LOCAL DISASTER MANAGEMENT PLAN

Douglas Shire

19 October 2023

Doc ID 1195410

Photo taken by David White, 2018/19 Monsoon Trough

DOUGLAS SHIRE COUNCIL

LOCAL DISASTER MANAGEMENT GROUP

Disaster Management is everybody's business

Engaging, Planning, Partnering

FOREWORD FROM THE DOUGLAS LOCAL DISASTER MANAGEMENT GROUP CHAIRPERSON

Like the rest of Queensland, Douglas Shire Council is not immune to the threat of disasters such as cyclones, floods, heatwaves, severe weather and bushfire. These hazards may result in road closures and infrastructure failures which may affect individuals and the community in a number of different ways.

Significant disasters or large-scale emergency events will involve an all-hazards approach, which is an active disaster management philosophy which embraces mitigation, prevention, preparedness, response and recovery strategies. The active participation of local communities before, during and after such events will ensure the best outcomes for individuals, households, businesses and the community as a whole.

Actively building resilience at neighbourhood scale can reduce the impact of any disaster or emergency, which is why Douglas Shire has undertaken recent resilience planning in our small communities across the Shire. Our small communities now have a greater understanding of specific risks through the development of the Resilience Scorecards.

There is a role for everyone in understanding the risks and challenges we face from natural hazards. Making decisions that continually reduce risk at our homes, our businesses, for our families and communities can reduce impacts from disaster events. We must continue to raise awareness and risk understanding to improve resilience across our region.

We know that as a community we may not be able to prevent disasters or serious events from occurring, however we can prepare our community for the adverse impacts of any threat through effective pre-planning. The Local Disaster Management Plan provides an outline for prevention, preparedness, response, and recovery arrangements for the Douglas community and provides direction and authority for the Local Disaster Management Group to coordinate capability in disaster management and disaster operations.

Over recent years Douglas Shire has experienced several severe weather events, and whilst we do our best to mitigate and prepare for these events, our community continues to be resilient and demonstrates their support to help those in need. This Plan is a controlled but living document that will be kept up to date to compliment changes in legislation and reflect lessons learnt from disasters and is endorsed by the Local Disaster Management Group.

Mayor Michael Kerr
Douglas Shire Council
Chairperson, Douglas Local Disaster Management Group

DOCUMENT CONTROL

Requirements and Review

In accordance with section 59 of the Queensland *Disaster Management Act 2003* (the Act):

1. A local government may review, or renew, its local disaster management plan when the local government considers it appropriate.
2. However, the local government must review the effectiveness of the plan at least once a year.

Council reviews the effectiveness of the plan using the Emergency Management Assurance Framework through assurance activities to validate performance and through an annual disaster management exercise.

Amendments and Version Control

The LDMP is a controlled document. The controller of the document is the Douglas Shire Local Disaster Coordinator (LDC). Any proposed amendments to this plan should be forwarded in writing to:

The Disaster Management Unit - Douglas Region
PO Box 723
MOSSMAN QLD 4873

The LDC or Disaster Management Officer (DMO) may approve inconsequential amendments to this document. Any changes to the intent of the document must be approved and endorsed by Douglas Shire Council in accordance with Section 80(1)(b) of the Act.

A copy of each amendment is to be forwarded to the Douglas Local Disaster Management Group (LDMG) – core members and advisors in accordance with Tables 3 and 5 of this document. On receipt, the amendment is to be inserted into the document and the Amendment Register updated and signed.

Amendment Register

Table 1: Document history and amendments to the LDMP

Version	Date	Prepared by	Comments
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	October 2013	Paul Hoye (Douglas)	Revised Plan to reflect Douglas area because of de-amalgamation
4	July 2014	QFES	Changes made to reflect current practice as outlined in Local Disaster Management Guidelines

5	Dec 2015	P Hoye/LDMG, LDC	Changes made to reflect current practice
6	October 2016	P Hoye (LDC)	Changes made to reflect current practice
7	June 2017	QFES (EM)	Changes made to reflect current practice
8	October 2018	P Hoye (LDC)	Changes made to reflect current practice
9	October 2019	LDC, DMO and QFES	Changes to reflect current arrangements
10	August 2021	LDC, DMO and QFES	Review of plan in accordance with Queensland's Emergency Management Assurance Framework, Local Government Planning Guidelines and the Queensland Disaster Management Act 2003.
11	August 2022	Douglas Disaster Management Unit, QFES	No significant changes. Amended date on front cover, added quicklinks and new Douglas LDMG logo.
12	28 September 2022	Douglas LDMG	2022 plan and amendments endorsed.
12	25 October 2022	Douglas Shire Councillors	2022 plan and amendments endorsed at Council meeting.
13	11 October 2023	Meridian Urban	Comprehensive review and restructure

Distribution

The current Local Disaster Management Plan (LDMP) (the Plan), excluding confidential annexures and supporting documents, is available for public viewing online at the Douglas Shire Council website at Douglas Disaster Management Plans in .pdf format. Alternatively, a hard copy can be viewed at 64-66 Front Street, Mossman Administration Building, Mossman, 4873.

The LDMP has been distributed in accordance with Table 3 of this document. It is the responsibility of each individual or agency in receipt of this LDMP to ensure the current plan is maintained.

Important Information About This Document

This updated and revised plan is intended not solely for the domain of disaster management; rather, it is a shared responsibility between government, communities, businesses, and individuals.

Certain sections of the LDMP are privileged and confidential and not available for distribution to the public. Any party using the information for any purposes does so at their own risk and releases and indemnifies Douglas Shire Council against all responsibility and liability (including negligence, negligent misstatement, and pure economic loss) for all expenses, losses, damages and costs because of such use.

ENDORSEMENT AND AUTHORITY TO PLAN

This Plan has been developed by, and with the authority of, Douglas Shire Council pursuant to Sections 57 and 58 of the Act. The Plan conforms to the State Disaster Management Guidelines 2018 and the Standard for Disaster Management 2021. Section 80(1) (b) of the Act requires Council to approve its Local Disaster Management Plan.

The Plan has been reviewed and accepted by:

Michael Kerr,
Mayor, Douglas Shire Council Date: 29 November 2023

Rachel Brophy
Chief Executive Officer, Douglas Shire Council

Date: 29 November 2023

Acknowledgment of Country

The Eastern Kuku Yalanji and Yirrganydji peoples are the Traditional Custodians and Owners of the land and sea country that encompass the Douglas Shire region. Douglas Shire Council acknowledges the 'Bama', the traditional rainforest Aboriginal coastal people of our region who hold the unique position of being the First Peoples of this country. We recognise and respect Bama cultural heritage, values, beliefs and continuing relationships and responsibility to their land and sea country. We honour and respect your Elders past, present and future. We commit to maintaining and strengthening our partnerships and respectful relationships with Bama in the spirit of reconciliation so that together we can increase the opportunities for successful and positive outcomes to the advantage of everyone in our communities. Council respectfully acknowledges other Aboriginal and Torres Strait Islander people who call our region 'home'.

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1 INTRODUCTION

The primary focus of the LDMP is to effectively manage and mitigate the effects of disasters on the community wherever possible or practical, while preparing to respond when disasters do occur. The plan is based on a flexible and scalable all hazards approach, encompassing the key principles of prevention, preparedness, response and recovery.

The aim of this plan is to minimise the effects of, coordinate the response to, and manage the recovery from a disaster or major emergency affecting the Douglas local government area. This is achieved by:

- Providing a comprehensive framework for disaster management activities within the Douglas Shire;
- Understanding our risks, exposure and vulnerabilities at community scale;
- Ensuring appropriate strategies are developed and established to minimise the adverse effects of a disaster on the Douglas Shire community;
- Developing risk-based plans and management arrangements with a community focus including supporting the local understanding of resilience in the Resilience Scorecards for our communities;
- Describing the organisational roles, responsibilities and procedures for effective disaster management within Douglas Shire;
- Outlining operations for effective disaster management across the four phases of prevention, preparedness, response and recovery;
- Describing the committees and networks established for the coordination of multi-agency responses;
- Acknowledging the likely effects of identified threats to the community, infrastructure and the environment;
- Planning for those specific threats, including guidelines and procedures for the operation of the plan;
- Understanding residual risk; and
- Providing information to build community resilience and better assist the community in preparing for, responding to and recovering from disaster events.

2 DISASTER MANAGEMENT IN QUEENSLAND

Disaster management within Douglas Shire is undertaken in accordance with the Queensland Disaster Management Arrangements (QDMA) which comprises statutory direction, guidance and policy of key reference documents that lead management, operations, approaches and actions in disaster management. This LDMP is consistent with and forwards the direction of the:

- Queensland Disaster Management Act 2003 and subordinate Regulation 2014
- Queensland Disaster Management 2016 Strategic Policy Statement:
- State Disaster Management Plan 2023
- State Disaster Management Guidelines 2021:
- Queensland Disaster Management Arrangements

Note: the QDMA has recently been reviewed and the final report provided to IGEM on 23/04/2023.Details of any change impacting the Douglas LDMG have not yet been advised or considered for the 2023 LDMP.

See also the references in section 10 of this document and Resources and further reading in section 10.1.

Council's disaster management principles are based on the five guiding principles outlined in the Act, which form the basis of the QDMA. Council recognises other key principles of disaster management as follows:

- Disaster management is a responsibility of all levels of government including non-government organisations to work in partnership with each other and to provide a coordinated and seamless service to disaster-affected communities.
- Command, control and coordination responsibilities should be clearly articulated within the disaster management arrangements at local, district and state levels prior to a disaster or emergency.
- Disaster management arrangements must be supported by an organisational structure in order to establish the responsibilities for all phases of the comprehensive approach.
- Planning should be developed through an evidence base that identifies, analyses and evaluates disaster risks, including identifying shortfalls in disaster management capability and treatment options to ensure risks are managed effectively.
- Activation of disaster management plans is vital to ensure timely and accurate response to a disaster.
- Council's resources that exist for a day-to-day purpose should function as an extension of their core business when responding to a disaster.
- Individuals are to ensure that they comply with their workplace occupational health and safety guidelines and policies and are responsible for their own safety.
- Efficient information management is critical for the successful management of a disaster.

2.1 Queensland Disaster Management Arrangements

Local government is primarily responsible for managing disasters within the local government area. The Queensland Disaster Management Arrangements (QDMA) enable a progressive escalation of support and assistance through the tiers of the QDMA as required. If local governments require additional resources to manage an event, they can request support through the QDMA.

Queensland's whole-of-government disaster management arrangements are based on partnerships between government, non-government organisations, commerce and industry sectors, and the local community. These arrangements recognise each level of the disaster management arrangements working collaboratively to ensure the effective coordination of planning, services, information and resources necessary for comprehensive disaster management.

Figure 1depicts the three layers of the Queensland's tiered disaster management arrangements including the link to the Australian Government for Commonwealth support when required.

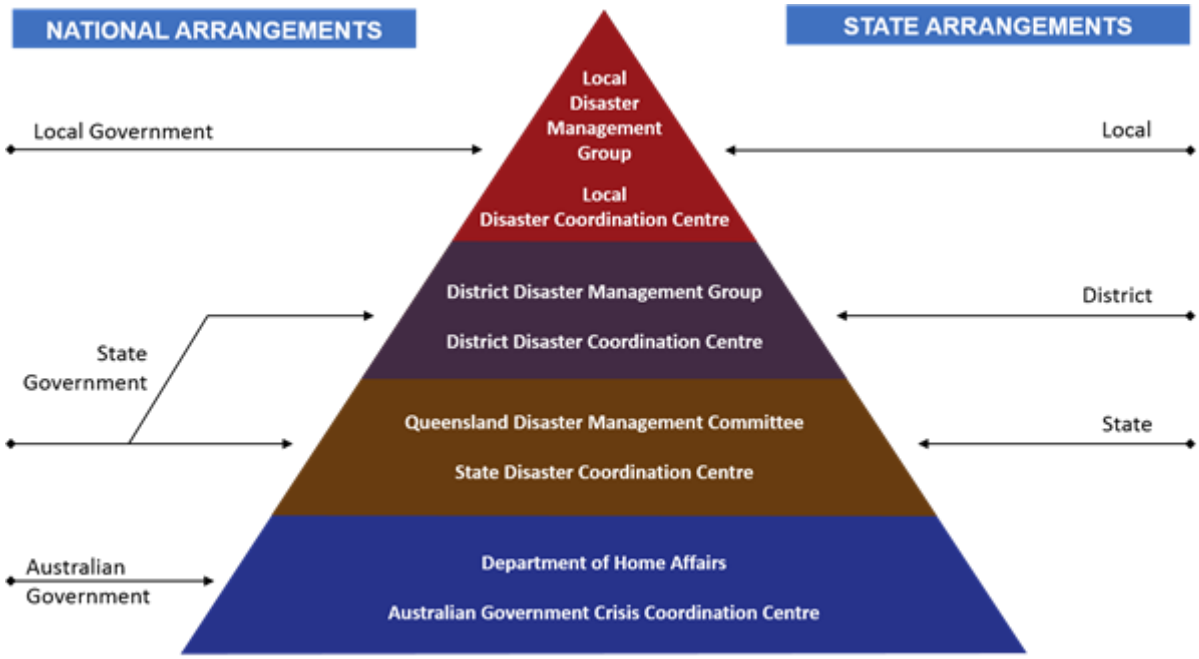


Figure 1: Queensland Disaster Management Structure

The arrangements enable a progressive escalation of support and assistance through these tiers as required. It comprises several key management and coordination structures through which effective disaster management for Queensland is achieved.

2.1.1 Inspector-General Emergency Management

The role of the Inspector-General Emergency Management (IGEM) was first established in 2013 following a review of police and community safety and was

formalised as a statutory position in 2014. The functions of the IGEM and the Office of the IGEM are prescribed in Sections 16C and 16H of the Act.

Functions of the IGEM include making and regularly reviewing disaster management standards, assessing entities involved with disaster management against the standards and working with entities to improve their disaster management capabilities. The Office also undertakes regular reviews on management of disasters. IGEM is the author of the Standards for Disaster Management 2021 and has overseen the extensive review of the QDMA in 2022-23.

IGEM is tasked with ensuring the best possible whole-of-government and whole-of-community arrangements to deal with emergencies and disasters. To support this commitment to disaster management excellence, the Office of the IGEM has developed an Emergency Management Assurance Framework 2021.

2.1.2 Queensland Emergency Management Assurance Framework 2021

The Emergency Management Assurance Framework shapes the work of IGEM and the Standards for Disaster Management 2021. This work is shaped by four principles underpinning effective disaster management in Queensland.

Public safety. Keeping the community safe is the primary driver for the continuous improvement of Queensland's disaster management arrangements. The arrangements are delivered through disaster management groups with a focus on the safety of the community, engaging stakeholders and sharing the responsibility for disaster management.

Leadership. Leadership is demonstrated through a commitment to building a shared culture of excellence across the disaster management sector. Strategic planning, within the context of resources and risk, underpins clear decision-making and priorities to achieve positive outcomes for, and to enable, the community.

Partnership. Every Queenslander has a role to ensure our State is resilient, risks are managed, and identified opportunities lead to improvement. Strong partnerships across the sector improve disaster management outcomes. Partnerships work well when they are well governed, have clear roles and responsibilities, and promote true collaboration.

Performance. A culture of performance drives the productivity and effectiveness of disaster management. Productivity and effectiveness are measured by a combination of quality, quantity, cost, time and human relationships. Performance and continuous improvement are monitored and analysed against standards.

The framework supports accountability and builds consistency across all levels of the disaster management arrangements and reinforces a shared responsibility for delivering better disaster management outcomes for the community.

In addition to the principles, IGEM has developed Good Practice Attributes for an effective disaster management system:

Table 2: Good Practice Attributes

Attribute	Description
Scalable	Arrangements can be applied to any size or type of event and across all levels of Queensland's disaster management arrangements
Comprehensive	Considers all phases of disaster management, all hazards and risks, and a targeted all agencies approach
Interoperable	Promotes linkages and partnerships between systems, programs and people, to enable sharing of information and coordinated activities across the sector
Value Driven	Ensures that the value of services and systems is considered in terms of cost, fit for purpose, quality, and the advancing of broader economic, environmental and social objectives
Adaptable	Arrangements can adapt to a changing climate and environment, remaining flexible to the needs of the community

The four guiding principles and the five practice attributes shape this document and the activities of the Douglas LDMG.

2.1.3 Standard for Disaster Management in Queensland

The Standard for Disaster Management in Queensland (the Standard) establishes the performance requirements for all entities involved in disaster management. The Standard focusses on outcomes, performance and system wide goals for the disaster management sector. For further information or to download a copy of the Emergency Management Assurance Framework or the Standard, please visit www.igem.qld.gov.au

2.1.4 A comprehensive approach

This encompasses all hazards and recognises that dealing with the risks to community safety, requires a range of prevention and mitigation or risk reduction treatments across the PPRR spectrum.

