7.2 Explosion

The occurrence of a major explosion is obviously unpredictable however has a high probability and may occur in some form at any time. The locations at risk are the various industrial enterprises, storage of liquid petroleum gas (LPG) containers of various sizes, bulk depots of oils and petrol, motor service stations and similar establishments throughout the region.

Potential explosion of road tankers of petrol and gas is likely to be confined to the major traffic routes and the railways. Casualties would be likely and depending on location of the event, evacuations may be required.

7.3 Hazardous Material Incidents (Including Oil spills)

Many hazardous materials of varying types are transported by road and rail within and through the Cairns Region. For this reason the potential for an incident of this type is ever present. Queensland Railways include this risk in their operations plan.

Although managed under dangerous goods legislation the potential for an incident involving dangerous goods and chemicals is moderate. Areas most likely to be affected include industrial areas of the region and major transport corridors and evacuations may be required if such an incident were to occur.

Queensland Fire & Rescue Service would control the incident with assistance from other agencies including the Chemical Hazards & Emergency Management Unit (CHEM Unit), local government and SES. Assistance will vary depending on the location and severity of an incident.

The possibility of a hazardous material or oil spill into the storm water system within Cairns or other major urban areas, and the Barron, Mulgrave and Russell Rivers is always present however the probability of such an occurrence is low. Such an incident would be relatively small and managed by QFRS with assistance from Cairns Regional Council in terms of clean up etc. The Environmental Protection Agency may also be involved.

The potential for oil/fuel spills in Trinity Inlet is another possibility and has occurred before. Such an incident would be the responsibility of “Ports North and/or Queensland Transport Department under the Queensland Coastal Contingency Action Plan. Local resources may be called upon to assist.

7.4 Influenza Pandemic

Since avian influenza broke out in late 2003, the World Health Organisation (WHO) has warned that, should the virus mutate and be easily transferred from human to human, the world could be facing an influenza pandemic with significant consequences.

An influenza pandemic is a disease outbreak that occurs when:

- A new strain of influenza virus emerges to which no-one is immune;
- The virus causes disease in humans; and
- The virus is easily spread between humans.

In the absence of immunity, a new influenza strain can rapidly spread across the globe, causing epidemics or pandemics, infecting large numbers of people. The risk of an outbreak of disease throughout the population could cause the health system to be taxed to its limits and may involve the isolation and quarantine of large numbers of people for a protracted period.

The Influenza Pandemic of 2009 H1N1 (commonly known as swine flu) provided an example of how quickly a pandemic can travel across the world, and affect millions of people. The influenza strain that is still causing some concern is named H5N1 (also known as avian influenza or bird flu). At present a new strain, H7N9 Avian Influenza,

is being monitored in China where there has already been fatalities by transmission to humans.

The outbreak of an epidemic or pandemic would overwhelm the medical resources of the region, and given that the impacted area may very well be at a state-wide level, there would be minimal likelihood of external assistance.

Queensland Health are the lead agency in such an event and could require support from various organizations including local government depending on the severity and spread of the disease.

The Australian Health Management Plan for Pandemic Influenza was released on 30 May 2006 (www.health.gov.au/pandemic).

7.5 Medical Epidemics and Infectious Diseases

With the possibility of large numbers of overseas tourists visiting the Region, either in residence, at resorts or in transit to other locations, the likelihood of the introduction of an infectious disease is a distinct possibility.

A notable diseases of concern is dengue fever which is a viral infection transmitted by the mosquito. Dengue is not endemic (ie. naturally occurring in north Queensland). The dengue mosquito is common in north Queensland and outbreaks can occur when the virus is transmitted to the local mosquito population in north Queensland by infected international travellers or residents returning home from overseas.

Dengue is endemic in over 100 countries worldwide and is found primarily in urban settings in the tropics. Between 50 and 100 million cases of dengue are reported around the world each year and over 2.5 billion people are at risk of infection. Several hundred thousand dengue cases each year result in dengue haemorrhagic fever which usually affects children under 15 years of age. The average fatality rate with dengue haemorrhagic fever is 5%.

Ebola virus disease (EVD) is a serious and often fatal disease caused by the Ebola virus. EVD was previously called Ebola haemorrhagic fever and there are several strains of the virus. The outbreak of EVD in Guinea, Liberia and Sierra Leone (West Africa) has led to more than 10,000 cases and 4800 deaths (cases continue to occur). The outbreak in West Africa is the most serious outbreak of EVD in recorded history.

Queensland Health is prepared to identify and respond to any suspected cases of EVD and prevent transmission should a case occur. Also, there are systems in place to ensure Queensland Health is notified immediately if anyone entering Australia from an affected country reports exposure to EVD and/or is showing symptoms of EVD.

Queensland Health are the lead agency should such an event occur and could require support from various organisation including local government depending on the severity and spread of the disease

7.6 Major Road/Rail Accidents (Including Bus)

The need for the Local Disaster Management Group to become involved in a road accident would probably only be occasioned by a significant accident involving a tourist coach, semi-trailer or the like and would be for welfare requirements.

With resort development on the Far North Tropical Coast and close lying islands of the Great Barrier Reef, many tourist coaches traverse the roads from Cairns to the Cape Tribulation on the Cook highway as well as south along the Bruce Highway.

The main northern rail route passes through the southern part of the Region with a terminus at Cairns. The Kuranda Scenic railway operates most days out of Cairns. There is also a network of sugar cane train tracks throughout the region. This means that there are many rural and urban railway crossings including several inner city intersections. The potential for a major rail disaster exists in the event of an accident, especially if a train is carrying dangerous goods. Residences and business houses close to rail lines, railway stations, goods yards, shunting areas, industrial areas and diesel sheds could be affected by a rail disaster.

Queensland Rail has its own emergency management plans for any accidents on the rail network.

7.7 Terrorism

The September 11, Bali bombings and Madrid bombings have placed terrorism on the agenda for all levels of government. The likelihood of an event occurring is somewhat unknown however the Cairns Region regularly hosts high profile events (i.e. 2014 G20 Financial Ministers Summit}. It is important that facilities are assessed and measures taken in relation to security. Casualties could be anticipated in the event of a terrorist activity and may range from a few to hundreds.

Potential targets include but are not limited to:

- Mass gatherings
- Hazardous storage sites
- Transport hubs and corridors
- Critical & essential infrastructure i.e. water supply, telephone system, electricity infrastructure

The Queensland Police Service is the responsible agency and may require support from various Local, State & Federal agencies depending on the severity of the incident.

7.8 Climate Change

While climate change is not in itself a hazard, it has the potential to affect the frequency and intensity of severe weather events.

Projections for the Far North Queensland region include a slight decline in rainfall with increasing temperature and evaporation, in conjunction with more extreme climate events and sea-level rise. The temperature projections for inaction on climate

change suggest a temperature increase well outside the range of temperatures ever experienced over the last 50 years. The projections for temperature and number of hot days are in direct proportion. (Source: *Climate Change in Far North Queensland - Queensland Office of Climate Change)*

The Cairns Region is particularly susceptible and vulnerable to the impacts of climate change as changes in temperature or rainfall could have significant impacts on the natural resource assets of the region and other habitation aspects as most of the population centres in the region are located along the coastal strip. People will also be affected, as the rate of heat stress and heat-related health problems increases and increased risk exposure to catastrophic events, such as cyclones and flooding endanger will increasingly endanger lives and property.