A comprehensive approach is adopted throughout disaster management planning to ensure that risk reduction and community resilience are developed in unison, while maintaining effective response and recovery capabilities.

The comprehensive approach provides an overarching framework for disaster management by identifying four phases: prevention, preparedness, response and recovery, as identified in section 4A of the Act.

- **Prevention**: 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.
- **Preparedness**: The taking of preparatory measures to ensure that, if an event occurs, communities, resources and services are able to cope with the effects of the event.
- **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.
- **Recovery**: The taking of appropriate measures to recover from an event, including the 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.

This LDMP is structured to highlight management action across the PPRR spectrum.

2.1.5 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. An all-agencies approach ensures collaboration between all levels of government, and other organisations and agencies that are required to support the four phases of the comprehensive approach.

Douglas Shire Council works closely with other agencies and with the community to ensure the best possible prevention, preparedness, response and recovery is in place. Council is ideally suited to manage most disaster types at the community level, based on its understanding of local social, environmental and economic issues, and its knowledge of the Shire's infrastructure. Council is able to coordinate disaster management through planning with the LDMG and LDCC. Council's Disaster Management Unit manages the day-to-day work of the Doulas LDMG by developing policies, plans and processes in preparation for disaster events. This includes:

- Identifying the differing needs and vulnerabilities of communities.
- Maintaining and enhancing relationships with external emergency service agencies to ensure a collaborative approach.
- Managing and maintaining the LDCC capability; and
- Providing operational coordination for response and recovery during and after an event.

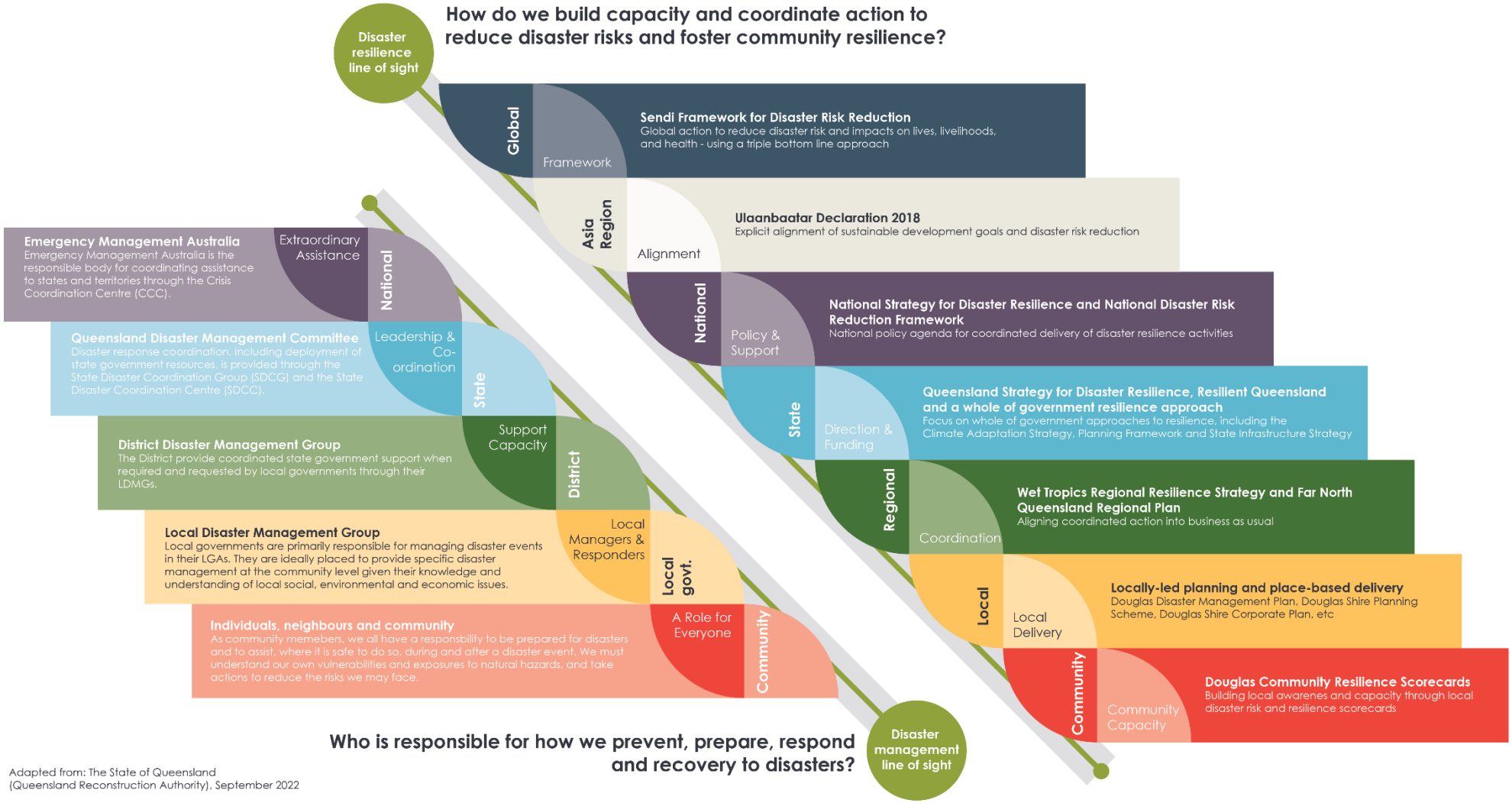


Figure 2: International to local disaster management risk and resilience roles and responsibilities

3 ROLES AND RESPONSIBILITIES

This section sets out governance of disaster management for Douglas under the QDMA.

3.1 Functions of Douglas Shire Council for disaster management

In accordance with section 80 of the Act, Douglas Shire Council must ensure it has and maintains a disaster response capability. Disaster response capability for Douglas Shire Council means maintaining disaster management plans, an appropriately trained disaster management workforce and suitable equipment in order to effectively respond to a disaster in the local government's area.

The responsibility for disaster risk management in accordance with the *Disaster Management Act 2003* and the subordinate Queensland Disaster Management Arrangements (QDMA) resides with all spheres of government. Despite the guiding role played by regions, the most important government sphere for the effective implementation of disaster risk management remains local government on the scale of community wide resources and services.

3.1.1 Functions of the Douglas Local Disaster Management Group

Council is required under legislation to form an LDMG. The Douglas LDMG is chaired by the Mayor and membership of the group includes local and state government agencies, emergency services, non-government organisations as well as critical infrastructure and service owners all with whom have the necessary expertise to be a member.

The Douglas LDMG is responsible for ensuring effective disaster management for a local government area is in place and maintained. During a disaster, the Douglas LDMG will provide the strategic direction and coordination of Council's response and recovery efforts for the community of Douglas Shire.

The Douglas LDMG meets approximately every second month and annually reviews and assesses the disaster management plans and arrangements for Douglas Shire. See Section 30 of the Act for more functions of the Douglas LDMG.

3.1.2 Membership

The Douglas LDMG is chaired by the Mayor of Douglas Shire Council and in accordance with Section 33 to 37 of the Act. Representatives are appointed by the Chair of the Douglas LDMG and should have the necessary expertise or experience and delegated authority to ensure the best possible disaster management is in place.

The membership of the Group is reviewed annually. Douglas Shire Council will give written notice of the members of the LDMG. Douglas Shire Council authorised agencies to nominate at least one person to serve as a deputy, should their representative be unable to attend LDMG meetings. Deputies are recommended by their agency and approved by the Chair and LDC of the LDMG.

Whilst deputies may assist in the LDMG's decision making processes through debate and other inputs, they do not hold any voting rights and do not contribute to forming a quorum for a LDMG unless they are acting in the capacity of an absent member (agency representative). The Douglas LDMG comprises (but is not limited to) the following members:

Table 3: LDMG Core Members

DOUGLAS LDMG – CORE MEMBERS
DSC Mayor - Chairperson
Councillor - Deputy Chairperson
DSC - Manager Environment & Planning
DSC - Disaster Management Officer
QPS – Officer In Charge Port Douglas
DSC - Chief Executive Officer
Mossman Multi-Purpose Health Service - Director of Nursing/Facility Manager
QFES – FRS Area Commander
QPS - Emergency Management Coordinator Far North
QPS – Officer In Charge Mossman
QAS – Officer In Charge Mossman
DSC - Manager People and Community Services
DSC - Manager Water/Wastewater
DSC - Manager Infrastructure

Table 4: Council staff and Facilities s

DSC Staff Roles	Role Description
LDC – Local Disaster Coordinator	The LDC for Douglas Manager of Environment and Planning. This is a legislative role under sections 35 and 36 of the Act with the functions of: • Coordinating disaster operations for the local group. • Reporting to the LDMG about disaster operations. Ensure, as far as practicable, that any strategic decisions of the LDMG are implemented.
LRC – Local Recovery Co-ordinator	The LDMG may appoint a Local Recovery Coordinator (LRC) to coordinate recovery at the local level. The LRC is appointed by the Chairperson, after consultation with the Chair of the State Recovery Group (SRG) and may be appointed pre-emptively. The person appointed should not be the same person appointed as the LDC.
LDCC - Local Disaster Coordination Centre	The LDCC supports the LDMG in implementing the activities required for response and recovery activities during an event. The LDCC provides a focal point for Council's coordination and prioritisation of resources and assets to support response and recovery operations in the event of a disaster or emergency. The LDC should ensure appropriate levels of staff are identified and trained in the operation of the LDCC. The primary location for the LDCC is Council Chambers, Mossman Administration Building, 64-66 Front Street, Mossman.

Guardian - Disaster Incident Management System	Guardian IMS is a comprehensive approach to disaster management, based on the LDMP. It is a command-and-control system to logically manage and coordinate all emergency incidents from small and simple to large and complex events. The Guardian IMS structure ensures effective management, with the focus on resource coordination, inter-agency coordination and personnel. This is achieved through the strategic and operational levels working together in times of disaster events.

The LDMG may be supported by agencies other than permanent members to provide an advisory role for threat specific events. Whilst advisors assist in the LDMG's decision making processes through debate and other inputs, they do not hold any voting rights and do not contribute to forming a quorum for the group. The Chair and/or LDC are authorised to invite advisors and other persons to the LDMG.

Table 5: LDMG Advisors

DOUGLAS LDMG - ADVISORS
BBNAC - Manager
Department of Communities – Senior Community Recovery Officer
DDMG - Executive Officer Cairns DDMG
DSC- Senior Media and Communications Officer
DSC- Deputy Local Recovery Coordinator
NEMA - Team Leader – North QLD/NT | Engagement
ERGON - Work Group Leader in Mossman
QAS – Officer in Charge Port Douglas
TMR – Delivering Operations | Far North Region
TPDD - Executive Officer
QPWS - Senior Ranger Daintree Management Unit
Red Cross - Emergency Services Liaison Officer
SES – Far Northern Region Area Controller
DRA – Manager, Disaster Relief Team North Qld

3.2 Local Resources and Capability

Douglas Shire Council has the following resources available to respond to a disaster:

- Human Resources:
  - Field staff (includes environmental health, local laws, water, wastewater, waste, civil works and public spaces).
  - Administrative staff.
- Incident Management Team:
  - Ensuring the operations of the Local Disaster Coordination Centre (LDCC) before and after an event.

    - The Incident Management Team (IMT) includes a Shelter Management Team who are charged with ensuring the set-up, activation and operation of the Port Douglas Storm Tide Cyclone Shelter occurs; and
    - Volunteers – Council has a number of staff who are assigned roles for the preparation of the LDCC and ongoing support to the IMT.
- Equipment:
    - Chainsaws, concrete cutting saws, pumps and a variety of hand operated tools usually associated with road construction or maintenance work.
    - Plant, from small passenger vehicles to large trucks, including two-wheel drive and four-wheel drive utilities and small trucks. Other plant includes a grader, tractors, ARGO (amphibious), Polaris, Vermeer, 4 in one bucket tractor, trailers and small front-end loaders.

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

- Approved suppliers under Council's Preferred Supplier Arrangements.
- 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.

3.3 State Emergency Service

The Queensland State Emergency Service (SES) is a not-for-profit organisation that is supported through a partnership between the Queensland Government, local governments, and SES volunteers. Within Douglas Shire there are two groups, Mossman and Alexandra Bay, where volunteer members meet and train. Working in close association with Douglas SES and LDMG is the new Wujal Wujal SES.

The SES is made up of volunteers who are an integral part of Queensland's and Council's emergency management arrangements. The SES volunteers are trained to respond to a wide range of emergency situations that contribute to the safety of Douglas residents and the state. Their value and importance is widely recognised throughout the community.

The primary purpose of the SES is to assist the most vulnerable members of our local communities by responding to natural disasters and other emergencies in times of need. The SES also provides agency support to the other statutory emergency services as required and in Douglas Shire takes a primary role in severe weather events that impact our communities. The major functions of the SES units are:

- Storm damage clean up
    - Assisting the local community with clean-up activities in private properties following the impacts of storms and flood events.
    - Chainsaw-cutting of trees and other vegetation impacting houses or blocking driveway access on private property.

- Height works
    - Making emergency temporary repairs to residents' roofs.
- Agency support
    - Assisting Queensland Police Service (QPS) with land and water searches for missing persons.
    - Assisting QPS with forensic searches at crime scenes.
    - Assisting Queensland Fire and Emergencies Services (QFES) in major firefighting operations through command, logistics and communication support.
    - Assisting other emergency services as required.
- Flood rescue
    - Assisting in the rescue or evacuation of persons stranded in flood waters under the direction of QPS or QFES.
- Road crash rescue
    - This function is only applicable for the Alexandra Bay SES Group.
- Public events
    - Assisting QPS and Council with crowd management and information flow at major public events such as the Anzac Day Parade or Port Douglas Carnivale.
- Incident management
    - Providing incident management team trained staff to assist in the coordination and control of SES members during activations and at cyclone shelter and/or places of refuge.

3.4 Hazard Specific Arrangements

The SDMP states that a primary agency is an agency allocated responsibility to a specific hazard based on their legislated and or technical capability and authority. The primary agency for each hazard is identified in the table below.

A support agency supports the primary agency in the management of a threat and subsequent response through actions or the provision of personnel and equipment. While under the control of a hazard specific primary agency, support agencies retain responsibility for commanding their resources and ensuring that their own standard operating procedures are correctly implemented. Some hazards have characteristics that may require a hazard specific approach hence specific plans have been developed by the relevant primary agency.

While these events are managed by other arrangements, the Douglas LDMG may be required to provide support to the primary and or support agency.

Table 6: Hazard Specific Responsibilities

Hazard	Primary Agency	Relevant plan/sub-plan
Animal and Plant Disease (Biosecurity)	Department of Agriculture and Fisheries	Queensland Veterinary Emergency Plan Australian Veterinary Emergency Plan

		Australian Emergency Plant Pest Response Plan
Bushfire (Rural/Urban)	Queensland Fire and Emergency Services (QFES) (Rural Division)	Wildfire Mitigation and Readiness Plans (Regional) Bushfire Risk Mitigation Plan: Operation Coolburn
Earthquake and Landslide	Council/ Queensland Police Service	
Hazardous Materials Accident	Queensland Fire and Emergency Services	State of Queensland Multi-agency Response to Chemical, Biological, Radiological Incidents
Marine Accident	Queensland Police Service Maritime Safety Queensland	
Pandemic	Queensland Health	Queensland Pandemic Influenza Plan National Action Plan for Human Influenza Pandemic LDMG Hazard Specific Sub Plans
Road accident	Queensland Police Service	
Severe weather event: cyclone east coast lows flood storm surge heatwave	Council SES	LDMG Hazard Specific Sub Plans
Terrorism	Queensland Police Service	Queensland Counter-Terrorism Plan National Counter-Terrorism Plan

4 DOUGLAS SHIRE COMMUNITY PROFILE

4.1 Location

Douglas Shire Council is located on the east coast of Queensland between approximately 16˚ to 16˚.43 south latitude. Approximately 1,780km (by road) north of Brisbane. The total land area is approximately 2,445 km^2. Bloomfield River is the northern geographic boundary, and the Shire is bounded by Cook Shire and the Wujal Wujal Aboriginal Shire in the north. The Coral Sea in the east forms a 95km boundary, the Great Dividing Range and Mareeba Shire form the western boundary and with Cairns Regional Council to the south.

The Shire's major landscape features are the Daintree River, surrounding World Heritage listed rainforests and region's mountainous terrain. South of the Daintree River is Mossman, the principal locality in Douglas Shire. The other major locality is Port Douglas, a popular tourism destination. The remainder of the region north of the Daintree River is relatively isolated by the landscape features previously mentioned.

Figure 3: Douglas Shire Map

4.2 Population

The Estimated Resident Population is the official population of the area. It is updated annually by the Queensland Government Statisticians Office. The Estimated Resident Population of Douglas Shire Council in June 2022 was 12, 693 persons. With an average growth rate of 1.02% over the last five years, the population of Douglas Shire is expected to reach approximately 13,069 by 2026 using the high projection.

The median age is vastly above the state average (37.4) at 44 years and expected to continue to increase to 49 by 2041. Over 18% of the population is over 65.

In the Douglas region human settlement can be considered to be located in seven discrete areas, each of which share some common characteristics:

- Bloomfield-Degarra.
- Cape Tribulation-Forest Creek
- Daintree
- Wonga and Newell Beaches
- Mossman-Cooya Beach
- Port Douglas and Craiglie; and
- Mowbray-Wangetti including Oak Beach.

Douglas has a significant Aboriginal and/or Torres Strait Islander community with populations concentrated in the Mossman, China Camp and Degarra areas (Bloomfield River). These communities rely upon assistance from Wujal Wujal Aboriginal Shire Council.

4.2.1 Bloomfield-Degarra

This area has a small rural-residential population adjoining the southern bank of the Bloomfield River as well as a small Aboriginal community at China Camp, located 10 kilometres southwest of Wujal Wujal. Wujal Wujal is an Aboriginal Shire, on the northern bank of the Bloomfield River. Road access to the Bloomfield-Degarra locality from the south is by the Cape Tribulation to Bloomfield Road, known locally as the Bloomfield Track. It is problematic during the wet season, as is access from the north. It is not suitable for heavy vehicles and is mostly unsealed. There are a number of creek crossings without causeways and the road is prone to obstruction from debris during storms.

4.2.2 Cape Tribulation-Forest Creek

This area is the strip north of the Daintree River that passes through the Wet Tropics World Heritage Area. Townships from south to north include Forest Creek, Cape Kimberley, Cow Bay, Diwan, Thornton Beach and Cape Tribulation. Access to this area from the south is via the Daintree Ferry which is inoperable in times of flood. The population in this locality is principally engaged in tourism and primary production. Excepting a small area in Forest Creek the remaining area has no mains power. Residents in the area are generally quite self-sufficient.

4.2.3 Daintree

Daintree is one of the older original townships of the region servicing the agriculture of the valley and includes the Daintree village, Upper and Lower Daintree. Road access from the south is the sealed Mossman-Daintree Road but is often blocked for short periods during cyclone/flood events. Access to Daintree from the south can be cut by flooding of Barratt Creek. The area includes residents and activities supporting agriculture, horticulture and tourism. It is the gateway to the popular unsealed Creb Track.

4.2.4 Wonga and Newell Beaches

This area includes the coastal suburbs of South Arm, Wonga Beach, Rocky Point, Newell Beach and a rural population which is involved in cane growing and beef cattle production and includes Miallo. The beach side suburbs have an ageing population and are accessed by all-weather roads, however the crossing at Saltwater Creek is often inundated.

4.2.5 Mossman-Cooya Beach

The area incorporates a rural adjunct, the residents of which are involved principally in cane growing. Mossman township is the location of Council's administration centre, Mossman Hospital (including Multi-Purpose Health Service) and State High School. The Mossman Sugar Mill is also located in Mossman and processes sugar cane grown in the area, including Julatten and Biboorah. Tourism is important to this area especially visitation to the Mossman Gorge Centre. Mossman is transited by all visitors travelling between Port Douglas and the Daintree coast. Road access from the south is either via the Captain Cook Highway which passes Port Douglas, or via the Mossman-Mount Molloy Road. Cooya Beach is located directly east of Mossman on the coast via the Bonnie Doon Road. It has some older streets and is currently experiencing significant new development.

4.2.6 Port Douglas and Craiglie

Port Douglas is an internationally renowned tourist destination and is the largest urban settlement in the Douglas region. Port Douglas has a significant increase in population during the tourism season with the peak period being the months from June to October. Access to this locality from the south is via the Captain Cook Highway which follows the coast along a narrow and scenic route. Landslips during cyclone and intense rainfall or flood events have often caused the Captain Cook Highway to be closed for short periods of time as have major traffic accidents. Major landslips have closed the road for several days. Craiglie straddles the Captain Cook highway at the entrance to Port Douglas and is a burgeoning service centre for the region with new development in residential land and industrial purposes.

4.2.7 The Mowbray-Wangetti and Oak Beach

This locality also has cane growing hinterland. These small settlements straddle the Captain Cook Highway with some tourism businesses and residents on larger allotments higher on the hillside.

4.2.8 Off Shore

Low Isles has some permanent staff on the island and day visitors can exceed 200. Snapper Island is a popular local fishing and camping spot.

4.3 Geography

The Douglas region includes significant areas of national park, state forest, rural areas and growing urban areas. The Bloomfield River is the northern geographic boundary of the Douglas Shire Council. In all, 95 kilometres of coastline make up the eastern boundary of the Douglas area while the Great Dividing Range forms the western boundary.

The main urban centres are Mossman and Port Douglas (including Craiglie), with smaller urban areas in Cooya Beach, Newell, Daintree, and Wonga. Urban areas include residential, commercial, industrial, institutional, entertainment and tourist land uses. Rural land is used predominantly for sugar cane and beef cattle farming.

The Douglas 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. Much of the foreshore, riverine and estuarine vegetation remains intact, although some areas have been cleared as a result of agricultural or urban development. The main drainage features are:

- **Bloomfield River:** is at the northern boundary of the Shire and flows to the coast through the settlements of Wujal Wujal (north) and Degarra (south). A network of small creeks cross the Bloomfield and Cape Tribulation Roads. These creeks can rise rapidly and cut the roads. Creeks include Woobadda and Emmagen north of Cape Tribulation, and Mason's and Cooper creeks to the south.
- **Daintree River:** drains a large area of National Park and forestry land along a broad stretch of the ranges in the western part of the Shire. The river flows through farmland and Daintree before meeting the sea north of Wonga Beach. The community of Wonga experiences significant drainage issues being low lying is affected by both tidal waters and overland flow. The river is tidal for a significant section (approximately up to Barratt Creek). The Daintree River divides the Shire in two, and vehicle access across the river is only available by Daintree River ferry or an unreliable sandbar crossing in the Upper Daintree area. Several significant floods have occurred in the river and the Daintree ferry can be inoperable due to flooding.
- **Saltwater Creek:** drains part of the western range and enters the sea north of Newell Beach. The creek can cut the Mossman-Daintree Road after significant rainfall. Levels are significantly influenced by tide height.
- **Mossman River:** drains the western range just south of the Saltwater Creek catchment. The river regularly cuts the Mossman-Daintree Road just north of Mossman township. The river enters the sea between Newell and Cooya

Beaches. The Mossman River has had significant flood events and flooded up into the Mossman Township.

- **Mowbray River:** drains the National Park and farmland areas around Julatten and crosses the Captain Cook Highway 3kms south of Port Douglas. The Mowbray River can cause residents in the Mowbray valley and Spring Creek areas to be isolated when flooded in combination with Spring Creek.

4.4 Industry

The predominant industry types for the Douglas region are tourism (85%), farming (particularly sugarcane), sugarcane processing and service industries which support the tourism (accommodation and food services) and marine industries. Infrastructure that supports the sugar industry includes the cane rail network across the region and the Mossman Mill within the Mossman township. A marine precinct is located at Dickson Inlet at Port Douglas which includes the marina, day trip and cruising wharf, the yacht club and shipping and shipwright activities.

There are approximately 1,371 small businesses registered in the LGA.

4.5 Tourism

Tourism is a significant employment sector for the region, particularly for Port Douglas and the area north of the Daintree River. Tourism has surpassed the sugar industry to become the lynchpin of the economy for the Douglas region. Figures from Tourism and Events Queensland demonstrate that, with an 80% economic reliance on tourism, the Douglas Shire ranks as one of the most tourism-dependent regions in Australia. Douglas Shire welcomes an average of 707,000 overnight and day visitors each year, generating $611 million while supporting over 2,500 jobs (2019).

The median personal income in the Shire is $35,152 which is above the Queensland average of $34,320. The largest employing industry is accommodation and food services (24.5 per cent), flowed by retail trade (9 per cent). This is reflective of the LGA's tourism industry. Residents are most likely to be employed as technicians and trades workers (16.1 per cent) or managers (15.2 per cent). The unemployment rate in Douglas Shire sits at 5.5 per cent, below the Queensland average of 6.4 per cent.

5 CRITICAL INFRASTRUCTURE

The following provides an overview of infrastructure across the region.

5.1 Transport

Douglas Shire is reliant on the road network. All freight into and out of the shire is carried by road. It is critical for evacuation, response and recovery. Major roads and their status as local or state roads include:

- State controlled network:
    - Captain Cook Highway (Cairns – Mossman)
    - Port Douglas Road from the highway to the western end of Macrossan Street
    - Mossman – Mt Molloy Road (alternative link to Cairns)
    - Mossman – Daintree Road

These are all noted as Critical Roads in the state network.

- Local road Network:
    - Cape Tribulation road system including the Daintree River Ferry (Local Road)
    - Cape Tribulation – Bloomfield Road

All other roads in the region are locally controlled. Both the Captain Cook and the Mt Molloy Roads are 23m B-Double routes which end in Mossman or Port Douglas.

Water transport is also predominant in the region with docking facilities at Port Douglas, and substantial boat ramp facilities are located at the Daintree River, near the ferry and in Daintree Village, Rocky Point, and at Newell Beach. These are mainly for recreational use, and tourism boat operators. .There is a public ferry operating on the Daintree River that provides the only access to smaller communities north of the river. 6

The last reliable fuel to the north is at Wonga. There is fuel at Cape Tribulation but opening hours are changeable.

5.2 Airports and Airstrips

There are no major airport facilities within the Douglas shire. Throughout the region there are numerous sporting fields, resorts, schools, etc where rotary wing aircraft can land in emergency situations. Mossman Showgrounds, Daintree oval, Port Douglas AFL grounds are also used for helicopter landings.

The existing air transport facilities include a small, private grass-surface airstrip at Cow Bay (north of the Daintree River) and established helicopter landing points at Diwan (north of Daintree River), Mossman Hospital, the Sheraton Mirage Resort, Port Douglas, and adjacent to the Captain Cook Highway, two (2) kilometres north of the Port Douglas Road turn-off.

5.3 Education

Six government primary schools, three non-government primary schools and one government secondary school operate in Douglas Shire. There are numerous early childhood development centres across the Shire.

The regional high school is located adjacent to Douglas Council chambers on front Street. The Port Douglas Storm Tide Cyclone shelter is co located at Port Douglas on the Port Douglas state school premises on Endeavour Street.

5.4 Health

The Shire is serviced by Mossman Multi-Purpose Health Centre (Hospital) in Mossman township and serviced by a number of private medical, dental, chiropractic, pharmacy and physiotherapy services. Within the Shire there are two ambulance stations: Port Douglas and Mossman.

There is also a small community hospital at Wujal Wujal in the northern extremity of the Region. The Cow Bay Primary Health Centre operates from a Council building on Tea Tree Rd, in Diwan.

5.5 Energy

Power supply for the Mossman area is presently supplied via two 66kV feeder lines from the Atherton Tablelands to a 66/22kV substation on Cassowary Road adjacent to the soccer fields, about 5 kms southeast of Mossman. Locally, the Cassowary substation supplies the Mossman to Daintree area. This power supply can be unreliable leading to numerous and extended loss of power during the Wet Season. There is no reticulated power north of the Daintree River, excepting a small area in Forest Creek and Thornton Peak Drive and west.

Power Supply for Port Douglas is presently supplied via 2 transmissions lines from the Atherton Tablelands to a 132/22KV substation at Craiglie. The Craiglie substation supplies Port Douglas south to Hartley's Creek, Wangetti.

Port Douglas and Craiglie have a reticulated gas supply, with the main method of supply for the remainder of the region being bottled gas.

5.6 Water

The Douglas region has two main water supply service areas.

- The Mossman service area contains the major water supply system, and provides water to Mossman, Port Douglas, Cooya Beach, North Mossman and Newell, as well as the rural and rural-residential areas of Cassowary and Mowbray valleys. Supply is taken from Rex Creek, a tributary of the Mossman River within the Mossman Gorge section of the Daintree National Park.
- The Whyanbeel service area is much smaller and provides water to Wonga and Miallo, as well as residential development at Rocky Point, and along Syndicate, Whyanbeel, O'Donoghue, Bamboo Creek, Kingston and the Mossman-

Daintree roads between Miallo and Wonga Beach. Supply is taken from Little Falls Creek in the Whyanbeel Valley.

Reticulation involves over 300kms of water mains of various sizes, materials and age.

Water filtration and storage facilities for the Mossman service area are located at Mossman, on the hill accessed from Coral Sea Drive just to the west of the town (Gorge View Crescent). Storage tanks are also provided on Flagstaff Hill Port Douglas, at ground level at Reef Park Port Douglas, in a landmark water tower at Newell Beach, on the northern slopes of Mount Beaufort abutting Cooya Beach, and at Cassowary and Mowbray. The reservoirs at Cooya Beach, Newell Beach, Cassowary and Mowbray are not in use, but can be filled and chlorinated as a preparatory measure to be activated as required. Pumping stations are located adjacent to storage reservoirs at Flagstaff Hill and Reef Park.

Filtration and storage facilities for the second service area are in the Whyanbeel Valley at Little Falls Creek, and these are augmented by storage tanks on the hill immediately to the west of Wonga Beach, and at Rocky Point on the hill above the Port Douglas Views rural-residential subdivision.

There is also a minor reticulated water supply at Daintree. Water in this system is drawn from Intake Creek, a tributary of the Daintree River, upstream of the township and Stewart Creek. The filtration system and reservoir for this service are at Daintree.

5.7 Wastewater network and treatment

Most of the residential areas are serviced by reticulated sewerage network with the remainder on on-site sewerage facilities including septic tanks and household sewage treatment plants. Wastewater control and treatment plants are located at Port Douglas and Mossman. The majority of wastewater pumping stations in the Douglas area are in the low-lying areas of Port Douglas. Mobile diesel sewerage pump is available for emergency pump breakdowns or power failures at each sewerage pump station.

5.8 Waste

Transfer Stations are located at Cow Bay, Daintree and Newell, with the main transfer station and hard waste landfill located at Killaloe.

5.9 Telecommunications and communication

Telstra and Optus provide high-speed internet and Pay TV cable services while the mobile phone networks are provided by Telstra, Optus, NBN and Vodafone. The Douglas region has six (6) main communication towers, located at: Newell Beach, Flagstaff Hill - Port Douglas, Wharf Street- Port Douglas, Alexandra Range Lookout (north of Daintree River), and Gorge View Crescent, Mossman. There is a small exchange at Wonga Beach. Telstra have constructed a new tower and base station at Buchanan Rd, Cow bay which is 4G (Band 28) initially, but is being built as 5G (Band n5) ready and will be activated end of September 2023.

Mobile telephone communication is generally readily available to most inhabited localities south of the Daintree River to the regions southern border. Mobile telephone communications in the Wonga locality and north of the Daintree River is generally less reliable and unavailable in many localities. In addition, there are local, commercial, and national radio stations and free-to-air television services. Emergency Services and Council, together with several private sector enterprises, maintain mobile radio communications (UHF and VHF) across the shire.

Dedicated telecommunications networks are also operated by the Port Douglas Coast Guard, Mossman Sugar Mill, and several private sector networks such as fishing and tourism.

Council UHF radio is located in the Local Disaster Coordination Centre (LDCC) and in the Port Douglas Storm Tide Cyclone Shelter (PDSTCS). A separate two-way system is located in the Mossman administration building with a link to the Mossman Works Depot. This radio network has a repeater on Flagstaff Hill and has the ability to communicate with selected Council vehicles, portable radios and between the LDCC and the PDSTCS. Many of the private UHF and VHF networks such as police, emergency services and Council operate from a base station on Flagstaff hill, Port Douglas.

Council also uses a network of mobile phones, Inreach satellite texting/emailing devices, SPOT tracking/texting devices and satellite phones. Satellite phones are held by the Local Disaster Coordinator (LDC), Manager Infrastructure, Mossman SES and Alexander Bay SES.

5.10 Aged Care facilities

There are two (2) aged care facilities in the Shire:

- Ozcare 74 bed Low care – Special care, Martin Scullet Drive, Port Douglas.
- Kubirri Aged Care Centre offers 24-hour permanent and short term (respite) care, memory support and palliative care, 49 Johnston Rd, Mossman.

In addition, there are two (2) Self-contained retirement villages being:

- Port Haven (30 self-contained units located adjacent to Ozcare), Martin Scullet Drive, Port Douglas.
- Douglas Shire Aged Persons Home (18 units), 29 Alchera Drive, Mossman.

5.11 Emergency services

The Douglas Shore LGA has emergency services that are pivotal for community safety and wellbeing before, during and after any disaster event. These include:

- 2 police stations: Port Douglas and Mossman.
- 2 ambulance stations: Port Douglas and Mossman.
- 1 fire stations: Port Douglas.
- 1 auxiliary fire station: Mossman.