Table 26 Overview of climate projections

2030 **medium emissions scenario**	**2050** **low and high emissions scenarios**	**2070** **low and high emissions scenarios**
Annual and seasonal temperature: Annual mean temperature is projected to increase by 0.9 °C. There is little variation in projections across the seasons.	**Annual and seasonal temperature:** Annual temperature will increase by 1.1 °C and 1.8 °C under the low and high emissions scenarios respectively. There is little variation in projections across the seasons.	**Annual and seasonal temperature:** Annual temperature is projected to increase by 1.5 °C and 2.8 °C under the low and high emissions scenarios respectively. There is little variation in projections across the seasons.
Annual and seasonal rainfall: Annual rainfall is projected to decrease by one per cent (-13 mm). The largest seasonal decrease of five per cent (-7 mm) is projected for spring.	**Annual and seasonal rainfall:** Annual rainfall is projected to decrease by one per cent (-13 mm) and two per cent (-25 mm) under the low and high emissions scenarios respectively. The largest seasonal decrease of 10 per cent (-13 mm) under the high emissions scenario is projected for spring.	**Annual and seasonal rainfall:** Annual rainfall is projected to decrease by two per cent (-25 mm) and three per cent (-38 mm) under the low and high emissions scenarios respectively. The largest seasonal decrease under a high emissions scenario of 16 per cent (-21 mm) is projected for spring.
Annual and seasonal potential evaporation: Across all seasons the annual 'best estimate' increase is projected to be around three per cent (60 mm), with some models projecting up to a five per cent increase in autumn (21 mm), summer (27 mm) and winter (20 mm).	**Annual and seasonal potential evaporation:** Under a high emissions scenario an increase in annual potential evaporation of up to nine per cent (180 mm) is projected with the best estimate being six per cent (120 mm). Summer is projected to have the greatest increase of up to 11 per cent (58 mm).	**Annual and seasonal potential evaporation:** Under a high emissions scenario, annual potential evaporation is projected to increase by as much as 15 per cent (300 mm). Autumn, summer and winter are projected to be the seasons most impacted with increases up to 17 per cent (73 mm, 90 mm and 67 mm respectively) in some models.

There has been minimal change in the average annual temperature in Far North Queensland over the last decade (from 24.4 °C to 24.5 °C).

There is no definitive projected temperature variation specific data for Cairns, but an approximation may be extrapolated from the following:

- Projections indicate an increase of up to 3.9 °C by 2070, leading to annual temperatures well beyond those experienced over the last 50 years.
- By 2070, Cairns may have more than eight times the number of days over 35 °C (increasing from an average of four per year to an average of 34 per year by 2070).

7.8.1 Potential Impact of Climate Change on Cyclones and Sea-Level Rise

Projections of sea surface temperatures near tropical north Australia indicate an increase of approximately 0.7°C by 2030 and by approximately 1.7°C by 2070.

According to the Intergovernmental Panel on Climate Change (IPCC), global sea-level is projected to rise by 18 to 59 cm by 2100, with a possible additional contribution from melting ice sheets of 10 to 20 cm (IPCC, 2007).

Some studies indicate an increase in the proportion of tropical cyclones in the more intense categories, but a possible decrease in the total number.

7.8.2 Climate Change Response Implications for Cairns Region

The potential impact of climate change on the frequency and intensity of severe weather events will be factored into the annual reviews of the disaster risk treatment strategies.

- The risk of bushfire is predicted to rise as result of the hotter, drier conditions associated with climate change.
- Due to the impact of climate change there will be an increase in the number of high fire danger days.
- An informed public can add significantly to the protection of life and property during bushfire.

The risk of increased frequency and intensity of tropical cyclones, floods or severe storms will be addressed by the Local Disaster Management Group via community awareness campaigns and community engagement sessions conducted throughout the year as part of the community engagement strategy.

The 2010 Cairns Region Storm Tide Evacuation Strategy takes into account predicted climate change with the 2014 Cairns Planning Scheme recognising sea level rise projections to the year 2100.

7.9 Hazard Assessments

Table 27: Hazard Assessments for Cairns Region

Hazard	Suggested Actions
Terrorism	Local information campaign targeting critical infrastructure owners/operators to ensure they are aware of the document "Securing Queensland's Critical Infrastructure Guidelines for owners/operators", to assist them to determine the terrorism threat in relation to their organisation. This would include managers of Council controlled/owned critical infrastructure The Local Disaster Management Group and other selected/relevant participants should conduct a security review of critical infrastructure owned/operated by Council or critical infrastructure that may impact on Council operations or the community. Mass gathering locations, events, and hazardous sites should also be considered in the review. The Local Government Counter Terrorism Risk Management Kit advises that the kit should be used by Local Disaster Management Groups with input from key stakeholders including, QFES, Police, major industries & peak bodies, owners and operators of critical infrastructure and mass gathering venues & major event organisers.
Heatwave	This risk is relevant due to not only our tropical climate but also projections of 'Climate Change'. Information is included in editions of the Cairns Cyclone Guide distribution to residents annually.
Pandemic Influenza	Queensland Health is developing relevant plans as the lead agency in this area. Local Governments have been requested to nominate relevant facilities that may be utilized for purposes such as mass vaccination or assessment facilities. The LDMG should consider what other planning is required in this area to identify & address social consequences of a flu pandemic. For Local Government planning the Queensland Government have advised that local government has two main roles in relation to preparing for any influenza pandemic, being; • Ensure Council's business continuity arrangements adequately cater for the nature of a pandemic; and • Identify, plan for, and establish measures to reduce the consequences or impact of a pandemic on local communities (e.g. identify & address the social consequences of a pandemic on the community). The special needs of particular groups i.e. children, aged, disabled, dementia, indigenous persons and culturally and linguistically diverse groups need to be considered.
Exotic Animal or Plant Disease	The DPI&F is the lead agency in this event with the following plans and manuals relating to pest and disease emergencies; • AUSVETPLAN – the national disease response plan;

	• QLDVETPLAN – the exotic animal disease threat specific sub plan of the State Disaster Plan • Queensland Emergency Animal Diseases Operations manual; • Queensland Emergency Operations Manual for Pests of Plants • Specific pant pest contingency plans; and • AQUAVETPLAN – the national aquatic animal disease response plan The LDMG needs to give consideration to the level of assistance and required resources that may be needed in the event of such an outbreak.
Dam Failure	An emergency action plan (EAP) exists for the Copperlode Falls Dam (copy of this plan provided to the LDMG-CR and attached to the LDMP). Cairns Regional Council Water & Waste are the dam owners for this report. The Copperlode Falls Dam is located some 11km south west of Cairns near the headwaters of Freshwater Creek The dam is of an earth and rock fill construction with concrete gravity spillway structure. Dam height is 45 m and is 121 m in length The reservoir has a storage capacity of approximately 37,100 ML and a surface area of 332 ha with a catchment of 44 km². The EAP indicates that under certain conditions, areas affected consist of the following land uses: ▪ Residential land predominantly comprised of detached housing, but also attached housing such as townhouses and units. ▪ Schools (St Andrew's Catholic College and Freshwater Christian College) ▪ Commercial and light industrial land ▪ Caravan parks (Cool Waters Holiday Park, BIG4 Cairns Crystal Cascades Holiday Park) ▪ Agricultural land for cane, with accompanying houses and sheds Dam break modelling has developed a range of hydraulic models. Flood maps have been developed to identify areas at risk due to dam failure and extreme floods passing through the dam. The maps define the extent of flooding and categorise the maximum depths of inundation and the time to maximum depth. Evacuation Maps are also being developed to highlight high level staging areas which residents would easily access on foot and be above the high water level during all emergency events. These staging areas will be clearly marked and Residents educated on their location. The emergency events for which flood maps are provided are listed in Table 5: of the EAP. There are two other referable dams in Cairns (Moody Creek

	and McKinnon Creek detention basins). These dams are flood mitigation infrastructure and are not for the permanent storage of water. In keeping with their referable dam classification both have a respective EAP that deals with dam failue.

PART 8 PREVENTION

Prevention refers to the regulatory and physical measures taken to ensure that emergencies are prevented or their effects mitigated.

Strategies aimed at preventing disaster events incorporate the utilization of:

8.1 Building Codes and Building Use Regulations

In Cairns Regional Council the following codes and regulations apply:

- *Building Code Australia*
- *Building Act 1975*
- *Building Standards Regulation 1993*
- *Building Regulations 2006*
- *Building Fire Safety Regulation*
- *Body Corporate and Community Management Act 1997*
- *Building Units and Group Titles Act 1980*
- *Building and Other Legislation Amendment Act 2009*
- *Building Services Authority Act 1991*
- *CairnsPlan*
- *Douglas Shire Planning Scheme*
- *Integrated Planning Act 1997*
- *Local Government Act 2009*
- *Queensland Development Code*
- *State Planning Policy 1/03 guideline: mitigating the adverse impacts of flood, bushfire and landslide*
- *State Coastal Management Plan-Mitigating the Effects of Storm Tide Inundation*
- *Sustainable Planning Act 2009*

8.1.1 Integrated Planning Act 1997

The Integrated Planning Act 1997, commonly referred to as IPA, forms the foundation of Queensland's planning and development assessment legislation.

The purpose of IPA is to:
Coordinate and integrate planning at the local, regional and State levels
Manage the process by which development occurs; and
Manage the effects of development on the environment (including managing the use of premises)

The main element of IPA that relates to builders and sub-contractors on a day to day basis is the Integrated Development Assessment System (IDAS). IDAS is the step by step process for lodging, assessing and deciding development applications.
Building Act 1975.