- 18 Rural Fire Wardens.
- 3 SES at Mossman, Alexander Bay (Diwan) and Wujal Wujal

5.12 Flood Warning Infrastructure

The region has numerous flood warning network elements. A comprehensive list of all the flood Warning infrastructure that Council utilises together with GPS locations is listed in Annexure X Some of these are connected directly to the Douglas disaster dashboard. The Queensland Reconstruction Authority has an ongoing program of upgrading flood warning infrastructure which takes a strategic approach to the complex array of types of infrastructure, ownership and data access. The QRA is guided by the Queensland Strategic Flood Warning Infrastructure Plan 2021. The Douglas shire is utilises the following flood warning infrastructure, which can be found in Annexure 5.

6 RISK ASSESSMENT

The QDMA takes an all-hazards approach. This section highlights the primary risks for Douglas Shire and potential changes in natural hazard behavior due to climate change

6.1 Risk assessment

A risk assessment combines the understanding of the probability of a hazardous event occurring with an assessment of its impact presented by interactions between hazards, elements at risk and vulnerability. Council's risk management processes are based on Australian Standard AS/NZS ISO 31000:2009 which provides guidance and advice on how an organisation manages its risk along with the Queensland Emergency Risk Management Framework (QERMF) risk assessment methodology.

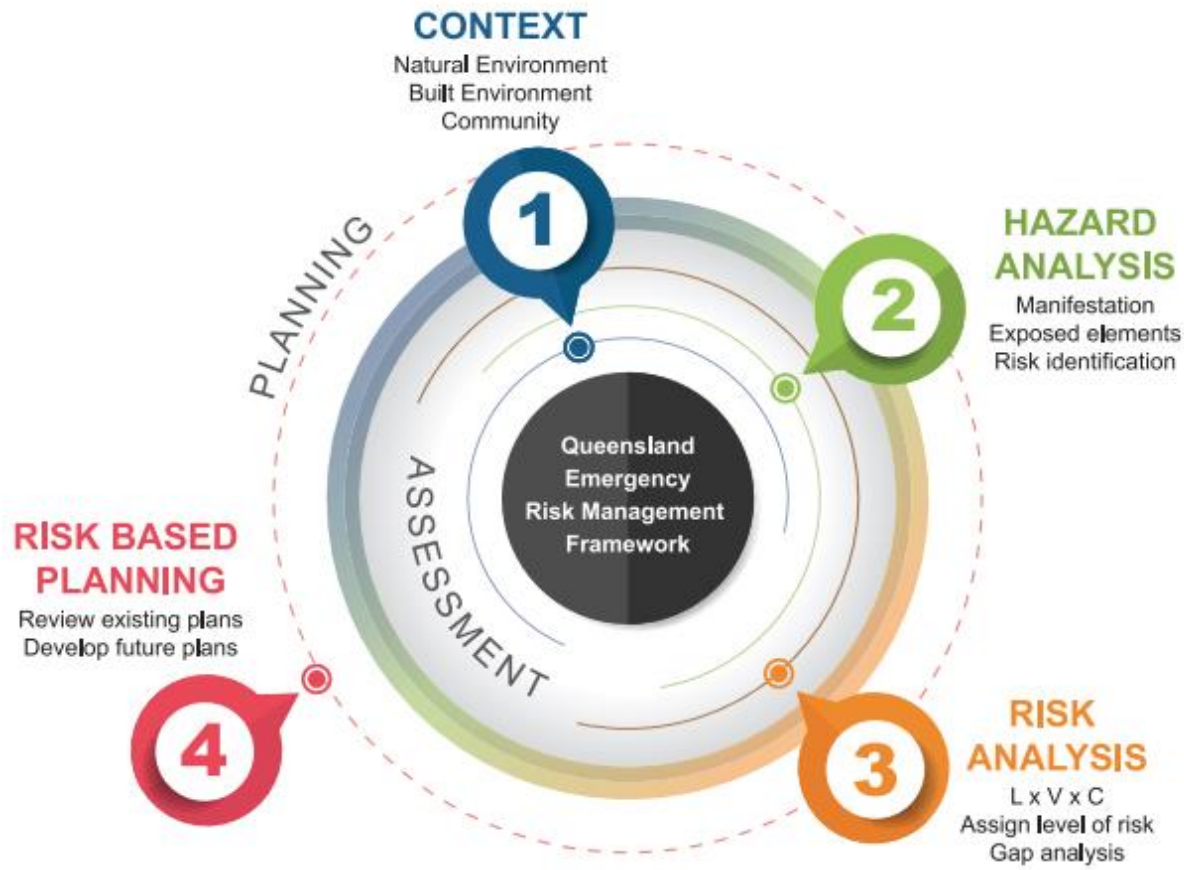


Figure 4: QERMF risk assessment methodology

Where comprehensive risk assessments are completed across the region and for various hazards, a risk assessment can identify actions to either accept the risk, mitigate or transfer the risk and acknowledge residual risk to be managed and further risk treatment options put in place.

6.2 Douglas climate and weather

Douglas Shire Council lies on the coast of Queensland between approximately 16° to 16.43° south latitude and has a moist, tropical climate. Rainfall is seasonal, with the

heaviest rain occurring from December through to March, with significant rainfall often occurring in April. Extreme rainfall events are associated with monsoonal events, east coast lows, tropical and severe tropical cyclones. Douglas 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 Douglas 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:

- Season rainfall variations, together with more comfortable temperatures during the winter months, have given rise to a marked seasonality in tourist visitation.
- The high number of rain days during the December to April period tend to interrupt activities and work with an external component such as construction of public and private assets, tourism activities, and interruptions due to periodic road closures or access issues (including ferry operations) across the region. This leads to a more intense work effort during the drier months.
- The steep mountain slopes and the high rainfall intensity has flow on effects for soil moisture content, soil erosion especially in riparian corridors and landslides which can also impact major access roads.
- The high rainfall and its intensity presents challenges for maintaining road surfaces both sealed and unsealed.
- The high rainfall tends to render less effective, septic, and on-site wastewater disposal through absorption trenches.
- Severe storms, tropical lows and cyclones can exacerbate coastal erosion, impacting assets on foreshores and beaches including steps and accesses, boat ramps and parklands.
- The east coast of Australia is subject to two king tides each year (winter and summer) and regular higher than normal high tides which can impact our coastal communities especially if these occur coincidently with heavy rainfall in the summer.
- Increased amounts of vegetation from the heavy rain seasons and a combination of potential dry summer and low humidity are risk factors associated with a potential bushfire season during the spring to mid-summer months if no additional rains are expected; and
- Across the summer the potential for heatwaves to occur (as defined by the Bureau of Meteorology) (BoM) impacts our most vulnerable people and visitors

to the region and may limit outdoor activities and put a strain on paramedics and medical services.

6.3 Natural Hazards

Douglas Shire is exposed to a number of natural hazards with principal exposure to:

- Cyclones and severe storms including intense rainfall and east coats lows
- Flood
- Landslide
- Heatwave
- Bushfire; and
- Coastal Hazards, including sea level rise, open coast erosion and storm surge

This section outline the behaviours and exposure to these hazards for the region.

Figure 5: Douglas primary natural hazards

Resources used to determine exposure to natural hazards include:

- The Bureau of Meteorology various knowledge centres
- The Queensland State Risk Assessments; and
- Local Risk assessment such as the Coastal Hazard Adaptation strategy

6.3.1 Severe Wind, Storm and Cyclone

Severe storms are a natural part of living in Douglas Shire's subtropical climate with the storm season typically running from November to April each year. The entire region is **exposed** to severe storms, east coast lows and cyclonic events. Coastal communities are exposed to increased wave action and storm surge. Severe storms can be characterised by damaging or destructive winds, large hail and heavy rainfall which may lead to flash flooding. These are high-wind conditions that occur during severe thunderstorms, tropical cyclones, extensive deep low-pressure systems and tornadoes. Severe thunderstorms generate damaging wind gusts of 90 kilometres per hour or more, with peak wind gusts exceeding 160 kilometres per hour in the most

damaging storms. In Australia, the strongest measured wind gust during a thunderstorm was 196 kilometres per hour at Double Island Point, on 16 December 2006.

East coast lows are intense low-pressure systems which occur on average several times each year off the eastern coast of Australia, in particular southern Queensland, NSW and eastern Victoria. East coast lows will often intensify rapidly overnight making them one of the more dangerous weather systems. East coast lows can also be ex-tropical cyclones.

Tropical cyclones are low pressure systems that form over warm tropical waters and have gale force winds near their centres. Tropical cyclones draw heat from the ocean to provide energy for the storm. They can be an array of intensities and sizes and be accompanied by strong and destructive winds, heavy rainfall and storm surge. The BoM will issue warnings at various stages:

- A tropical cyclone watch is issued within 48 hours of expected gales, usually at six-hour intervals
- A tropical cyclone warning is issued within 24 hours of expected gales, usually within three-hour intervals; and
- A tropical cyclone tracking map is produced when cyclones form

Cyclones are classified into five categories with category one the least damaging commencing at a wind speed of 63kph up to category five with a wind speed >200kph. Cyclones are described as Tropical cyclone or Severe Tropical Cyclones (STC) once intensity reaches category three. Australia's tropical cyclone season lasts from 1 November to 30 April. Recent STCs to impact Queensland include STC Debbie (2017), STC Marcia (2015), STC Yasi (2011) and STC Larry (2006).

The Queensland State Natural Hazard Risk Assessment identifies tropical cyclones as the highest natural hazard risk priority for Queensland, followed by severe weather as the second highest. A secondary hazard resulting from severe wind, coastal inundation, is equal third natural hazard risk priority in the State.

6.3.1.1 Impacts

These events can be localised or widespread, resulting in structural damage, communities becoming isolated and service and economic disruptions. The impacts of such events can be wide and varied, depending upon the prevailing meteorological conditions, but may include impacts to critical infrastructure, transport infrastructure, structural damage, community displacement, agricultural stock and crop losses and disruptions to industry - with severe events resulting in possible fatalities and critical injuries. Certain types of severe wind events can also produce secondary and compounding hazards like riverine and flash flooding, storm surges and heatwaves.

For Douglas Shire impacts most visible is from debris and vegetation in the area which can cause secondary damage to buildings, power lines and cover roads making some communities inaccessible until crews and clear fallen trees. Private property can

sustain various levels of damage depending on the age, type and general maintenance of the home. Damage has flow on effects, especially if access is hampered for recovery efforts, supply chain and general circulation of assistance. Douglas Shire has many vulnerable people living in isolation and preparedness (discussed below) is paramount for these community members. Where severe storms are coupled with intense rainfall secondary impacts road closure and access difficulties due to landslip or flooding over roads and damage to causeways and bridges. Flow on impacts include waste management (green and other)and loss of power in urban areas.

6.3.2 Flood

The sources of flood waters in Douglas Shire typically comes from creeks. Flash flooding is the most common type of flooding and can occur following intense rainfall events, such as thunderstorms. Flash flooding may have little warning time and result in flooding from storm water runoff and creek flooding.

Creek flooding happens when intense rain falls over a creek catchment. Run-off from houses and streets also contributes to creek flooding. The combination of heavy rainfall, run-off and the existing water in the creek causes creek levels to rise.

River flooding is caused by widespread, prolonged rainfall over the catchment of a river. As the river reaches capacity, excess water flows over its banks causing flooding. River flooding downstream can occur many hours after the rain has finished.

Overland flow is run-off that travels over the land during heavy rainfall events. Overland flow can be unpredictable because it is affected by localised rainfall and urban features such as stormwater pipes, roads, fences, walls and other structures. The actual depth and impact of overland flow varies depending on local conditions, but it generally occurs quickly.

Tidal flooding can come from several sources such as higher than normal high tides and storm tides.

The onset of severe weather can result in flooding, leading to possible infrastructure disruption, agricultural losses and possible lives lost. Water may escape the confines of a natural watercourse or man-made structure. Flooding may onset suddenly (**flash flooding)** especially in short run watercourses rising from steep land, or it may build over hours, days or weeks (riverine flooding). The dynamics of a flood in the Douglas region are shaped by the geography and topography, featuring many many short run creeks collecting rainfall from smaller catchments resulting in short events of fast-flowing water. Typically, this results in road closures, debris flow, scouring and washouts across the region. However larger events can spread across the low lying areas of the river systems.

A flooding event can have cumulative impact on a community by disrupting essential services, isolating communities and significantly impacting crops and livestock. Injury and loss of life are possible and impacted communities are likely to experience immediate and medium-long term hardships. Climate projections predict more

intense downpours and more intense tropical cyclones, both of which may increase the occurrence and intensity of riverine flooding in Queensland.

6.3.2.1 Flood Knowledge

Responsibility for flood risk management in Queensland generally rests with LGAs, while floodplain management is more complex, and management is dispersed across several Queensland Government agencies. The Queensland State Natural Hazard Risk Assessment identifies riverine flooding as Queensland's equal highest natural hazard risk priority.

In 2019 the Daintree River reached 12.6m – the highest level in 118 years. This impacted the ferry and cut the north-south connection in the Shire. The Shire's built assets are not significantly exposed. A principal vulnerability remains connectivity.

Between November 2010 and February 2011, a series of floods impacted Queensland, forcing evacuations, displacing thousands of people across the state and was attributed with 33 deaths. Three-quarters of LGAs in Queensland were disaster declared and damages totalled $2.38 billion. Since 2011, and in response to the Queensland Floods Commission of Inquiry, the Queensland Government has supported councils and disaster management entities by delivering flood projects and producing flood maps and information at town and catchment scales. Flood risk includes both the chance of an event taking place and its potential impact.

The sources of hazard identification for flood include the Douglas Shire Planning Scheme 2018 which has two sources of flood information. The scheme uses the Queensland Floodplain Overlay Assessment (QFAO) prepared after the 2011 flooding and more localised level 2 studies for Daintree River, Mossman River, Packers and Crees creeks which flow into Dickson Inlet. These are based on the one percent Average Exceedance Probability (1% AEP).Figure 6below shows the induvial catchment studies in the sky-blue colour and the QFAO in pale purple.

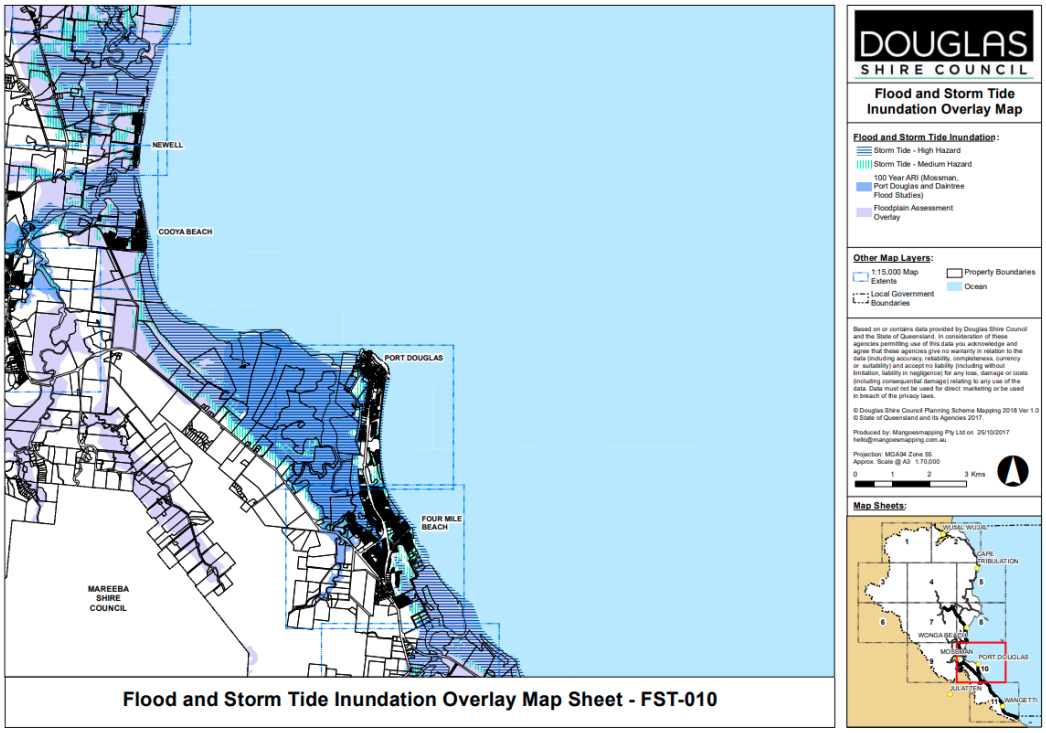


Figure 6: Extract from the Douglas Shire Plan - Flood Hazard Overlay

The planning scheme is the most up to date record in this instance however this is not always the case. Local government does have flood studies and additional knowledge commissioned as funding allows which may take time to be incorporated into a planning scheme. It is important the LDMG is across any further studies underway.

6.3.2.2 Local catchments and impacts

According to Queensland drainage basin classification, all watercourses within the region are contained within the Daintree Basin number 108 and the Mossman Basin 109. Sub Basin classification does not breakdown watercourses for further scrutiny allocating the Daintree River sub basin number 1080 and the Mossman River sub basin number 1090.

However, locally, understanding individual catchments and where rainfall is collected and concentrated and which communities or infrastructure are impacted is important. Almost all communities in the Shire are impacted by flood which is unsurprising given the importance and prevalence of watercourses in the region. Wonga , Newell and Cooya beaches are particularly affected. Daintree is set up high above the river, however this is not to say more extreme events will impact the higher streets in the village.

During a flood, water can cover large areas of land quickly, damaging homes, roads, and other infrastructure. Floods can also pose a serious threat to human safety, as the rushing water can be powerful enough to sweep away cars, people and even buildings.

Across the region, exposure to flood is expected by locals. Catchment behaviours and characteristics dictate various vulnerabilities depending on warning times, extents, time isolated due to heights, channel widths and receding speed.

Floods can have long-lasting effects on communities, including damage to homes and businesses, loss of crops and livestock, and the spread of waterborne diseases. Mostly commonly it isolates small communities through inundation of roads and unsafe travel conditions. It is important for people who live in flood-prone areas to be prepared for the possibility of a flood and to have a plan in place to evacuate if necessary.

The local smaller catchments and principal water courses from North to South include:

The **Bloomfield River:** A very small catchment featuring the Bloomfield River falls upstream of Wujal Wujal and forms the boundary for the two shires. Tributaries flowing north within Douglas Shire, draining to the Bloomfield include the Woobadda River, Panican, Thompson, Luana and Meelele Creeks. These creeks all flow across the Bloomfield Track and impact access to the northern end of the Shire. Residents living in this area are well versed in the characteristics of the creeks, however key risks identified in the area include loss of communications and therefore community members seek to locate vulnerable family members physically.

Further south on the Bloomfield track are a number of short run creeks forming in the hills and flowing directly to the ocean such as Collins, Donovan, Tachalbadga, and Emmogen creeks. Low warning times are characteristics of these waterways. Isolation is a key issue however community members are resilient in this regard. The road can be cut for a number of days or longer waiting on clearing of debris in causeways or across roads and any significant scour damages.

This characteristic continues from Cape Tribulation to Daintree River where small fast flowing and rising creeks with little warning time rise in the mountains and flow directly to the coast. From north to south these include:

- Mason and Myall creeks at Cape Tribulation
- Noah Creek and the extensive wetlands of Cooper Creek system near Thornton Beach flowing of Thornton Peak
- The many small tributaries of the MacKenzie and Hutchison creeks north of Diwan; and
- Once over the Alexandra Range, watercourse flow south to the Daintree River including the Brown and Forest Creeks

These areas can also be isolated but mainly as a consequence of the ferry operations.

The **Daintree River** is a substantial contained catchment from the eastern side of Mount Armit and Black Mountain winding its way past Daintree and forming a large delta of wetland and low-lying riverine landscape. It connects north to south via the Daintree River ferry. The ferry operations are subject to closure or change in times of severe weather and flood. Significant damages were sustained to the ferry in 2022.

The Daintree village sits above the river, but low lying floodplain stretches out across areas of Wonga Beach.

The small catchment of **Saltwater Creek** collects rainfall from the highlands between the Daintree and Mossman Rivers from Whyanbeel and Bamboo creeks, crosses the main road and flows to the ocean between Rocky Point and Newell Beach. This can cut the Mosman – Daintree Road.

The **Mossman River** collects rainfall from the Main Coast Range and flows through Mossman Gorge, collecting water from Rex and Marr Creeks west of the township. Within and east of Mossman townships the tributaries of Parker Creek and the South Mossman River merge before joining Trinity Bay between Newell and Cooya Beaches. The South Mossman River and Cassowary have an extensive catchment on the west side of the Cassowary Range.

The **Dickson Inlet** has a limited catchment of immediate surrounds with the major inflow of Crees Creek. The **Mowbray River** collects water from within Mareeba Shire and the Great Dividing Range along Rocky and Spring creeks to its discharge south of Craiglie.

Coastal areas around Oak Beach and Wangetti are similar to Cape Tribulation area where smaller fast flowing watercourses flow directly from the highlands on the western side of the Captain Cook Highway directly to the Bay. The most significant of these is **Hartleys Creek** at Wangetti.

6.3.3 Coastal hazards

There are three primary coastal hazards: storm surge, sea level rise and coastal erosion. While storm surge is the primary hazard considered for disaster management, the other hazards are related and can play a role in impacts and management.

6.3.3.1 Storm Tide Inundation or Storm Surge

Associated with tropical cyclones, a storm surge is a raised dome of water about 60 to 80 kilometres across and typically about two to five metres higher than the normal tide level. A storm surge is caused when a low-pressure system or strong onshore winds force sea levels to rise above normal levels. If the surge occurs at the same time as a high astronomical tide the area inundated can be extensive, particularly along low-lying coastlines.

Higher than normal high tides frequently go unnoticed but sometimes they can cause localised flooding and inundation of sea water to coastal areas and low-lying parts of coastal communities. Areas connected to the foreshore and tide-affected areas of rivers, tidal creeks and other waterways can also be affected. Tidal waters can be anticipated and remain for the duration of the tide, or where associated with a storm event can be swift and of unknown velocity.

6.3.3.2 Coastal Erosion

Open Coast Erosion (OCE) is a natural process which occurs whenever the transport of material away from the shoreline is not balanced by new material being deposited

onto the shoreline. Many coastal landforms naturally undergo quasi-periodic cycles of erosion and accretion on timescales of days to years.

Generally, land exposed to OCE include those closest to the ocean on foreshores and estuaries. This may mean a loss of recreational land and valued coastal open space which is usually found on the foreshores of coastal communities. In instances of existing hard infrastructure in the form of the esplanade road or line of structures, access steps, boat ramps, picnic shelters and the like. The compounding effects can include loss of habitat such as turtle nesting areas, shore birds, and mangrove communities.

Where communities do not have the benefit of foreshores or buffer zones which have been applied in more recent decades, residential land and infrastructure may be exposed to permanent erosion of land. Evidence is visible at access location on some of the region's beaches such as the concrete ramp at Cow Bay.

6.3.3.3 Tidal Inundation due to Sea Level Rise

Like OCE, sea level rise (SLR) can be episodic and results in the permanent loss of previously dry land. SLR can be seen at times of high tide when storm water and sewer infrastructure is inundated along with low lying areas such as open space adjoining the rivers and foreshores, wetlands and tributaries.

Water is unrelenting in its ability to inundate the lowest parts of any locality and therefore impacts of SLR may also be felt behind the frontal dune, leading to permanently wet areas of low-lying reserves, and infiltration of underground systems. This inundation includes hard infrastructure such as roads, utilities and underground services. This may be particularly evident at Wonga, Newell and Cooya Beaches.

6.3.3.4 Coastal Hazard knowledge

In 2019 the Douglas Shire 'Resilient Coast' strategy was completed which summarized exposure as 50% of beach and foreshore assets at risk from coastal hazards, increasing to 85% by 2100. Critical infrastructure such as sewerage, drainage and water reticulation assets have a relatively low risk. As required by the State Government, a sea level rise of 0.8 m by 2100 has been adopted for the Resilient Coast Strategic Plan (with 0.4 m by 2060).

The current planning scheme uses state generated mapping showing erosion prone areas (which includes open coast erosion and sea level rise) based on a projection of .8m to 2100 and a 40m landward buffer, and the declared coastal a management district. The mapping produced in the Coastal Hazard Adaptation stratefy (CHAS) is presented at a large scale and is difficult to compare with current extent of affected property. The CHAS mapping may be incorporated into the planning scheme in the future.

6.3.3.5 Coastal hazard impacts

Tidal waters can travel inland for considerable distances and a range of velocities along with tidal action as the waters move with both ebb and flow of the sea. Strom tide mapping extends considerably into the Daintree River to Daintree. Coupled with existing drainage, high tide and low topography issues, Newell, Wonga and Cooya

beaches are particularly vulnerable to inundation from compounding and coincident events. Risks and impacts in a land use context include:

- Flooding of sea water into urban areas including underground services and networks and overtopping causeways
- Loss of or damage to coastal infrastructure including boat ramps, steps, walkways, picnic facilities and parkland infrastructure
- Saltwater intrusion impacting salt-sensitive materials, flora and fauna resulting in loss of landscaping and gardens and rusting of vehicles and structures
- Saltwater inundation of rural areas impacts crops and viability for traditional agricultural pursuits and presents a danger to farm animals; and
- Isolation of urban areas for the full extent of a tide resulting in interruption to everyday activities for businesses, schools, public transport etc

SLR can also influence significant marine industries, residential properties with direct foreshore access and recreation infrastructure such as surf clubs and caravan parks.

6.3.4 Heatwave

The Bureau of Meteorology defines a heatwave as three or more days of high maximum and minimum temperatures which are unusual for a given location. Accordingly, the forecast and measurement of heatwaves is relative and considers the combination of the following factors:

- Maximum (daytime) and minimum (overnight) temperatures over a next three days
- Temperatures of the previous thirty days; and
- Usual temperatures over the next three days.

This combination of variables considers the **significance** – how hot the local temperature is compared to normal for that time of year – and the **acclimatisation** of a community – comparison of temperature over the past 30 days to indicate the rate of temperature change. This provides an identification of a community's ability to adapt to a heatwave event and the intensity of a heatwave event for a community. For example, temperatures constituting a heatwave in Douglas will not be considered so in Gladstone. Another key consideration is minimum (overnight) temperatures, as persistently high temperatures that continue through the night limit periods of respite from the heat.

The people most at risk from heatwaves are:

- Very young children
- Older people
- People with a chronic condition or illness
- Outdoor workers
- Homeless people
- People living with disabilities
- People in lower socio-economic brackets; and
- People who are overweight.

6.3.4.1 Heatwave Types

Heatwaves are an extreme heat event which cause substantial impacts for society and the environment in several ways, including human health, agriculture, economy, natural hazards and ecosystems. They are also Australia's most costly disaster in terms of human impact, with severe and extreme heatwaves being attributed to more than half of all natural disaster related deaths. Climate projections show extreme heat events are projected to occur more often and with greater intensity in the future; this is alongside projected ambient temperature increases. In accordance with the Queensland State Disaster Management Plan 2018, Queensland Health is the primary agency with responsibility for the hazard of heatwaves in Queensland. The Queensland State Risk Assessment identifies heatwaves as Queensland's equal third natural hazard risk priority.

Most people have adequate capacity to cope with many of the heatwaves experienced in Queensland, as they are **low intensity heatwaves**. However, less frequent, higher intensity **severe heatwaves** can be challenging for vulnerable populations, such as those older than 65 years, pregnant women, babies and young children and those with a chronic illness. Even rarer **extreme heatwaves** are exceptionally intense, impacting upon normally reliable infrastructure like power and transport; heatwaves of this extreme intensity are a risk to anyone who does not take precautions to keep cool.

6.3.4.2 Heatwave Impacts

In addition to the health vulnerabilities described above, certain socio-economic factors increase someone's risk to heatwaves. People who are socially isolated may not understand heatwave risk or be aware of their own vulnerability, and cultural and linguistic barriers also present similar risks. Communities with low-socio economic status are also likely to experience compounding factors of pre-existing health conditions, poorer housing quality and a lack of resources to adapt (such as being able to afford to run air conditioning). Older individuals have a decreased heat tolerance and reduced ability to thermoregulate, as well as commonly having co-morbidities which can also reduce their thermoregulatory function, exacerbating the onset of heat stress or heat stroke.

Severe and extreme heatwaves put significant pressure on infrastructure, such as the failure of essential services and interruptions to transport networks. The failure of such services can have direct flow on effects to human health, by reducing hospital and health care service capacity, for example.

The Great Barrier Reef, national parks, conservation areas and wildlife populations are extremely vulnerable to heatwaves and additionally to the associated risk of bushfires. Heatwaves can also lead to substantial impacts to the agricultural community and wider sector are almost certain due to the impact of sustained elevated temperatures on crops, livestock, and the exacerbation of pre-existing drought conditions and underlying bushfire risk.

Bushfire

Bushfires are unmanaged fires that burn uncontrollably. The severity of the bushfire season can be dependent on how dry the winter and spring has been. Managing fire is vital for protecting our homes and maintaining environmental habitats. North Queensland's bushfire period peaks during the dry season, which is generally throughout winter and spring.

Due to the vegetation types prevalent in the region, of wet tropical rainforest, bushfires ae not a prevalent threat.

Vegetation, topography and weather conditions influence the size, intensity, speed and predictability of bushfires. Due to the vegetation types in the region, of wet tropical rainforest, bushfires are not a prevalent threat. Communities in potential impact areas of an active bushfire may have to evacuate. The Queensland State Natural Hazard Risk Assessment identifies bushfire as Queensland's fourth natural hazard risk priority.

The risk of bushfire hazard is a considered combination of potential fire behaviour – influenced by weather, fuels and topography – and Bushfire Prone Area (BPA). A BPA is an area of land which could sustain a significant bushfire or be subject to a significant bushfire attack, due to the nature of vegetation with the area. BPA mapping is used by multiple local governments to manage their bushfire risk and forms part of bushfire mitigation. Bushfires which occur in such areas have the potential for high to extreme levels of flame, ember and wind attack, radiant and convective heat exposure and smoke hazard.

For Douglas Shire, vegetation types change, becoming sparser and drier in patches south of Port Douglas and the rocky coastal landscape to the Shire boundary presents a heighten bushfire risk compared to the northern parts of the Shire.

State power infrastructure has specifically been identified as being vulnerable to short-medium term disruptions from bushfire threat. This may be due to direct fire impacts to power infrastructure, like power poles and substations, or indirect impacts some ash and embers causing shorts in the network. Some key communication assets across Queensland are located in topographically high, bushland areas, which leaves them vulnerable to bushfire hazard. Impacts

Bushfires can be very dangerous, as they can produce large amounts of smoke and ash, making it difficult to breathe and see. They can also generate heat intense enough to ignite buildings and other structures. Intense bushfires can also result in land degradation, exacerbating landslip risk in landslide prone areas after severe weather events.

Remote, isolated communities may experience fatalities or critical injuries due to limited communication and access restrictions. In rural areas, bushfire can destroy crops, pastural land and agricultural machinery. Smoke hazard may impact

downwind of an active bushfire, reducing air quality and creating a health hazard for people with pre-existing respiratory conditions.

6.3.5 Landslide

Landslides usually involve the movement of large amounts of earth, rock, sand or mud or any combination of these. Landslides can be caused by earthquakes, volcanoes, soil saturation from rainfall or seepage, or by human activity (e.g. vegetation removal, construction on steep terrain).

Causes that make the slope vulnerable to failure, and may include:

- Geological causes: weathering, shearing, jointing, adverse dips, differences in permeability;
- Meteorological causes: intense and/or frequent rainfall, soi saturation levels;
- Morphological causes: slope angle; erosion, slope loading and denudation;
- Anthropogenic causes: deforestation, excavation, loading, over-steepening, quarrying and vibration, water loading of slopes by leaking pipes or effluent systems.

A trigger can be considered as an additional factor that turns a slope that is predisposed to failure, into an actual failure. In the majority of cases the main trigger for landslides is heavy or prolonged rainfall, however a combination of the causes listed above can also be triggers: for example, undercutting a heavily fractured slope, or a quarry with vibrations from blasting close to a jointed rockface.

There is no current state risk assessment for landslide in Queensland.

6.3.5.1 Landslide knowledge

Landslide risk mapping is derived from the State Integrated Mapping system that uses Lidar to map slopes greater than 15 per cent. This layer does not cover the entire shore and the State layer is limited to coastal and populated areas. As such it does not extend north of Cape Tribulation.

There is a locally derived Hillslopes Overlay in the Douglas Shire Planning Scheme 2018. The Overlay maps advise that the Hillslopes overlay is by combining areas with a slope greater than 1 in 6 and an elevation higher than 60m (or 20m at Flagstaff Hill).

6.3.5.2 Landslide impacts

For Douglas shire the primary impact of landslide is access closure where a landslide occurs on a major thoroughfare. Landslides in the past have closed and reduced trafficable lanes for extended periods of time on the Daintree-Cape Tribulation Road and also the Captain Cook highway. These access routes are vital in recovery and when landslides occur in association with other natural hazards there can be compounding effects.

6.3.6 Earthquake

Earthquakes are vibrations within the earth caused by rocks breaking under stress, which occurs along fault planes. The magnitude of an earthquake is measured on the Richter scale. For every unit increase in magnitude, there is roughly a thirty-fold increase in the energy released. For example, a magnitude 6.0 earthquake releases approximately 30 times more energy than a magnitude 5.0 earthquake, while a 7.0 earthquake releases approximately 900 times more energy than a magnitude 5.0.