The Building Act governs all building work in Queensland. The Act empowers the regulation of certain aspects of buildings and structures and includes the administrative terms necessary to give effect to the legislation.

It is a requirement of the Building Act 1975 that buildings in Queensland be constructed in accordance with the Building Code of Australia (BCA) Building Code of Australia**.**

The Building Code of Australia is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia. The BCA is given legal effect through the Building Act 1975.
The BCA is supported by a number of "reference documents". These documents provide specific detail on how to comply with the BCA and include a number of Australian Standards.

The BCA, which must be read in conjunction with the Building Act, is published in two volumes:

- Volume 1 related to Class 2 to 9 buildings.
- Volume 2 (also known as the Housing Provisions).

8.1.2 Australian Standards

Numerous building and construction standards have been developed that add to the safety, efficiency and cost-effectiveness of building in Australia. A Standard is a document which provides rules, guidelines and often detailed technical specifications for activities undertaken in the industry.

A number of the building and construction standards are referenced in regulations including the Building Code of Australia, which means it is compulsory to undertake work in the way in which it is specified. A few examples include:
Product standards and test methods related to windows, doors and roofing;
Internal and external waterproofing of dwellings;
Installation and product standards for smoke detectors;
Design standards related to access for the disabled.

These are applicable as they ensure that buildings meet an established standard to prevent damage and injury in an event.
Compliance with building regulations/codes will reduce the effects form; floods, cyclones, severe storms, landslides and earthquakes in particular.

8.2 Legislation

In addition to the *Disaster Management Act 2003* the following Acts are relevant to Cairns Region Disaster Management;

- *Aboriginal and Torres Strait Islander and other Communities (Justice, Land Matters) Act 1984.*
- *Agricultural Chemicals Distribution Control Act 1966*
- *Ambulance Service Act 1991*
- *Chemical Usage (Agricultural and Veterinary) Control Act 1988*
- *Coastal Protection and Management Act 1995*
- *Criminal Code Act 1899*

- *Dangerous Goods Safety Management Act 2001*
- *Environmental Protection Act 1994*
- *Exotic Diseases in Animals Act 1981*
- *Explosives Act 1999*
- *Fire and Rescue Services Act 1990*
- *Gas Supply Act 2003*
- *Health Act 1937*
- *Information Privacy Act 2009*
- *Public Health Act 2005*
- *Integrated Planning Act 1997*
- *Land Act 1994*
- *Liquid Fuel Supply Act 1984*
- *Local Government Act 2009*
- *Major Sports Facilities Act 2001*
- *Marine Parks Act 2004*
- *Marine Parks (Great Barrier Reef Coast) Zoning Plan 2004*
- *Marine Parks Act 2004*
- *Native Title (Queensland) Act 1993*
- *Nature Conservation Act 1992*
- *Petroleum Act 1923*
- *Public Safety Preservation Act 1986*
- *Police Powers and Responsibilities Act 2000*
- *Right to Information Act 2009*
- *Sustainable Planning Act 2009*
- *Terrorism (Commonwealth Powers) Act 2002*
- *Water Act 2000*
- *Workplace Health and Safety (Miscellaneous) Regulation 2008*

8.3 Community Awareness (Public Education)

Section 30e Disaster Management Act 2003 requires Local Government to be involved in an education program *"to ensure the community is aware of ways of mitigating the adverse effects of an event, and preparing for, responding to, and recovering from a disaster*".

Cairns Regional Council is committed to an ongoing public awareness campaign.

The following are methods and mediums Cairns Regional Council uses to assist with promoting community awareness:

- BOM Weather Warnings;
- The LDMG-CR encourages all members of the LDMG-CR to provide public education programs in their area of responsibility;
- SES Group Leaders provide lectures to various organisations throughout the Region;
- QFES community presentations;
- Annual community information sessions in relation to Cyclone/Storm Surge involving presentations from various organizations (conducted pre official cyclone season – September/October);
- Visits to local primary schools – presentations on various hazards relevant to the local community and mitigation actions that may be taken;

- Development of a disaster information pack for distribution to new residents to the region;
- Brochures displayed and available in Council Offices and Libraries;
- Local Media including local television and radio, as well as articles in local newspapers and Council Newsletters;
- Cairns phone book BoM Cyclone Information and tracking map;
- Cairns Regional Council "*Cairns Tsunami Evacuation Guide*"
- Cairns Regional Council Storm Tide Inundation Mapping online
- Cairns Regional Council online Storm Tide Property Search
- Cairns Regional Council Evacuation Strategy publication
- Cairns Regional Council web site and media releases;
- Cairns Post Cyclone Survival Guide supplement;
- Presentations to vulnerable communities;
- Presentations to aged care and retirement villages; and
- Production of multi-lingual *"Cyclone Emergency Action Guide"* in Hmong, Italian, Traditional Chinese, Thai, Arabic and Japanese.
- Plan, Pack, Listen cyclone Safety brochure
- Sunbus advertising for 'Get Ready Cairns' campaign
- Develop disaster resilience education project for CALD communities (Cultural Ambassador project)
- Delivery of Disaster Management education programmes to new residents
- Developed basic natural disaster warning messages translated into five key indigenous languages through Bumma Bippera media
- Developing curriculum links document for presentation to FNQ DETE re Disaster Management.
- Participatory session with the 'Animal Care for Seniors at Home' group - developing a phone tree and animal fostering network
- Liaise with local small business and advise on Business Continuity Planning
- Design and print brochure for Storm Tide Cyclone shelters (2 in CRC region)
- Translation of Storm Tide Cyclone Shelter Brochures into Auslan video online
- Plan, Pack & Listen cyclone guide translation into the region's 5 major languages
- Plan, Pack & Listen cyclone guide translation into Auslan video online
- Plan, Pack & Listen brochure transferred into Braille

The Local Disaster Management Group – Cairns Region also aims to enhance community disaster awareness and preparedness by providing access to the 'Cairns Local Disaster Management Plan' on Cairns Regional Council's public website and having disaster planning information available through Council's social media sites. Hard copies of the 'Cairns Local Disaster Management Plan' are available at Council's Customer Service Centres for public viewing. Hard copies can be purchased from Council for a fee of $100 AUD.

Refer also to ***A.10 – Public Information and Warnings Operational Plan.***

8.4 Land Use Management Initiatives

8.4.1 State Planning Policy 1/03 – Mitigating the Adverse Impacts of Flood, Bushfire & Landslide

The Queensland Government considers that development should minimise the potential adverse impacts of flood, bushfire and landslide on people, property, economic activity and the environment.

Purpose of Policy 1/03

The State Planning Policy sets out the State's interest in ensuring that the natural hazards of flood, bushfire and landslide are adequately considered when making decisions about development.

Under the Integrated Planning Act 1977 the State Planning Policy has effect when development applications are assessed, when planning schemes are made or amended and when land is designated for community infrastructure.

The Cairns Plan contains Overlay Codes for the Cairns Area which regulates assessable development where the site is subject to possible landslip, bushfire or flooding and is referenced in:

- *3.5.1 Hill slopes*
- *3.5.11 Bushfire Hazard*
- *3.5.12 Flood management*

Overlay codes have been developed for the above and are:

- *4.6.4 Hill slopes Code*
- *4.6.7 Bushfire Hazard Code*
- *4.6.8 Flood Management Code*

8.5 Local Government Counter Terrorism Risk Management Guidelines

The counter-terrorism risk assessment has been carried out in accordance with *the Local Government Counter-terrorism Risk Management Kit.*

PART 9 PREPARDENESS

Preparedness is having “arrangements or plans to deal with a threat situation or a disaster, that is, the mobilisation of the disaster response structure and resources” (Emergency Management Australia, 2004).

Preparedness can include:

- Establishing or refining procedures regarding early warning systems, and a public education plan to inform the community of these systems;
- Training relevant response personnel on operational implementation;
- Considering and planning for the finances and capital required in the event of activating the disaster management plan;
- Establishing emergency communications procedures; and
- Developing and testing plans

9.1 Event Coordination

Overall management of the coordinated response is the responsibility of the Local Disaster Coordinator of the LDMG-CR. The LDC is also responsible for the Coordination of the LDCC-CR

Activation at the LDMG-CR will be in response to a local event that demands a coordinated community response to respond. The authority to activate the Local Disaster Management Group - Cairns Region (LDMG-CR) is vested in the Chair of the LDMG-CR. It is the duty of the Chair to inform the District Disaster Coordinator (DDC) regarding the Plan’s activation. The plan may also be activated at the request of the DDC.