Earthquakes are a frequently occurring phenomenon in Queensland with some geographic areas registering clusters of events. When an earthquake of more than magnitude 5.0 occurs in or near a built environment it can cause significant damage to structures, particularly underground services and piping, with potential risk to life due to the collapse of structures. While a combination of factors greatly reduce the risk of serious destruction, damaging earthquakes still remain a possibility in Queensland. The Queensland State Natural Hazard Risk Assessment identifies earthquakes as Queensland's fifth natural hazard risk priority.

6.4 Local Exposure

The following table provides a summary of exposure to natural hazards across the region.

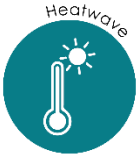
Table 7: Regional exposure summary

Hazard	Exposure description
Severe Wind, Cyclone and Storm	All localities in the region are equally exposed to severe wind, cyclone and storm.
Flood	All localities in the vicinity of water courses, flood plains and low-lying areas are exposed to flood. Different catchments will present different characteristics and flood behaviours from fast flowing, low warning time flash flooding in short and steep catchments to broader inundation across low lying floodplain of the Daintree and Mossman rivers.
Strom Tide	Localities especially exposed to storm tide inundation include Port Douglas, Cooya Beach, Newell and Wonga.
Heatwave	All community members are exposed to the impacts of heatwave.
Bushfire	There is generally low anticipation of bushfire in the region due to the nature of the vegetation. Exposure increases south of Port Douglas where vegetation types change on the eastern slopes.
Landslide	Private property, roads, access tracks are exposed to landslide where located on steep slopes. All localities in the region are exposed to landslide impacts where the secondary impacts is to disconnect communities and cut access.
Earthquake	All localities in Douglas Shire are exposed to earthquakes.

For greater detail on exposure see the publicly available resources outlined below. These include detailed state prepared risk assessments, regional and state prepared

mapping systems and local studies. This is a minimum list. More resources are available from agencies such as the Bureau of Meteorology knowledge centres.

Table 8: Exposure Resources

Hazard	Description
	**Severe Storm** hazards are identified in the • Severe Wind Hazard Assessment for Queensland (updated 2022) • Queensland State Natural Hazard Risk Assessment 2017 • process 1 of the QERMF for Douglas Shire; and • The Bureau of Meteorology Tropical Cyclone Knowledge Centre
	**Flood** hazard areas are identified in the • Douglas Shire Planning Scheme 2018. The scheme includes • Level 1 mapping (Queensland Floodplain Assessment Overlay); and • Level 2 mapping for the Daintree, Mossman Rivers and Packers Creek (Port Douglas). • Queensland State Natural Hazard Risk Assessment 2017
	**Landslide** hazard areas are identified in the • Douglas Shire Planning Scheme 2018 which identifies land with a slope great than 15% sourced from the State Interactive Mapping System (IMS); and • Locally derived Hillslopes Overlay mapping
	**Heatwave** hazards are identified in the • State Heatwave Risk Assessment 2019 • Queensland State Natural Hazard Risk Assessment 2017 • QFES Heatwave projections; and • Bureau of Meteorology Heatwave Service for Australia (Heatwave Knowledge Centre)
	**Bushfire** hazards areas are identified in the • Mapping System; and • Queensland State Natural Hazard Risk Assessment 2017 • Douglas Shire Planning Scheme 2018, which reflects State mapping sourced from the Interactive
	**Coastal hazard** areas (including sea level rise, open coast erosion and storm tide inundation) are identified in the: • Douglas Shire Coastal Hazard Adaptation Strategy; and • State mapping for the Erosion Prone Zone and Sea Level Rise sourced from the Interactive Mapping System. • QFES Tsunami evacuation areas for Queensland mapping
	Earthquake • Queensland State Earthquake Risk Assessment 2019

6.5 Local Vulnerabilities

Douglas Shire has a range of characteristics which influence vulnerability from the topography, physical location, settlement pattern and demography.

6.5.1 Geography and landscape

The Shire is long north to south and is hemmed in by steep vegetated landscape along the western boundary with the eastern boundary being the ocean. The landscape is heavily vegetated, and the community likes it as such as a hallmark of the region. This geography with steep slopes, short run catchments, dense vegetation add challenges to recovery and risk, principally in debris and also in isolation.

In contrast some of the area is very flat, mostly agricultural and wide river floodplains. This makes rural farms vulnerable to flood and sheet flow across cast expanses of low lying areas.

6.5.2 Settlement pattern and access

The settlement pattern in the region is fragmented with many isolated communities. This makes communication and understanding need during a disaster complex. Isolation occurs north at Degarra and Bloomfield, and all communities north of the Daintree River can be isolated, from the south, when the ferry is inoperable during disaster events.

The largest urban areas are located around the middle to south end of the Shire. Port Douglas, Craiglie and Mossman. All access roads are exposed to flood and landslide. Where the Captain Cook Highway is closed, the only other access available is the Mt Molloy Road. This makes Douglas Shire vulnerable to evacuation, recovery and resupply.

6.5.3 Douglas Region is not self-sufficient

The region depends on outside sources for its food, energy and material requirements, as well as its principal sources of income. Such dependence imposes limits to community resilience. Supply chain is vital and as above, entry roads are exposed to hazards.

6.5.4 Vulnerable people

In conjunction with the above, within Douglas Shire there are many facilities that may require consideration in disaster events, including:

- Kindergartens and childcare facilities.
- Schools, both public and private.
- Accommodation outlets – hotels, motels and caravan parks.
- Aged care and residential care facilities
- Sporting and recreation facilities.

Further the region has a population which may have personal vulnerabilities such as:

- Guest workers with no knowledge of the landscape, extreme weather or what to do in the summer storm season

- High proportion of renters here for short stays
- High numbers of visitors and workers with limited English
- High numbers of aged residents either in care or in their own residences
- Day trippers who may not have checked short term weather forecasts
- Newcomers to Douglas Shire who have not experienced an extreme weather event.

These groups present challenges if disaster management messages and awareness.

6.6 Douglas Resilience Strategy

In 2022/2023 Council delivered eight community resilience scorecards including a business-focus scorecard and an environment-focus scorecard, which collectively will form the Douglas Community Disaster Resilience Strategy. Preparation of the local scorecards involved engagement with community to understand specific vulnerabilities and attitudes to preparedness in discrete locations. Understanding hyper-local resilience issues can drive more effective allocation of resources during events and ongoing improvements to resilience which reduce dependence on emergency management in the first instance. There are six locality scorecards across the region:

- Bloomfield-Degarra.
- Cape Tribulation-Forest Creek
- Daintree
- Wonga and Newell
- Mossman-Cooya Beach; and
- Port Douglas and Craiglie, Wangetti and Oak Beach.

There is also a business scorecard and an environment scorecard borne partially from engagement with the Jabalbina Land and Sea Rangers.

The scorecards are located on the Douglas Disaster Dashboard and are intended to be the voice of those communities. The place scorecards contain four pages:

Page one contains a resilience statement for that locality and a simplified first-pass risk assessment across five hazards and the five lines of recovery in a visual table format.

Page two is a locality map showing features of interest, hazard extents and infrastructure.

Page three will provide the key vulnerabilities and resilience actions for that community and Page 4 includes local champions, case studies and further resources.

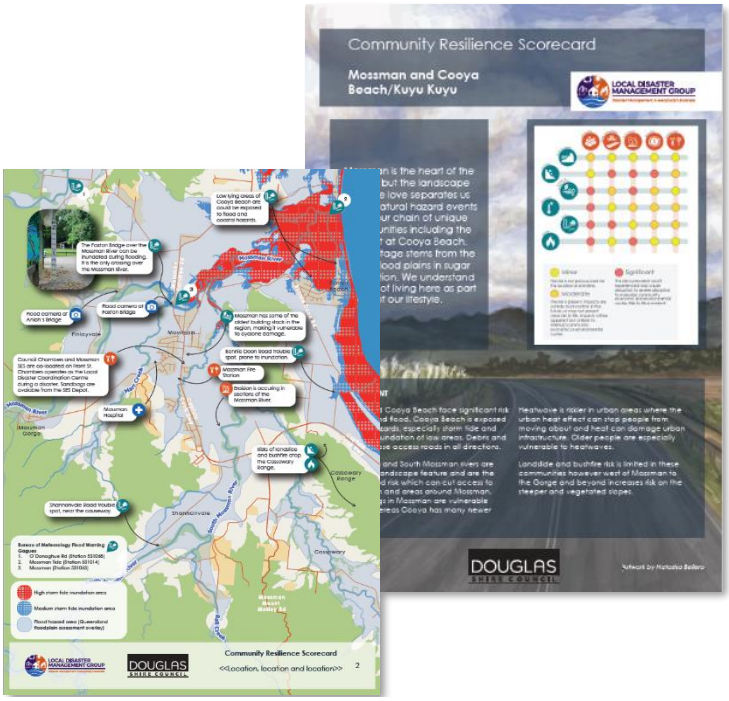


Figure 7: Scorecard content examples

This building **resilience approach** has strong, established links between individuals, voluntary organisations and local authorities. It is acknowledged that individuals and communities can frequently help themselves and provide rapid, readily available and effective relief while external assistance may be limited due to resource capacities. When effectively integrated into disaster management arrangements, volunteer organisations are capable of providing assistance and access to resources, expertise and specialist skills.

Individuals may be able to assist through knowledge of local hazards and by providing advice concerning risks. Additionally, individuals can reduce demand during responses by being informed of the risks and following advice on appropriate precautions. The scorecard project seeks to elevate that individual and community capability through risk, exposure and vulnerability understanding.

6.7 Climate Change

Climate change projections show that extreme weather will change where the climate continues to track in line with projections which increase global temperatures from carbon release.

The *Queensland Future Climate Dashboard* provides a series of future climate projections based on a downscaled approach utilising 11 high resolution climate simulations.

Looking forward, the Douglas region is expected to experience higher temperatures, hotter and more frequent hot days, continued increases in air temperatures, more heat extremes and fewer cold extremes. This will include increased and longer-lasting marine heatwaves that will affect marine environments, such as kelp forests, and raise the likelihood of severe bleaching events in the Great Barrier Reef.

Climate change is expected to have an impact on the frequency and intensity of rainfall events which are considered to be the most common trigger for landslides. More intense downpours may be experienced. Climate projections show that tropical cyclones are projected to decrease in frequency but increase in intensity, and projected sea level rise will exacerbate the secondary hazard of storm surges.

Climate change is likely to lead to harsher fire weather conditions, as well as contributing to more extreme fire behaviour when and where bushfires do occur.

The coastline by 2100 is likely to be similar to the projected global rise of 0.28–0.61 m for low emissions and 0.52–0.98 m for high emissions, relative to 1986–2005. Even higher sea levels by 2100 are possible if there is a collapse of sectors of the Antarctic ice sheet grounded below sea level. Increases in mean sea level will increase the frequency of extreme sea-level events. The Queensland Government has adopted 0.8 metre SLR to 2100 for the purposes of policy formulation.

6.7.1 Managing climate change

The disaster risk management sector is continually challenged by changes to the frequency, intensity, distribution and duration of acute events, major disasters and long-term climate-related stresses. The need to incorporate climate change into the comprehensive disaster risk management approach across prevention, preparedness, response and recovery is paramount with climate-related disasters in Queensland getting larger in extent and magnitude. Consequently, the economic and social impacts are growing as disasters impact larger areas, last for longer (causing permanent impacts on agriculture) and with urban-wildland interfaces are being surpassed by events.

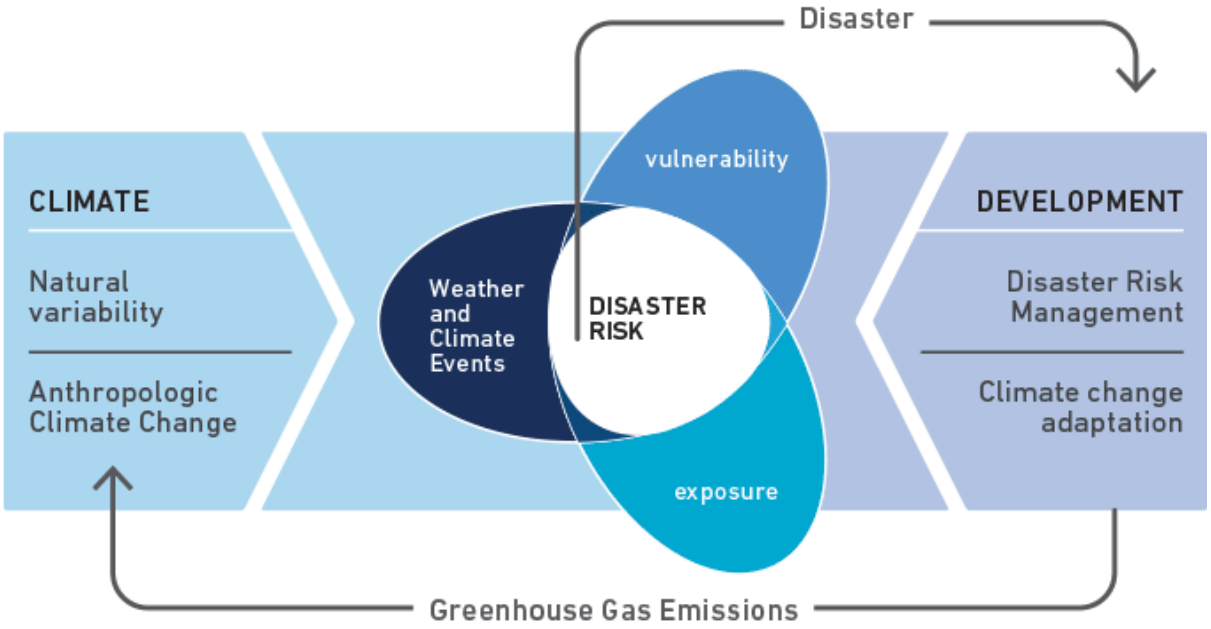


Figure 8: Interaction of Disaster Risk and Climate Change

The risk of climate-related impacts results from the interaction of climate-related hazards (including hazardous events and trends) with the vulnerability and exposure of human and natural systems. Changes in both the climate system (left of the figure) and socio-economic processes, including adaptation and mitigation (right of the figure) are drivers of hazards, exposure, and vulnerability.

6.8 Other Hazards

6.8.1 Pandemic influenza

Pandemic Influenza is a global threat that can result in widespread infection and can have severe social and economic consequences and cause widespread disruption. Prior planning and properly coordinated response measures can minimise the impacts.

A human influenza outbreak in Queensland is a 'controlled notifiable condition' under the *Public Health Act 2005*. The Chief Medical Officer of Queensland Health is responsible for the overall management and control in response to any public health emergency. Notable recent pandemics have been the 2020 COVID-19 pandemic and the 2009 swine flu pandemic.

6.8.2 Security threats/incidents

Security threats/incidents are an Australian Government matter that is managed locally by the Queensland Police Service. During a security incident, government and non-government organisations each have a part to play in dealing with the situation. Council's primary responsibility and focus is on minimising the impact to residents and managing/restoring any service disruption.

6.8.3 Hazardous Material Accident

There is a potential for emergencies and disaster through the storage, transport, use and discharge of toxic, flammable, gaseous and infectious substances. Areas in the vicinity of industrial locations are particularly vulnerable to such accidents as well as service stations, swimming pool complexes, wastewater facilities, rural farm supply outlets, bulk LPG supplies. The effects of this type of disaster could include severe chemical and/or thermal burns to large numbers of people requiring extensive medical treatment and/or evacuation of people from the contaminated area or damaged buildings.

There are several facilities which contain flammable and combustible liquids and other hazardous substances of varying quantities. Work Health and Safety Queensland are responsible for maintaining a register and ensuring the safe handling and storage of a range of hazardous substances as per schedule 11 of the Work Health and Safety Regulation 2011.

6.8.3.1 Hazardous Sites in Douglas Shire

- The Captain Cook Highway to the south, and the Rex Range to the west, carry bulk hazardous substances in a variety of containers
- There is one hardware outlet, Cairns Hardware, in Mossman
- Mossman Sugar Mill has a large boiler system and fuel oil storage

- Marano's Fuel Depot at Miallo is a bulk fuel storage site
- Mossman Agriculture Services holds pest/herbicides and fertilisers; and
- A large 80,000 litre LP Gas storage site is in Craiglie.

6.8.4 Major passenger road accident

Captain Cook Highway is the main road system. These roads carry a myriad of heavy transport trucks, school buses and motor vehicles. Road accidents of any size and complexity may not affect many residents directly but may stretch the capabilities of relevant emergency services.

6.8.5 Marine accident or pollution

Minimal commercial and light marine industry use the waterways but could pose a potential threat during flooding or spillage events. Maritime disasters involving commercial and fishing vessels inevitably leads to oil spills impacting on the general marine and coastal environment. Although marine disasters are not the responsibility of local authorities, their natural environment, such as beaches, river mouths estuaries, lagoons and recreational facilities can be exposed to oil pollution.

7 PREVENTION AND PREPAREDNESS

The Douglas LDMG is committed to reducing disaster risks wherever possible, by reducing the likelihood and/or consequence of disaster events and implementing and promoting knowledge and awareness amongst the group members. Mitigation is the means taken in advance of or after a disaster aimed at decreasing or eliminating its impact on communities, the economy, infrastructure and the environment. The objective of prevention and disaster mitigation activities is reduced risk and vulnerability through initiatives to enhance community resilience.

7.1 What Council is doing to mitigate risk

Council understands the hazards that affect the Douglas local government area and has several strategies in place to mitigate the associated risks. Below is an example of some of the ways that Council mitigates risk.

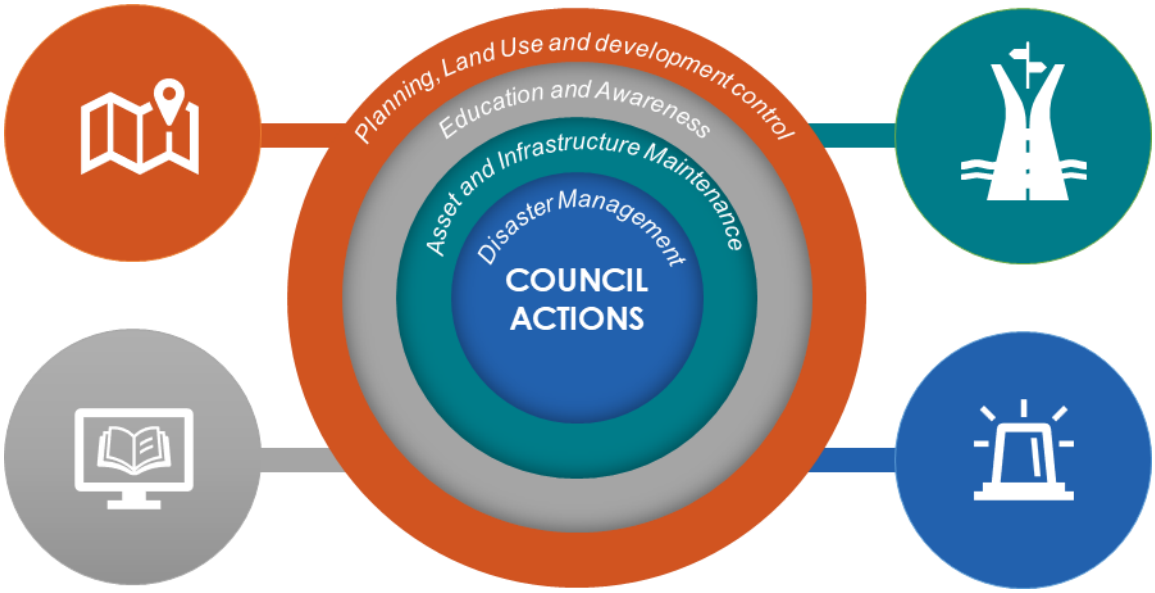


Figure 9: Comprehensive risk mitigation, prevention and management

Council approaches prevention in a comprehensive manner and undertakes a wide range of hazard and disaster management, prevention and mitigation actions across its programs. Table 9 below itemises these actions across the four themes presented in Figure 9 above.

Planning, land use and development control involves constantly updating background studies and knowledge to ensure a risk-informed development which does not occur in areas of intolerable risk to prevent an increased dependency on disaster management.

Prevention and mitigation can be, in part achieved through the application of, building codes and planning policies and legislation. Council can drive the most up to date regulations and standards by continually improving knowledge such as the

Table 9: Council prevention and mitigation actions

Planning, land use and development control	Asset and infrastructure management	Education and awareness	Disaster management
Through its planning scheme and supporting stidues, Council ensures that building and development proceeds with the latest data to reduce future risk and increase resilience to natural hazards specifically: • Planning scheme overlay map across all hazards • Amending the planning scheme to include new risk assessments and data • Requiring compliance with planning scheme codes and mimum standard for development such as flood resilient design and landscaping for heat management • Interactive mapping available to the public • Neighbourhood planning • Applying building codes; and • Compliance action for mnimum standards	Through its Asset Management Framework Council ensures that regional infrastructure is maintained, funding is sourced for damages and continuous betterment and lifescyl;e is considered to increase resilience. • Backflow prevention devices • Storm water network and infrastructure • Flood mitigation infrastructure • Flood warning infrastructure • Asset maintenance • Asset betterment and whole of life cycle considerations • Funding sources for critical infrastructure repair; and • Planned burns	Through initives of Get Ready annually, volunteer networks and community-led resilience planning, Council continually reinfiorces messages of risk understanding and awareness with the community. • Get Ready week in October • Douglas Disaster dashboard • Community Scorecard project • Community service and advice announcements, social media presence on Facebook • Early warning alerts • Business continuity planning • Volunteer drives • Community information session; and • Externally facilitated sessions.	Through Council's statutory role under the *Disaster Management Act 2003* and the Queensalnd Disaster Management Arrangements , Council performs a regional role in disaster mangement at a community scale. • Local Disaster Management Group, Plan and actions under the legislation • Disaster response strategies, sub plans and recovery plans • Disaster management training and exercises • Resource inventories • Prepared and resourced Local Disaster Corordination Centre • SES training and support • Development and review of internal processes

Coast Hazard Adaptation Strategy (CHAS) and improving flood, bushfire and other natural hazard data and studies. Douglas Shire Council is committed to implementing and promoting knowledge and awareness amongst the group's members of the applicable legislation, regulations and standards.

Council's asset and infrastructure networks play a vital role in ensuring functionality during events, minimising damage, planning to anticipate disasters and continued investment in mitigation options.

Community awareness and education is paramount to convey the roles and responsibilities of all community members, new, vulnerable, isolated to expected impacts and household prevention strategies and long term residents to changes in weather and climate behaviours.

The Act directs local government to take steps to develop and maintain an effective level of capability and capacity within their organisation to prevent, prepare, respond and recover from major disaster events. **Council's disaster management training framework** ensures Council's workforce can effectively and efficiently manage disasters. The framework promotes continuous improvement and capability integration by ensuring that all disaster management stakeholders can maintain the skills and knowledge required to perform their role in all events.

Disaster management training is critical to ensure the workforce is skilled and ready for activation if required. Council delivers a range of in-house and accredited training programs and professional development opportunities, which cover leadership, disaster operations and LDCC functional capabilities. The annual training continuum is based on three learning streams and a check phase.

- **Introductory stream.** To introduce the principles and values of disaster management
- **Intermediate stream.** To cater to individuals' roles and responsibilities
- **Advanced stream.** For enhanced leadership and professional development; and
- **Check phase.** To consolidate skills and knowledge gained that will be practiced, coached, and measured. This phase includes the annual exercise.

Mandatory training for each member of the disaster management workforce includes:

- Queensland Disaster Management Arrangements (QDMA); and
- Guardian Incident Management System (developed by QITplus).

Disaster management exercises (functional driven and/or desktop exercises) are also conducted in order to assess and validate capability. Exercises are controlled, objective-based activities used to practice, evaluate or test plans or procedures and resources. Exercises enhance the capacity and confidence of the people that participate in them. Records of exercises and other training activities are held by the

LDMG and included in the annual report of the LDMG. In determining whether an exercise achieved its original aim, it is important to evaluated to what extent the exercise objectives were met and how the exercise was conducted.

Council undertakes fire management activities such as planned burns. Planned burns are controlled fires aimed at reducing the amount of fire fuel.

7.2 Management of Residual Risks

Throughout the risk management process residual risks will be identified. These risks cannot be reduced within the capacity of the Shire. Douglas Shire has three (3) main residual risks:

7.2.1 Staffing

It is recognised that the Council will lack the staff or specialised skill sets that may be required during an event. The ability to adequately staff an LDCC and the Port Douglas Storm Tide and Cyclone Shelter (PDSTCS) at the same time may not be possible, particularly in the longer term of the response and recovery phases. Staff fatigue is s major stressor to disaster management with limited skills and knowledge to backfill key positions.

There is NO capacity to staff evacuation centres and the Red Cross will be called upon to act as centre managers for evacuation centres. The Mossman SES Unit has been trained in evacuation management and the Red Cross may also be pre deployed to assist in the registration process and/or the staffing of the PDSTCS.

7.2.2 Assisted Evacuation

The aged care facility (Ozcare) at Port Douglas is the major aged care facility in the Shire. The facility is 74 bed facility including special care. Ozcare is located in the YELLOW STORM TIDE ZONE (2-3 metres above AHD). At any time, between 20-30 patients may need ambulance transportation if an evacuation is required. The evacuees are transferred to Malanda (5-hour round trip). Evacuation may take 24 hours and require a fleet of ambulances from outside the Shire. Ambulance transportation can be compromised by weather and road conditions, the onset of weather events and the demand for resources (ambulance services) from other areas.

Evacuation of this facility is a matter for the disaster management arrangements and management personnel of Ozcare. DSC has NO capacity to assist or coordinate resources for evacuation of facilities across the region"

7.2.3 Logistics

The Douglas LDMG has a limited capacity to manage logistics in response to a large-scale event and will request District Disaster Management Group (DDMG)assistance to assist with the provision of this task should the need arise.

These identified residual risks will be referred to the DDMG for inclusion in the District Disaster Management Plan (DDMP).

7.3 Community Preparedness

Understanding and managing risk at a personal and property scale rests with the property owner. The first principle of the Queensland Strategy for Disaster Reduction is that we understand the potential risks we face. This is why education and community awareness are paramount for risk reduction. When the community understands risk they can prepare within their own sphere of influence.

The disaster dashboard, local website and Get Ready Queensland provides extensive information for households and individuals to prepare for an extreme weather event. Preparation should occur throughout the year - not just in storm season as often warnings are limited. The Shire has many isolated communities. Primary actions include:

- Prepare an emergency kit with items including per the information on the Douglas Disaster Dashboard
- Understand how to manage your pets in an emergency
- Sign up for the Council's Early Warning service to receive free alert notices. Alerts are distributed to Douglas Shire residents or tenants whose registered address/s are within the warning area as defined by the Bureau of Meteorology.
- Understand your risk – check the maps and know where you are in relation to hazard risk
- Check the Storm Tide Evacuation Guide to know if you in one of the zones
- Keep you property tidy and clear of debris
- Before storm season begins, trim tree branches well clear of your house. If your property has large trees, arrange for an arborist to check them.

For additional tips for your home, business, boat and caravan look here.

Areas subject to Storm Tide Inundation have been mapped and are available on Council's website as three distinct colour zones:

- Red Zone: These areas are at HIGHEST risk and refer to low-lying areas areas located up to 2 metres above the Australian Height Datum (AHD)
- Orange Zone: These areas are at a High risk and refer to low lying areas located between 2 and 3 metres above the AHD.
- Yellow Zone: These areas are at a Moderate risk and refer to low areas located between 3 and 4.5 metres above AHD.

The PDSTCS building is located at the Port Douglas Primary School, Endeavour Street, Port Douglas. The Shelter will be activated by the LDMG in response to a threat to low lying areas by storm tide.

Figure 10: Emergency Evacuation Kit

Rural property owners mitigate bushfire risk through good management practices and mechanized firefighting. Properties which are not well maintained or allowed to become overgrown pose an additional risk. This is highlighted by the changing nature of rainfall where drier periods are expected resulting in high fuel loads and higher bushfire risk.

The most common form of risk transfer is insurance. In a disaster, there is significant impact on the whole community caused by under insured and non-insured properties. It is considered that this is an issue for the insurance industry and the State Government with input from the Douglas LDMG through its members. Douglas LDMG and Council encourages all primary producers, property and business owners, through community awareness and education programs, to purchases appropriate insurances as a risk transfer strategy.

8 RESPONSE

Council's LDMP is supported by a suite of **sub-plans** and internal procedures which includes response, hazard and site-specific and relief and recovery procedures in accordance with State policy and guidelines and stakeholder input. The disaster management internal procedures and sub-plans document the policies and processes undertaken by Council in detail. Response procedures provide specific instructions and checklists for individual groups and roles.

8.1 Activation of Council's response arrangements

Activation of the Douglas LDMG and LDCC will be as a response to any event that has caused significant impact to the community, infrastructure and environment. Timely activation is critical for an effective response to an event. Activation of the LDMG will automatically activate the LDCC and response arrangements will be guided by the following escalation levels:

Table 10: Levels of Activation

	DESCRIPTION	TRIGGERS	COUNCIL ACTIONS
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.	Awareness of a hazard that has the potential to affect Douglas Shire.	**Disaster Management** monitors events and maintains situational awareness. Identify hazards and risks, **Disaster Management Unit** monitors events, maintains situational awareness, briefs Local Disaster Coordinator and key staff. **LDC** may activate a response as managed through core business functions. Initial advice sent to LDMG.
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.	There is a likelihood the threat may affect Douglas Shire. Determine trigger point to Stand Up. Confirm level & potential of threat. Commence cost capturing.	**Disaster Management** issues updates and reports, provides advice to the Local Disaster Coordinator, prepares LDCC for operations. Chair and LDC on watching brief. Establish regular communications with warning agency. **Disaster Management Unit** issues updates and reports and/or situation reports. **Manager Disaster Management** may activate a response managed by the key Council business units. **Local Disaster Coordinator** may activate the LDCC. Conduct meeting and/or update with available LDMG. LDC advises

			DDC of lean forward & establishes regular contact. **Council staff** prepare for operations
Stand up	The operational state following 'lean forward' whereby resources are mobilised, personnel are activated, and operational activities commenced. Disaster coordination centres are activated.	Threat is imminent. Community will be or has been impacted. Response requires coordination.	**Disaster Management** issues updates and reports, provides advice to the Local Disaster Coordinator, prepares LDCC for operations. Rosters for LDCC planned & implemented. Commence SITREPs to DDMG. **Local Disaster Coordinator** may activate the LDCC for an event that requires a complex response from a range of stakeholders. DDMG advised of potential requests for support. **LDMG** may meet. Commence operational plans **Council** shifts to disaster operations.
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.	No requirement for coordinated response. Community has returned to normal function. Recovery taking place.	Final checks for outstanding requests. **Local Disaster Coordinator** approves stand down of LDCC. Debrief of staff in LDCC and Debrief with LDMG members. Final situation report sent to DDMG. Transition to business as usual and/or recovery. **Disaster Management and Council** consolidate financial records.

The movement of disaster management groups through this escalation phase is not necessarily sequential, rather is based on flexibility and adaptability to the location and disaster. Activation does not necessarily mean the convening of the Douglas LDMG, rather the provision of information to group members regarding the risks associated with a pending hazard impact.

8.2 Warning notification and dissemination

In the event of a potential emergency or disaster situation, a warning may be issued by an agency that maintains monitoring devices, including the Bureau of Meteorology (weather warnings only), Council, QPS, and/or any of the emergency services. The Chair of the Douglas LDMG, or delegate, is the official source of public and media information and is the chief media spokesperson.

Prior to the activation of the LDCC, Disaster Management is responsible for preparing and distributing warnings and reports to the members of the LDMG and other key stakeholders. Once the LDCC has been activated, the release of public information

related to the event will be coordinated by the Communication Team in the LDCC and will be shared using social media, broadcast media and on Council's website. Council's media team will also disseminate information.

Council's corporate social media channels, including Facebook, are used to distribute approved crisis communication messaging. Residents are actively encouraged to follow Council through these mediums. Douglas Shire residents who have signed-up for SMS and Email alerts at will be notified of early warnings.

Part of the role of the LDMG is to ensure that member agencies are in appropriate receipt of warnings in order that they may disseminate the warnings to elements of the community that fall under their specific responsibility.

8.2.1 Community service announcements

The release of public information during an event for aspects such as road closures, power outages and evacuation centres will be coordinated through the LDCC. Information and warnings are provided to the community via a number of communication channels. If power is available:

- Broadcast warnings and alerts are issued by radio (ABC and/or other local radio stations), electronic media (social, website and the Douglas Dashboard), public commercial and pay television services, and media releases.

If general power is disrupted along with telecommunication:

- Maintain communications within Council and with external agencies through the LDCC
- Manually distribute information brochures and handouts, if required
- Establish radio communications with and within the LDCC; and
- Broadcast warnings and alerts by radio (commercial and ABC).

Council's media team and the Incident Management Team's Public Information Officer provides warning information and preparedness and recovery messaging about the event and how to stay safe through the use of community service announcements (CSAs). CSAs are short messages that are considered of service to the community. Many television and radio stations set aside time in which they broadcast CSAs free of charge and a lot of newspapers publish their version of CSAs in free community roundups. CSAs are disseminated to the public through print and online media. The Lord Mayor is the official spokesperson for Council and communicates these messages through regular press conferences during disasters.