9.1.1 Local Disaster Coordination Centre

The Cairns Local Disaster Coordination Centre (LDCC) is a facility provided within the Cairns local government area to facilitate the response of the LDMG-CR to a disaster event. The Cairns LDCC is required to provide prompt and relevant information to the DDCC concerning any disaster event or potential disaster event occurring within their area

The Primary Cairns LDCC is located at the Woree Disaster Coordination Centre located at 61 – 79 Windarra Street, Woree.

Should this facility become unusable for any reason, an alternative disaster coordination centre will be established at the secondary site located at the Babinda RSL Memorial Hall, 26 School Street, Babinda.

9.1.2 Functions

The functions of the Cairns Local Disaster Coordination Centre (LDCC) are:

- To co-ordinate Cairns Regional Council and community resources in support of agencies involved in response and recovery operations including those allocated from the Commonwealth, State and Disaster District, in support of the disaster affected community;
- To co-ordinate additional resources allocated to Cairns Regional Council through the District Disaster Coordination Centre.
- To coordinate the collection, collation and dissemination of information to the Cairns District Disaster Coordination Centre and the community.
- Implementation of operational decisions of the LDMG-CR

Operational staff for the Disaster Coordination Centre is provided from a list of specialised and trained Council officers. The incident management system in the LDCC is based on the integration of activities and resources from multiple agencies for the resolution of disaster events through functional management. When activated in emergency/disaster events, the LDCC utilises a combination of Council's Incident Management Team (IMT) and supporting Council officers. The IMT contains specialised role-specific qualified Council staff that maintains a state of readiness for the "cyclone season". The IMT is supported by trained Council officers that are available on a casual basis. The LDMG-CR core combating and support organisations may send an External Agency Liaison Officer (EALO) to the Disaster Coordination Centre to integrate capabilities and logistical support.

These liaison officers should have the authority to commit their respective agency resources if so required. The EALO should of necessity, be of senior rank and have established communication networks with their own organisations.

Each control authority and support organisation will establish its own headquarters to control its own resources. The relevant Control Authority will determine the siting and location of any Forward Command Post.

For Activation and Standard Operating Procedures refer to ***A.1 Activation of LDMG-CR Operational Plan*** and ***A.2 – Local Disaster Coordination Centre - Cairns Region Operational Plan*****.**

Communication procedures are included in ***A.2 Local Disaster Coordination Centre - Cairns Region Operational Plan*****.**

9.2 Community Warning & Alert Systems and Dissemination

9.2.1 Standard Emergency Warning Systems (SEWS)

In 1999, an agreement was reached between all States and Territories on the need for a Standard Emergency Warning Signal (SEWS) to be used in assisting the delivery of public warnings and messages for major emergency events. The States and Territories further agreed to accept responsibility for the preparation and implementation of procedures related to the use of SEWS in each jurisdiction and to develop and conduct appropriate public awareness programs.

<u>Function of Sews</u>
SEWS is intended for use as an alert signal to be played on public media to draw listeners" attention to a following emergency warning. It is meant to attract listener's attention to the fact that they should take notice of the emergency message.

Management of SEWS

Responsibility for the management of SEWS in Queensland rests with the Executive Officer of the State Disaster Management Group (SDMG), in coordination with the Queensland Regional Director of the Bureau of Meteorology (BOM) for meteorological purposes

Warning products are issued by the BOM and include, but are not limited to, severe weather warnings, tropical cyclone advice and tsunami warnings.

The Table below depicts examples of different sources in connection with a number of hazards.

Table 28 Weather Events & Respective Sources of Information

Severe Weather Event	Bureau of Meteorology
Hazardous Materials Incident	Queensland Police Service or Queensland Fire and Emergency Services.
Public Health	Queensland Health, Council Water & Waste or Council Environmental Health Officers
Major Infrastructure Failure	The owner of the facility – e.g. Ergon, etc.
Wildfires	Queensland Fire & Emergency Services
Animal or Plant Disease	Biosecurity Queensland
Space Debris Re-entry	Emergency Management Australia
Potential Terrorism Threat	Queensland Police Service

Cairns Regional Council can also request (through the member of QFES on the LDMG-CR) 'Emergency Alert' arrangements to be delivered via landline and text messages to potentially affected constituents.

It is the role of the LDMG-CR in ensuring the notification and dissemination of warnings to members of the LDMG-CR and elements of the community that may fall under the responsibility of LDMG-CR member agencies (section 7.10.1 of the Local Disaster Management Guidelines).

The release of information to the community regarding the emergency and associated threats, will normally be approved by the Chairperson and distributed through the Media Liaison Officer after discussions with the Officer in Charge of the Lead Agency and the Local Disaster Coordinator.

Refer to ***Section 3.3 Public Education*** in this plan, and also to ***A.10 Public Information and Warnings Operational Plan***

9.3 Response Capability/Operational Limitations

Cairns Regional Council has human, plant and equipment resources available to respond to a disaster event; a full list is included in ***Appendix G – Resource List***

If additional resources are required, the resources will initially be sourced through local suppliers that are:

- contracted to Council to provide a service or resource
- are capable of providing the resources
- can support Council in responding to a disaster through the provision of resources

The Memorandum of Understanding (MOU) between the Department of Emergency Services (for and on behalf of the State Government) and the Local Government Association of Queensland (for and on behalf of Local Governments) provides a guide to the relationship between the Queensland Government and Local Governments in matters pertaining to the planning, coordination and implementation of the Queensland Disaster Management System, including the Disaster Operations and Disaster Management (including mitigation) functions and support arrangements for the volunteers of the State Emergency Service (SES).

The purpose of the MOU is to define the parties' respective roles and responsibilities in Disaster Management, and the strategic arrangements that have been developed to ensure the on-going success of the Queensland Disaster Management System.

Cairns Regional Council facilitates and financially supports the following SES groups within the Region. These groups are based in the following areas:

- Babinda
- Gordonvale
- Edmonton
- Cairns
- Machan's Beach
- Holloways Beach
- Yorkey's Knob
- Trinity Beach
- Buchan Point

Support for the community when disasters occur is provided in the first instance from the Local Government Authority. Such assistance would be provided in cooperation with local emergency service providers, government and non-government agencies and community groups. An appropriate contact list of relevant agencies and groups and resource list of appropriate local resources available to assist in this respect is maintained as part of this local disaster management plan.

A list of all available resources is included in **A.11 Public Works and Engineering Operational Plan.**

When the resources of Local Government are exhausted, not appropriate or are not available, then District or State support is to be provided via request to the District Disaster Coordinator. Commonwealth support can also be requested should State resources be exhausted or not available.

9.4 Training

In accordance with the provisions of the Disaster Management Training Handbook the following members of the LDMG are required to undertake disaster management training:

Chair and Deputy Chair of the LDMG

Induction

- Local Disaster Management Group Member Induction

Core Training Courses

- Queensland Disaster Management Arrangements
- Introduction to Evacuation
- Evacuation Planning
- Resupply
- Warnings and Alert Systems

Local Disaster Coordinator

Induction

- Local Disaster Management Group Member Induction
- Local Disaster Coordinator Induction

Core Training Courses

- Queensland Disaster Management Arrangements
- Disaster Management Planning
- Disaster Coordination Centre - Modules 1,2 and 3
- Introduction to Evacuation
- Evacuation Planning
- Evacuation Centre Management
- Recovery - Modules 1 ,2 and 3
- Resupply
- Warnings and Alert Systems
- Disaster Relief and Recovery Funding Arrangements

LDMG Members

Induction

- Local Disaster Management Group Member Induction

Core Training Courses

- Queensland Disaster Management Arrangements
- Disaster Management Planning

- Introduction to Evacuation
- Evacuation Planning

Local Disaster Coordination Centre Staff

Core Training Courses

- Queensland Disaster Management Arrangements
- Disaster Coordination Centre - Modules

Local Disaster Coordination Centre Liaison Officers

Core Training Courses

- Queensland Disaster Management Arrangements
- Disaster Coordination Centre - Modules 1 and 2

Local Recovery Coordinator

Induction

- Local Recovery Coordinator Induction

Core Training Courses

- Queensland Disaster Management Arrangements
- Recovery Modules 1, 2 and 3

9.4.1 Certification of Training

Participants who successfully complete a course or induction under the Framework will be issued with a Certificate of Achievement and their details will be entered into the Disaster Management Training Database which is maintained by EMQ.

The database will be used to report on the completion of training by stakeholders in accordance with their training requirements under the Framework. The Local Disaster Coordinator will be responsible for training management within the Cairns LDMG, and will ensure that a training register encompassing all involved personnel is commenced and maintained.

Details of training issues (training conducted, training gaps identified, etc.) will be included in the annual report of the LDMG.

9.4.2 Incidental Training

Extra training may be provided to relevant members of the various responding agencies. Such training may include instruction in the Australasian Inter-service Incident Management System (AIIMS).

9.4.3 LDCC Council Staff Training

The Disaster Management Unit is responsible for the role-specific training of CRC staff in the 'Guardian Control Centre' computer operating system utilised by CRC in the LDCC. Augmenting these sessions are instructional training days for the IMT and supporting Council staff facilitated by QIT Plus representatives (the developers of the Guardian Control Centre software).

Table 29: LDMG-CR Training Matrix

Training	Who	Facilitator	When
Introduction to Council's Disaster Management Process	Council staff and members of Disaster Coordination Centre(DCC) Group	Disaster Management Unit (DMU)	Annually (September - November)
Qld Disaster Management Arrangements	Councillors, Council staff and members DCC Group	QFES	Course held at least three times per year
Disaster Coordination Centre Course	LDMG-CR Members, Council staff & DCC Group	QFES	Annually
Guardian Incident Management System – role specific	LDMG-CR members & Members of DCC Group	DMU trainers	Annually (September - November)
Guardian Phone Operators Course	Members of DCC Group	DMU trainers	Annually (September - November)
Guardian Control Centre - Operations	LDMG-CR members & IMT	QIT Plus DMU trainers	Annually

9.5 Exercises

A disaster management exercise is *a scenario-driven activity used primarily to train personnel and test capabilities*. It is low-risk and involves varying degrees of simulation or 'pretending'.

There are a number of different styles of exercise. The most common types in use in Queensland are:

Table No.30: Exercise Types

Exercise styles	Exercise types	Description
Discussion Exercises	Orientation Seminar	The 'walk through' - especially for inductees

	Agency Presentation	Prepare an agency specific action plan and present it in plenary.
	'Hypothetical'	Responses may be prepared in groups, in plenary, or under the guidance of a facilitator who maintains the pace and asks probing questions (the 'hypothetical'). A cost effective and highly efficient exercise method that might be conducted in conjunction with a field exercise as part of a series.
	Table Top Exercise	Indoor discussion exercises. May feature a model of the area on which a prepared scenario is played out, or simply using a projected map. The model or map is used to illustrate the deployment of resources, but no resources are actually deployed
Functional Exercises	Operational Exercise	An exercise in which emergency management organisations and agencies take action in a simulated situation, with deployment of personnel and other resources, to achieve maximum realism. It is conducted on the ground, in real time but under controlled conditions, as though it were a real emergency. A full scale (or Field) exercise might be characterised by some, or all, of: noise, realism, stress, heat and real time. This is resource and cost intensive.

Exercises may be conducted internally, at the instigation of the Local Disaster Coordinator, and with the assistance of personnel from QFES. Exercises may also be conducted on a district-wide basis, involving a number of different Local Disaster Management Groups, and managed externally, either by the DDMG or by the State Disaster Coordination Centre in Brisbane.

9.5.1 Evaluating the exercise

In determining whether an exercise achieved its original aim, it is important to evaluate to what extent the exercise objectives were met and how the exercise was conducted generally. At the conclusion of an exercise it is also important that debriefs are conducted to capture issues and areas for improvement.

It is recommended that the LDMG consider the use of hot debriefs, conducted immediately following participants' involvement in the exercise; and a more detailed After Action Review conducted within a few days of the exercise, to allow participants time to provide a more considered view of the exercise.

When feedback is being collected it is important to consider issues and action items in two separate categories:

- Exercise design and conduct – issues and feedback relating to the exercise format, design and conduct. This feedback will help to inform the design and conduct of future exercises.

- Achievement of exercise objectives – the exercise evaluation process should examine to what extent the exercise objectives were achieved. Any gaps or issues identified during this process can be reported as 'findings'. Tabling these findings allows for the development of appropriate treatment options designed to address identified gaps and issues. Exercise findings and treatment options should then be captured in a wider Post-Exercise Report.

Each year one or more of the following exercises shall be held:

- a table top exercise; and
- a Local Disaster Coordination Centre - Cairns Region exercise.
- a small scale exercise involving the SES and the testing of the LDCC-CR; and
- involvement in a District Disaster Exercise

The purpose of these exercises is to test the resource and response capabilities of the LDMG-CR and other agencies. The DMU resource, *Measurement of Capability Table,* shall be updated after each exercise.

9.6 Measurement of Capability

The table below sets out a measurement of response capability. This may be achieved through operational activation or by the conduct of exercises. See Table 31 below;

Date	Type	Process or Event	Participants	Action Plan *(actions derived from lessons learnt)*	Completion Date *(for evaluation of implementation of Action Plan)*
Oct 2005	Annual LDCC Exercise	*Ex Cyclone Ruth* – Functional Ex	Coordination Centre Council and liaison officers	Completed	Completed
20 – 25 Mar 2006	Activation	Cyclone Larry/ Monica	All disaster management staff, Council and external emergency liaison officers	Completed	Completed
14 Dec 2006	Annual LDCC Ex	*Ex Cyclone Gary* - Functional Ex	Coordination Centre Council and liaison officers	Completed	Completed
26 Feb 2007	Community Support Evacuation Ex	Discussion Ex	Community Support Sub-Committee Members	Completed	Completed
10 Dec 2007	Annual LDCC Ex	*Ex Cyclone Brigid*- Functional Ex	Coordination Centre Volunteers and liaison officers	Completed	Completed
11 Jun 2008	EMQ Multi-Agency Ex	Exercise *Harbour Wave* – Discussion Ex	Council Officers	Completed	Completed
09 Oct 2008	Copperlode Dam EAP Ex	Ex *Cool Waters*- Desktop/ Discussion Ex	Council Officers and External Emergency Service agencies	Completed	Completed
27 Nov 2008	Annual LDCC Ex	Ex *Cyclone Jason* – Functional Ex	Coordination Centre Council and liaison officers	Completed	Completed
10 Dec 2009	Annual LDCC Ex	Ex *Cyclone Ava* – Functional Exercise	Coordination Centre Council and liaison officers	Completed	Completed
30 July 2009	Copperlode Dam EAP Ex	Ex *Deluge* Desktop/ Discussion Ex	Council Officers and External Emergency Service agencies	Completed	Completed
8-10 June 2010	Regional LDMG & DDMG Exercise	Ex *Poseidon* – Functional Ex	Regional Local and District Disaster Management Group agencies and Local DCC	Completed	Completed
8 Dec 2010	Annual LDCC Ex	Ex *Cyclone Elia* – Functional Ex	Coordination Centre Council and liaison officers	Completed	Completed
1-6 Feb 2011	Activation	Cyclone Yasi	All disaster management staff, Council and external emergency liaison officers	Completed	Completed
15 Dec 2011	Annual LDCC Ex	Ex *Cyclone Meghan* – Functional Ex	Coordination Centre Council and liaison officers	Completed	Completed

9.7 Post Disaster Assessment

9.7.1 Debriefing

Debriefing is a valuable tool in the ongoing improvement of disaster management. Effectively undertaken, debriefing will identify areas of concern in the existing planning or response arrangements, as well as identifying areas of appropriate activity.

There are two different levels of debriefing activity, for two distinct purposes.

1. Hot Debrief

2. (Post-Event) Operational Debrief

1. The Hot Debrief

This is a style of Debrief undertaken immediately after operations are complete, giving participants the opportunity to share learning points while the experience is still very fresh in their minds.

Multiple hot debriefs during protracted operations may be appropriate to identify significant issues and provide prompt solutions for immediate implementation - in protracted operations, hot debriefs are to be conducted daily. Debriefs are to be conducted by the Local Disaster Coordinator.

2. The (Post-Event) Operational Debrief

Post event debrief is a more formalised debrief of the event by the Local Disaster Management Group, conducted days or weeks after an operation, when participants have had an opportunity to take a considered view of the effectiveness of the operation.

Ideally this debrief should occur after each participating agency has had the opportunity to have a single agency debrief of the activity.

The LDMG may consider having the Debrief facilitated by an independent person or organisation.

An effective debrief will:

- seek constructive information from those being debriefed
- analyse the operation to determine what went right, what went wrong and why without trying to apportion blame
- acknowledge good performance
- focus on improving planning and procedures
- record relevant information to enable reports to be compiled;

The Debrief should address:

- What happened during the event
- Areas which were handled well
- Areas where the coordination or the response could be improved
- Identified areas for amendment of plans, procedures, or training programs

The required amendment to documentation should be included in the regularly programmed review of the Local Disaster Management Plan.

9.7.2 After Action Operational Review

A post event 'After Action Operational Review Report' is completed in association with the LDMG-CR members, and any perceived gaps in capacity or process is addressed in the ongoing disaster management program.

PART 10 RESPONSE

The principle purpose of the emergency response is the preservation of life and property. Response is defined as the "actions taken in anticipation of, during, and immediately after an emergency to ensure that its effects are minimised, and that people affected are given immediate relief and support" (*EMA 2004*).

10.1 Warning Notification and Dissemination

LDMG members will receive warning products via a number of means.

The DDC will receive notification directly from the State Disaster Coordination Centre (SDCC) and internally through Queensland Police Service Communication Centres and will ensure the dissemination of warnings to vulnerable LDMGs within the district

The LDC and a number of agencies will also receive warnings directly from the Bureau of Meteorology. The LDMG-CR will be notified by the LDC and may also receive notification from internal agency offices. LDMG-CR members will receive warning products via a number of means including text messaging, email and/or direct phone calls.

Details regarding responsibility for notification processes within LDMG-CR member agencies are detailed in respective agency plans. Agency plans will include detailed contact registers to achieve dissemination of warnings

10.2 Activation

The authority to activate the Local Disaster Management Group - Cairns Region is vested in the Chair (or delegate) of the Local Disaster Management Group - Cairns Region. It is the duty of the Chair to inform the DDC regarding the Plan's activation.

Activation may occur as:

- A response to a worsening situation; or
- At the request of the responsible Lead Agency (in situations where no prior warning is possible).

The four levels of activation are:

Alert
This level is characterised by a heightened level of vigilance due to the possibility of an event in the area of responsibility. No action is required however the situation should be monitored by someone capable of assessing the potential of the threat.

Lean Forward
This level refers to the operational state prior to 'stand up' characterised by a heightened level of situational awareness of a disaster event (either current or impending) and a state of operational readiness. Disaster coordination centres are on standby; prepared but not activated.

Stand Up
This level of activation is the operational state following 'lean forward' whereby resources are mobilised, personnel are activated and operational activities commenced. Disaster coordination centres are activated.

Stand down
This level is the transition from responding to an event back to normal core business and/or recovery operations. There is no longer a requirement to respond to the event and the threat is no longer present

Refer to ***A.1 Activation of LDMG-CR Operational Plan.***

The Local Disaster Coordination Centre - Cairns Region (LDCC-CR) is activated by the Local Disaster Co coordinator of the LDMG-CR. The LDC has overall responsibility for the establishment and operation of the LDCC. The LDC should ensure appropriate levels of staff are identified and trained in the operation of the LDCC. The LDC, in consultation with the LDMG Executive Team, is responsible for establishing and maintaining financial management procedures for the LDCC.

For Activation and Operating Procedures refer ***to A.2 Local Disaster Coordination Centre - Cairns Region Operational Plan***

10.3 Authority to Activate

The authority to activate the Local Disaster Management Group - Cairns Region is vested in the Chair of the Local Disaster Management Group - Cairns Region. It is the duty of the Local Disaster Co Coordinator to inform the DDC regarding the Plan's activation.

The Plan provides the basis for the Local Disaster Management Group - Cairns Region to co-ordinate the response to a disaster through various response authorities.

Those incidents of local concern, and can be managed using local resources will be managed by the LDMG-CR, however when local resources are exhausted, the Cairns District Disaster Management Plan and State Disaster Management Plan provide for external resources to be made available, firstly from the District, and then secondly on a State-wide basis.

Only the Local Disaster Coordinator and Chairperson are authorised to seek external resources through the sub plan ***A.2 Local Disaster Coordination Centre - Cairns Region Operational Plan.***

Refer also section 9.1 of this plan.

10.4 Operational Reporting

The LDC will ensure operational reporting from LDMG-CR to Cairns DDMG commences once the LDMG-CR is activated. Situation Reports (SITREPS) will be forwarded at times as requested by Cairns DDMG – usually 8:00am and 3:00pm daily.

Once the Local Disaster Coordination Centre is activated, all reporting will be as listed in the 'DCC Standard Operating Procedures'.

10.5 Accessing Support

In the LDCC-CR Council shall provide land line telephones, computer access, two way radios, desk space and administrative resources to agency Liaison Officers.

10.5.1 Requests to DDMG

- All requests to the DDC will go through either the Local Disaster Coordinator or Chair of the LDMG-CR or their delegate after confirming all available local resources have been exhausted.

10.5.2 Support from External Agencies (Public and Private)

- All of Council's preferred suppliers are outlined within the 'List of Suppliers' held by the CRC Procurement Officer.
- Support is requested through the agency Liaison Officers or via the usual Council procedures. Requests to the DDC are as described previously.

Should support be withdrawn for whatever reason all agencies affected will be advised.

10.6 Operational Plans

Operational Sub-Plans have been written for specific functions refer to ***Section 7 Appendices - Appendix A – Operational Plans:***

- *A.1 Activation of LDMG-CR* – sets out the process for the activation of the LDMG-CR.
- *A.2 Local Disaster Coordination Centre - Cairns Region* – standard operating procedures for activating, staffing and management of the LDCC-CR during an event.
- *A.3 Financial Management* – establishes the procedure for purchasing, procurement, emergency purchase orders and the process for tracking agency costs for response and recovery from a disaster.
- *A.4 Community Support* – includes the Community Support Sub Plan and provides procedures and processes to be used during both the response and recovery phase of an event.
- *A.5 Evacuation* – this plan sets out the process for evacuation, who makes the decision, how it is activated, who gives direction to evacuate and to which centre.
- *A.6 Disaster Centre Management* – establishes the roles and responsibilities for the opening up, staffing, registering and in general caring for evacuees. Includes the Storm Tide cyclone Shelter Sub-Plans
- *A.7 Impact Assessment* – this plan provides the LDMG-CR with the tools to carry out an initial and then a more detailed impact assessment on the effect of the disaster on infrastructure, private property and the people in the community.
- *A.8 Medical Services* – this Plan provides a list and contact details for medical support in the Cairns Region.
- *A.9 Public Health* – Cairns Regional Council Health Plan sets out the responsibilities of the Environmental Health Officer in the event of a disaster and the support given by Queensland Public Health.
- *A.10 Public Information and Warnings* – provides the guidelines for the public awareness and education programs undertaken by members of the LDMG-CR and also the procedure for issuing warnings or advice pre, during or post event.
- *A.11 Public Works and Engineering* – protection and restoration of infrastructure before, during and after an event is paramount and this plan identifies key resources and assistance that can be deployed.
- *A.12 Transport* – transport plays a key role in a disaster in not only ensuring access to the area for response teams but also to evacuate people if required.
- *A.13 Logistics* – resource management, particularly of material resources, is an area that can cause extreme problems in response to a major event. This plan addresses the issues and provides process to be followed during a major event.
- *A14 Resupply* – provides for emergency supply of isolated persons/communities
- *A.15 Recovery* - provides a framework for the coordination of recovery operations within the local government area and is supported by the procedures outlined in the Queensland Recovery Guidelines

- *A16 Asbestos Management* - provide a framework for the management of asbestos containing material (ACM) in the response to a civil or natural disaster between Council, LDMG and other government stakeholders
- *A17 Edmonton Storm Tide Cyclone Shelter* - provide effective and coordinated management of the Edmonton Storm Tide Cyclone Shelter before, during and after the impact of a severe tropical cyclone.
- *A18 Redlynch Storm tide Cyclone Shelter* - provide effective and coordinated management of the Redlynch Storm Tide Cyclone Shelter before, during and after the impact of a severe tropical cyclone

10.7 Risk Treatment Arrangements

As this Local Disaster Management Plan is based on the ***all-hazards*** approach where each identified threat or event is responded to in a similar manner and the key to a successful operation is to manage the consequences of the event to produce the best outcome for the community.

The types of threat or disaster/emergency vary significantly and could be any of the following, cyclone and severe storm, counter terrorism, exotic animal disease, bushfire, flood, storm surge, oil spill, pollution, contamination of town water supply, major road/rail Incident, major aircraft accident, etc. Each type of event will have its own special requirements however the response will be in accordance with the Main Disaster Management Plan and supporting Operational Plans.

The Operational Plans are applicable to all hazards and some or all of the Operational Plans would be implemented depending on the particular event.

Risk Treatment Arrangements have also been prepared for specific risks.

Refer to *Appendix J - Risk Treatment Arrangements.*

10.8 Initial Impact Assessment

The details of who carries out initial inspections and assessments, the procedures for reporting and action to be taken is set out in ***A.7 Impact Assessment Operational Plan*****.** During the risk analysis process many events will be identified as having the potential for causing fatalities, injuries, property and environmental damage. The timely and accurate assessment of the health impact on the community along with the damage to public or private property and the associated implications for business and government continuity, which is of vital concern during a disaster event which will have a great bearing upon the manner in which response and recovery are managed.

The LDMG-CR conducts Rapid Impact assessment analysing
- the extent of the affected area;
- affected population including the characteristics and condition;
- Emergency - medical, health, nutritional, water and sanitation.
- Priority infrastructure

10.9 Establishment of Forward Command Post

The establishment of a Forward Command Post (FCP) will be governed by the scale and location of the event. Emergency Services agencies will normally establish a FCP as per their respective operating procedures and if warranted. As per Council's 'Emergency Response Plan', the Martyn Street Depot for Works and Maintenance will be utilised to coordinate and task Council and other agencies'/organisations crews with works to be undertaken in the field. This will be reviewed for each event.

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10.10 Disaster Declaration

Where there is a requirement for a person or a class of persons to exercise the additional powers available under the provisions of s.77 of the Act, the District Disaster Coordinator may with the approval of the Minister, declare a disaster situation for the Disaster District or a part of the Disaster District).

The District Disaster Coordinator should take reasonable steps to consult with Council prior to any declaration.

There is also provision for the Premier of Queensland and the Minister for Emergency Services to declare a Disaster Situation for the State of a part of the State.

The chairperson of the State Disaster Management Group or the District Disaster Coordinator only may authorise the exercise of additional powers.

The declaration of a disaster situation does not affect Council's responsibilities in relation to the coordination of the response to and recovery from the disaster event.

10.11 Financial Management

There is a need for Council and other responding agencies to manage specific internal financial arrangements in support of a disaster event, and the eventual financial claiming process to recoup funds.

Cairns regional Council addresses this responsibility through specifically tailored computer software (Resolve) and the Operational Plan *A.3 Financial Management* attached to the LDMP..

There are two sets of financial arrangements which, if activated by the Minister, provide financial support to Queensland communities impacted by a disaster event through the reimbursement of eligible expenditure:

10.11.1 State Disaster Relief Arrangements (SDRA)

The intent of the SDRA is to assist in the relief of communities whose social wellbeing has been severely affected by a disaster event (natural or non-natural). The SDRA is State funded, and therefore not subject to the Australian government imposed event eligibility provisions or activation threshold. As a consequence, SDRA

is able to address a wider range of disaster events and circumstances where personal hardship exists.

10.11.2 Natural Disaster Relief and Recovery Arrangements (NDRRA)

The intent of the NDRRA is to assist the relief and recovery of communities whose social, financial and economic wellbeing has been severely affected by a disaster event. The arrangements provide a cost sharing formula between the State and Australian Government and include a range of pre-agreed relief measures.

Eligible disasters under NDRRA include: Cyclone, Flood, Landslide, Meteor Strike, Storm, Bushfire, Storm Surge, Terrorist Event, Tsunami, Tornado and Earthquake. Drought, frost, heatwave, epidemic events relating from poor environmental planning, commercial development or personal intervention are not eligible events under NDRRA.

To claim for expenditure reimbursement under SDRA or NDRRA arrangements the relevant arrangements must be activated;

- the relevant relief measures must be activated and the expenditure must meet the eligibility requirements of that measure; and
- documentary support for all eligible expenditure detailed in the claim must be provided by the claimant.

10.12 Media Management

Refer attached Operational Plan *A.11 Media Management* – strategically providing information to the media that is consistent, appropriate and reliable with consideration to factors like target audience, frequency of messaging, demographics and geographic situation.

10.13 Resupply

Although Cairns is basically a large urban environment, a disaster event may create some issues in supplying essential goods to isolated communities, isolated rural properties and stranded persons. The infrastructure, topography and location of population centres are such that it is considered that resupply will not be regularly experienced in the area with disaster events.

All issues of resupply will be undertaken as per the 'Queensland Resupply Guidelines' issued by the State Disaster Management Group.

The LDMG-CR is responsible for

- the management of, and
- the community education and awareness

in relation to the resupply of isolated communities and isolated rural properties.

Further details of the State Resupply Policy are addressed in the Resupply Operations Sub Plan.

10.14 Management of Volunteers

The LDMG-CR works with Volunteering North Queensland (VNQ) to manage volunteers for disaster events. Volunteers, who contact Council, are directed to VNQ. VNQ is an advisory member of the LDMG-CR and member of the Community Support Sub-committee.

The LDMG-CR coordinates volunteers by utilising the "Spontaneous Volunteer Management Resource Kit" from the Australian Government Department of Social Services and with reference to the Southern Cross University working paper, "Spontaneous volunteering during natural disasters" (2013).

10.15 Management of Donations

Donations to Council from the community for disaster events will be managed as follows:

- Donations of goods, clothing, toys and bedding – managed by St. Vincent de Paul Society, Cairns (a member of the Community Support Sub-committee).
- Donations of food – managed by the Community Support Sub-committee.
- Offer to volunteer to assist – VNQ (refer above)
- Donations of services, plant and equipment – managed through the Disaster Coordination Centre utilising GIVIT (during times of disaster, GIVIT works alongside local Government agencies and not-for-profit organisations to identify and source needed donations by location, enabling the rapid delivery of quality goods in a timely manner).
- Donations of money – managed by Australian Red Cross.

Donations will be managed in accordance with:

- Australian Government 'National Guidelines for Managing Donated Goods'; and
- Queensland State Recovery Office 'Tools to assist with managing donated goods'.

10.16 Hazard Specific Arrangements

The Queensland Disaster Management Arrangements include plans and procedures for specific hazards such as influenza pandemic, animal and plant disease, terrorism and bushfire. Primary agencies are allocated responsibility to prepare for, and respond to, the specific hazard based on their legislated and/or technical capability and authority. The broader arrangements may be activated to provide coordinated support to the hazard specific arrangements.

The State Disaster Management Plan identifies a number of Specific Hazards which are subject of special planning.

Details of the associated State and National Plans, along with the identified Primary Agency responsible for the development and implementation of these plans are included in the following table.

Table 32: State and National Plans Primary Agency

Specific Hazard	Primary Agency	State and National Plans
Biological (human related)	Queensland Health	State of Queensland Multi-agency Response to Chemical, Biological, Radiological Incidents
Bushfire	Queensland Fire and Rescue Service	Wildfire Mitigation and Readiness Plans (Regional)
Chemical	Queensland Fire and Rescue Service	State of Queensland Multi-agency Response to Chemical, Biological, Radiological Incidents
Influenza Pandemic	Queensland Health	Queensland Pandemic Influenza Plan National Action Plan for Human Influenza Pandemic
Radiological	Queensland Health	State of Queensland Multi-agency Response to Chemical, Biological, Radiological Incidents
Terrorism	Queensland Police Service	Queensland Counter-Terrorism Plan National Counter-Terrorism Plan
Oil Spill at sea	Queensland Transport (Maritime Safety Qld)	Qld Coastal Contingency Action Plan

Adapted from Interim Queensland State Disaster Management Plan 2012

The above Lead Agencies are responsible for:

- combating specific threats as shown;
- ensuring that effective threat specific plans are prepared;
- ensuring that appropriate resources are identified for use during operations; and
- providing liaison officers to coordination centres, as required.

Lead agency threat specific plans are normally activated by a threat specific regional representative. The Executive Director, EMQ and the relevant DDC are advised of the activation as soon as practical.

PART 11 RECOVERY

11.1 Recovery Principles

Recovery is a remedial and developmental process encompassing the following activities (*the source document for Recovery is the EMA Recovery Manual*):

- Regeneration of the emotional, social and physical well-being of individuals and communities;
- Reducing future exposure to hazards and associated risks;
- Reducing the consequences of the disaster on a community; and
- Taking opportunities to adapt to meet the physical, environmental, economic and psychosocial future needs of the community.

Disaster recovery is most effective:

- When management arrangements recognise that recovery from a disaster is a complex, dynamic and protracted process;
- When agreed plans and management arrangements are well understood by the community and all disaster management agencies;
- When community service and reconstruction agencies have input to key decision making;
- When conducted with the active participation of the affected community;
- When recovery managers are involved from initial briefing onwards;
- When recovery services are provided in timely, fair, equitable and flexible manner; and
- When supported by training programs and exercises.

11.2 Recovery Concepts

The major themes of the Recovery Concepts are:

- Community Involvement – recovery processes are most effective when affected communities actively participate in their own recovery;
- Local Level Management – recovery services should be managed to the extent possible at the local level;
- Affected Community – the identification of the affected community needs to include all those affected in any significant way whether defined by geographical location or as a dispersed population;
- Differing Effects – the ability of individuals, families and communities to recover depends upon capacity, specific circumstances of the event and its effects;
- Empowerment – recovery services should empower communities to manage their own recovery through support and maintenance of identity, dignity and autonomy;
- Resourcefulness – recognition needs to be given to the level of resourcefulness evident within an affected community and self-help should be encouraged;
- Responsiveness, Flexibility, Adaptability and Accountability – recovery services need to be responsive, flexible and adaptable to meet the rapidly changing environment, as well as being accountable;

- Integrated Services – integration of recovery service agencies, as well as with response agencies, is essential to avoid overlapping services and resource wastage;
- Coordination – recovery services are most effective when coordinated by a single agency; and
- Planned Withdrawal – planned and managed withdrawal of external services is essential to avoid gaps in service delivery and the perception of leaving before the task has been completed.

11.3 Recovery Components

There are four elements of recovery and all components are interdependent of each other and one cannot operate effectively without the others. The Recovery Plan considers in detail each component and addresses the issues identified:

- Community Recovery – families and individuals:
    - Community characteristics;
    - Resources necessary to assist in recovery;
    - What government agencies and non-government organisations would be necessary during recovery; and
    - What financial assistance is available to the community and how to access this assistance.
- Infrastructure Recovery – infrastructure and services:
    - Restoration of essential services;
    - Community access to services;
    - Facilitation of restoration of living conditions and security;
    - Prioritising the rebuilding of infrastructure and community lifelines;
    - How to communicate with the community; and
    - How to integrate arrangements with other agencies.
- Economic Recovery – business continuity, industry restoration:
    - What impact will the disaster have on business continuity and job security;
    - Who needs to be involved in rebuilding economic viability in the community; and
    - Management of damaged reputation regionally, nationally and internationally.
- Environmental Recovery – our natural surroundings:
    - Identification of issues to be considered in managing environmental damage caused by the disaster; and
    - Identification of who should be involved in this process.

The recovery phase of disaster management also involves disaster relief in the provision of immediate shelter, life support and human needs to persons affected by, or responding to, a disaster. For this reason the timely coordinated establishment of disaster recovery strategies is equally as important as, and should be activated in conjunction with, an effective disaster response.

Recovery can be a long and complex process which extends beyond immediate support to include repair, reconstruction, rehabilitation, regeneration and restoration

of social wellbeing, community development, economic renewal and growth, and the natural environment.

11.4 Interim Recovery Arrangements

These arrangements are attached as ***Appendix I – Interim Recovery Arrangements*** and provide interim guidelines for recovery from a disaster event and actions Cairns Regional Council may take in the recovery process.

11.5 Recovery Sub Plan

The Cairns Regional Council 'Local Community, Disaster Recovery Sub Plan is currently in draft form and provides a framework for the coordination of recovery operations within the Cairns local government area and is supported by the procedures outlined in the Queensland Recovery Guidelines.

This recovery strategy is being developed to:

- include all functions of recovery (human-social, infrastructure, economic and environmental);
- define broad parameters for the effective coordination of recovery operations within the local government area; and
- identify constraints to the coordination of recovery operations within the local government area.

The Cairns Local Community Recovery Committee is being set up by the LDMG-CR as a sub-group to oversee the implementation of the Recovery Su-Plan and coordination of Council's recovery activities.

11.6 District Recovery

District Recovery Committees are necessary because many of the services required in recovery management are administered or delivered on a District basis. The FNQ regional office of Department of Communities, Child Safety and Disability Services (DCCSDS) – as the functional lead agency for Human Social Disaster Recovery – is the primary agency in delivering the region's three District-level Community Recovery Plans.

Community Recovery Centres generally open soon after the impact of a large scale disaster to provide a 'one-stop-shop' for community members to receive immediate assistance, information, advice, services and support from a range of government and non-government agencies.

11.7 State Recovery

Committees at a State level comprise representatives from Commonwealth, State and local government agencies and non-government organizations.

The State Committee oversees:

- Management of the recovery process at the State level ensuring that community needs are met, either through State resources or by the acquisition of appropriate resources from the Commonwealth;

- Provision by member agencies of a range of specific recovery services ranging from reconstruction and physical infrastructure issues to personal support services

Table 33: Local Levels of Activation for Recovery Arrangements

Response ALERT		Triggers	Actions	Communications
Response LEAN FORWARD	Recovery ALERT	Response phase at 'lean forward' level of activation	Appointment of LRC as appropriate • Potential actions and risks identified • Information sharing commences • LRC in contact with LDCC/LDC • Initial advice to all recovery stakeholders	LRC and LRG members on mobile remotely
Response STAND UP	Recovery LEAN FORWARD	Response phase at 'stand up' level of activation Immediate relief arrangements are required during response phase	Monitoring of response arrangements • Analysis of hazard impact or potential impact • Relief and recovery planning commences Deployments for immediate relief commenced by recovery functional agencies	LRC and LRG members on mobile and monitoring email remotely Ad hoc reporting

	Recovery STAND UP	Immediate relief arrangements continue	LRG activated at LDCC or alternate location • Recovery plan activated • Deployments for immediate relief response • Action plans for four functions of recovery • activated as required • Community information strategy employed	LRC and LRG members present at LDCC or alternate location, on established land lines and/or mobiles, monitoring emails
Response STAND DOWN	Recovery STAND UP	Response phase moves to 'stand down' level of activation. Medium term recovery commences	Participate in response debrief • Transition arrangements from 'response and recovery' to 'recovery' activated including • handover from LDC to LRC • Action plans for four functions of recovery continue • Community information strategies continue	LRC and LRG members involved in medium term recovery continue as required Regular reporting to Response Stand Down LDMG/LDC
	Recovery STAND DOWN	LRG arrangements are finalised. Community returns to normal activities with ongoing support as required.	• Consolidate financial records • Reporting requirements finalised • Participate in recovery debrief • Participate in post event debrief • Post event review and evaluation • Long term recovery arrangements transferred • to functional lead agencies • Return to core business	LRC and LRG members resume standard business and after-hours contact arrangements Functional lead agencies report to LRC/LRG as required

PART 12 APPENDICES

Appendix A – Operational Plans

The Operational Plans are for Cairns Region in general with two sections where required, relating specifically to the Cairns Area and the Far Northern Area.

A. 1 Activation of Local Disaster Management Group - Cairns Region
A. 2 Local Disaster Coordination Centre - Cairns Region
A. 3 Financial Management
A. 4 Community Support
A. 5 Evacuation
A. 6 Disaster Centre Management
A. 7 Impact Assessment
A. 8 Medical Services
A. 9 Public Health
A.10 Public Information and Warnings
A.11 Public Works and Engineering
A.12 Transport
A.13 Logistics
A.14 Resupply
A.15 Recovery
A.16 Asbestos Containing Material Management
A.17 Edmonton Storm Tide Cyclone Shelter
A.18 Redlynch Storm Tide Cyclone Shelter

Appendix B – Roles and Responsibilities of LDMG-CR Members

Appendix C – Cairns Region LDMG Contact Directory

Appendix D – Resources List

Appendix E – Activation Levels and Actions

Appendix F – Risk Evaluation Summaries

Appendix G – Risk Treatment & Risk Register