The community is encouraged to tune into local radio stations for up-to-date messages. Council has a longstanding agreement with ABC 639AM, where emergency messaging is a priority.

8.2.1.1 Emergency Alert

Emergency Alert is the national telephone-based emergency warning system that sends messages:

- Via landlines based on the location of the handset
- Via mobile phones based on an individual's billing address; and
- For Telstra mobile account holders based on the device's location.

The system provides emergency service organisations with another way to warn communities in the event of an emergency such as bushfire and extreme weather events. Find out more here.

8.2.1.2 Standard Emergency Warning Signal

Standard Emergency Warning Signal (SEWS) is a wailing siren sound used throughout Australia for various emergency events of major significance, such as cyclones, flooding and severe storms. **When you hear the signal on radio or television, pay careful attention to the message that follows and act immediately on the advice given.** There are strict rules on the use of this warning signal in Queensland which are outlined in the SEWS guidelines. Find out more visit here.

8.2.1.3 Disaster declaration

In accordance with Section 64 of the Act, and with approval of the Minister, the District Disaster Coordinator may declare a disaster situation for the district or a part of it. As outlined in Sections 75 and 77 of the Act, the declaration confers extra powers on declared disaster officers to perform actions, give directions and control movements within the declared area.

In declaring a disaster situation, the District Disaster Coordinator is to be satisfied that a disaster has happened, is happening or is likely to happen in the disaster district. It is likely to be necessary for the district disaster coordinator or a declared disaster officer to exercise declared disaster powers to prevent or minimise:

- Loss of human life
- Illness or injury to humans
- Property loss or damage; and
- Damage to the environment.

8.3 Evacuation

The safety of residents is the primary driver for evacuation. QPS is authorised to order evacuation under the *Public Safety Preservation Act 1986*. If it's deemed that residents need to be evacuated, Council will assist QPS and other agencies distribute warning messaging and assistance to the affected community. There are five stages that apply to each evacuation.

1. Decision to evacuate
2. Warning
3. Withdrawal
4. Shelter; and
5. Return

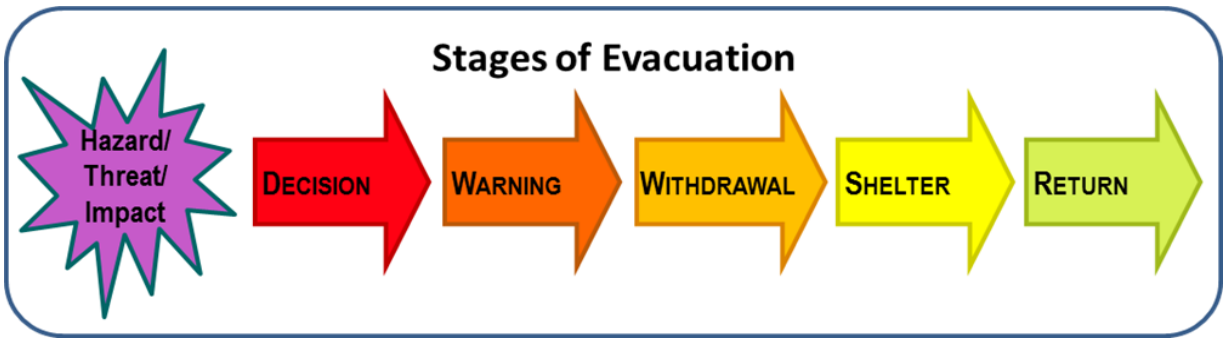


Figure 11: Stages of Evacuation

Council is the lead agency in setting up evacuation centres within Douglas Shire. The establishment and location of evacuation centres will depend on the complexities of the disaster event and the location of the affected community. Council has identified a number of facilities (ranging from large centres to smaller community halls) that are suitable for use depending on the nature and location of the disaster event.

The community will be notified of the establishment and operation of an evacuation centre via a number of sources including Council's website, social media (Facebook), broadcast media (ABC Radio and other local radio and TV stations) and press releases. Council's Disaster Management Unit keeps a register of potential evacuation centres and works with other agencies to establish them when needed.

Evacuation centres are established primarily to register evacuees and provide them with emergency human services. They should only be used for short-term accommodation as a last resort. Preferred solutions for short-term accommodation, in priority order, are:

1. A destination of the person's own choosing (relatives, friends etc.)
2. An established accommodation venue (hotel, motel, caravan park etc.); or
3. An evacuation centre.

People who present themselves to an Evacuation Centre are registered through the Red Cross Register.Find.Reunite service for reuniting family, friends and loved ones after an emergency.

Domestic animals and pets may be evacuated provided their evacuation does not endanger human life and can be accomplished safely. Council has a limited capacity to provide accommodation for domestic animals at animal rehoming centres and animals will not be accepted at all evacuation centres. Residents are encouraged to have a pet emergency plan and a pet emergency kit.

Specialised evacuation is sometimes required for businesses such as aged care facilities and/or nursing homes. Evacuation of these facilities can be complex, and evacuation centres are unlikely to be able to meet the needs of the elderly regarding transport, bedding, high-need care and catering.

Aged care facilities should have business continuity plans to address how they will manage sheltering in place and evacuation offsite. Emergency services cannot

guarantee that they will have enough resources to assist in an evacuation. Aged care providers are discouraged from planning on relying on emergency services as their evacuation solution. Often the best option is to have arrangements with other providers in the aged care industry to share resources and support.

People with mobility issues, a disability or require special needs are encouraged to work with someone they trust, such as their carer, to pre-plan for evacuation.

When planning to evacuate vulnerable residents, alternative accommodation options like staying with friends or family may not be suitable due to accessibility issues e.g. two-story homes and carers may not be available for extended shifts. Carers are encouraged to work with their clients to plan for these types of scenarios.

8.4 Isolated communities

The Shire has many communities vulnerable to isolation, residents should have the necessary plans and arrangements in place to be able to shelter-in-place for an extended period. This includes food and essential household and personal items (including medication), water and energy. During isolation, a planned and coordinated local community response is paramount to ensuring the community remains resilient to the consequences of being isolated.

Council encourages local community groups in areas at risk of isolation to coordinate a community support centre (a community-led and operated facility that acts as a hub for sharing information and may also be used as a location for resupply). Depending on the period of isolation, or anticipated isolation, the resupply of food, medications and essential items is coordinated by the community support centre.

8.5 Impact Assessment

Impact assessment is the organised process of collecting and analysing information after and emergency or disaster to estimate:

- Extent of loss or injury to human life
- Damage to property and infrastructure; and
- The needs of the affected community or response, recovery and future prevention and preparedness assistance.

The purpose of disaster impact assessment is to provide disaster management groups with a source of comprehensive, standardised information on the impact of an event. This information is used to set priorities and make decisions relating to the response to an emergency or disaster and to the initial steps leading to recovery. There are two basic types of impact assessment:

1. Post Impact Assessment – examines the way in which a hazard has affected the community; and
2. Needs Assessment – examines the type, amount and priorities of assistance needed.

Council is the lead functional agency conducting impact assessments.

9 RECOVERY

After a disaster has occurred, the recovery process involves supporting affected communities with their emotional, social and physical well-being, as well as the reconstruction of physical infrastructure and economic and environmental restoration. As recovery can be a complex and prolonged process, it is grouped into five interdependent areas: economic, building, roads and transport, environmental, and human and social. These are referred to as the Functional Lines of Recovery and are used broadly in Queensland in recovery plans and operations. Visit the QRA website for more details.

Figure 12: Functional Recovery groups

The overall objective of disaster recovery is to help communities reach a point where they are sustainable, resilient, and able to continue the recovery process without government assistance programs. Effective recovery requires an integrated, multi-disciplinary approach to needs analysis, community engagement and planning.

9.1 Human-social recovery

Human-social recovery is the ability of individuals, families and communities to recover from and adapt to the impacts of the disaster. Non-government organisations provide key essential services, including:

- Counselling
- Donation of goods
- Restoration of essential services
- Financial assistance; and
- Accommodation (in extreme cases only).

From a broader resilience perspective human and social connectedness and the strength of community fabric plays a key role in the degree of impact to communities. The ability for communities to recover is often dependent upon internal support networks rather than government assistance programs.

9.2 Economic recovery

Economic recovery is the ability of communities to prepare for and recover from economic impacts caused by disaster events. Council prioritises restoring common and essential services to the community and focuses on:

- Key economic assets

- Stimulating the renewal and growth of the economy within the area
- Supporting individuals and households
- Facilitating businesses, industry and regional economic recovery and renewal; and
- Facilitating financial assistance.

Recovery can be expedited where business has recovery plans and key elements underpinning economic activity is identified such as supply chain.

9.3 Environmental recovery

Environmental recovery is the capacity of the natural environment to respond to a disturbance or ongoing change by resisting damage and recovering quickly. It is also the capacity of the built environment to rapidly recover to a desired level of functioning through reducing impacts of disaster events. Council focuses on:

- Assessing the impact of the event on the natural environment
- Rehabilitation of the natural environment
- Preservation of community assets; and
- Management and disposal of waste.

For Douglas Shire, the threat of pest species in pristine areas and the perception of visitors about environmental change are key matters for recovery. Other agencies have collaborative roles in environmental recovery such as the Land and Sea rangers, Parks and Wildlife and Agriculture and Fisheries.

9.4 Building (infrastructure) recovery

Damage to the built environment often results in disruption, inhibiting the capacity of essential services and the building sector, including housing, accommodation, education and health facilities. Considerations include:

- Assessing and repairing damage to housing stock, commercial and industrial buildings and structures, rural structures and infrastructure facilities
- Building safety inspections and demolition of unsafe buildings
- Repair and rebuilding matters
- Recovery of utilities; and
- Restoration of public schools, community and sporting facilities and playgrounds.

Some communities with older building stock predating cyclone ratings may be more vulnerable.

9.5 Roads and transport

Roads and transport recovery refer to the restoration of critical infrastructure, non-critical Council and community infrastructure and privately-owned infrastructure. Considerations include:

- Restoration of damaged structures

- Inspection of roads and bridged integrity by asset owners
- Clearing of road and debris such fallen trees
- Assessing damage on rural and unsealed roads (e.g. Bloomfield track) for wash outs and scour or landslides
- Recovery of road and other transport infrastructure; and
- Mitigation measures

9.6 Stages of Recovery

Recovery is delivered in three phases as the event passes and the response and recovery efforts are actioned. The three phases of recovery recognise the needs of the community across the various stages of an event.

Immediate short-term recovery (relief) supports the immediate needs of individuals, businesses and the community affected by a disaster or significant emergency. It may involve providing shelter, life support and essential human needs, including evacuation centres.

Medium-term recovery involves the reconstruction of physical infrastructure, restoration of the economy and of the environment, and support for the emotional, social and physical wellbeing of those affected. Medium-term recovery can occur for weeks and months after the event.

Long-term recovery can occur for months and years after the event. It continues the work of medium-term recovery and plans for a return to normal business while looking at the longer-term recovery needs of individuals and communities.

9.7 Recovery Services

Community recovery services aim to assist communities to recover from the effects of disasters. Council coordinates its recovery program of work to ensure affected infrastructure and assets are repaired or restored as soon as possible after the event so that essential services are returned to a proper level of functioning. Council works closely with a range of agencies and organisations to help coordinate the assistance to affected individuals, families or communities.

Depending on the extent of the disaster, this may include referral to support services and provision of financial assistance to residents. It can offer the following services during an activation:

- Community Recovery Hotline (1800 173 349).
- **Outreach visits** to impacted communities.
- **Self-recovery app** for people to access vital information and request assistance.
- **Recovery Hubs** are physical locations where the community can go to access a range of services including financial assistance and support services.

9.8 Public Health and Safety

For life threatening emergencies call 000.

Sickness and injury can occur after a disaster event due to the breakdown of utilities, such as power, sewerage and water supply. This can increase the risk of disease during clean-up and recovery operations. The most common health risks during post disaster clean-ups include falls, skin lacerations, snake or spider bites, skin infections, sunburn and mosquito-borne infections.

Queensland Health offers advice on ways to reduce risk during the clean-up and recovery from a disaster at www.health.qld.gov.au/disaster or phone 13 HEALTH (13 43 25 84).

Disasters exert an emotional toll and can place strain on relationships and cause behavioural changes and strong emotional reactions. If you need help to deal with stress, call:

- **Lifeline** on 13 11 14.
- **Australian Red Cross** on 1800 733 276 or visit www.redcross.org.au
- Your general practitioner, local community health centre or local mental health service.

9.9 Financial assistance

Response and recovery from an disaster event can have major financial impacts on the community. Financial assistance may be available under the Disaster Recovery Funding Arrangements (DRFA) or State Disaster Relief Arrangements (SDRA). The Queensland Reconstruction Authority manages these arrangements.

There are various types of assistance including personal hardship, essential services grants, restoration of public assets, assistance for small businesses and primary producers. The Queensland Reconstruction Authority has fact sheets and guidelines available for current situations.

9.10 Local Recovery Group

The LDMG may establish a Local Recovery Group and appoint a Local Recovery Coordinator to plan for and manage the recovery phase of disaster management for their local government area on behalf of the Douglas LDMG. Once established, the LRG will consider the Terms of Reference specific to the event. The LRG should develop an Action Plan to meet the requirements of the Terms of Reference.

The conclusion of the recovery phase will be determined by the LRG. The LRG will manage the recovery process for as long as whole of government recovery support is required, the Terms of Reference for the LRG have been achieved and until government recovery agencies have the capacity to accept the management of the workload within the agencies core business processes.

9.11 Volunteer and Donation Management

As part of a partnership with the Queensland Government, GIVIT manages all offers of donated goods and services including corporate offers of assistance for Douglas Shire Council in the event of a disaster. The goal of the partnership is to:

- Reduce the amount of unsolicited donations received by Douglas Shire Council in times of disaster; and
- Meet the immediate material needs of the local community in times of disaster.

See also the references in section 10 of this document and Resources and further reading in section 10.1.

9.12 Resupply

The Douglas LDMG is responsible for the management of and community education and awareness in relation to the resupply of its communities and rural properties. This includes supporting communities to prepare for the possibility of temporary isolation and ensuring procedures are in place to support resupply of food and other essentials during times of isolation. The Douglas LDMG has adopted the *Queensland Resupply Manual*, which covers operations in respect to:

- Isolated community resupply
- Isolated rural property resupply; and
- Resupply of stranded persons.

Table 111.1 Local Levels of Activation for Recovery Arrangements

		Triggers	Actions	Communications
Response Alert				
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 Ad hoc reporting
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 Regular reporting
	Recovery Stand Up	Immediate relief arrangements continue Response phase moves to 'stand down' level of	LRG activated at LDCC or alternate location Recovery plan activated Deployments for immediate relief response	LRC and LRG members present at LDCC or alternate location, on established land

Response Stand Down		activation. Medium term recovery commences.	Action plans for four functions of recovery activated as required Community information strategy employed 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	lines and/or mobiles, monitoring emails LRC and LRG members involved in medium term recovery continue as required Regular reporting to 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

10 REFERENCES

Disaster Management Act (Qld) 2003, https://www.legislation.qld.gov.au/view/html/inforce/current/act-2003-091#sec.63

Disaster Management Regulation 2014, https://www.legislation.qld.gov.au/view/pdf/2017-04-30/sl-2014-dmr

Inspector General of Emergency Management - Standard for Disaster Management in Queensland 2021 https://www.igem.qld.gov.au/standard

Queensland Prevention, Preparedness, Response and Recovery Disaster Management Guideline 2018 https://www.disaster.qld.gov.au/__data/assets/pdf_file/0032/359465/QLD-Disaster-Management-Guideline.pdf

Queensland State Disaster Management Plan 2023, https://www.disaster.qld.gov.au/__data/assets/pdf_file/0027/339336/Interim-2023-QSDMP-V1.2.pdf

Inspector General of Emergency Management - Emergency Management Assurance Framework 2021 https://www.igem.qld.gov.au/sites/default/files/2021-07/Emergency%20Management%20Assurance%20Framework%20v2.1.1.pdf

Bureau of Meteorology www.bom.gov.au/australia/heatwave/about.shtml

Queensland Fire and Emergency Services https://www.qfes.qld.gov.au/

Disaster Management Queensland https://www.disaster.qld.gov.au/

The Queensland Emergency Risk management Framework Process handbook, https://www.disaster.qld.gov.au/__data/assets/pdf_file/0031/339259/QERMF-Risk-Assessment-Process-Handbook.pdf

10.1 Resources and further reading

Queensland State Risk Assessments: https://www.disaster.qld.gov.au/queensland-emergency-risk-management-framework:

- State Disaster Management plan 2023
- State Disaster Risk Report 2022,
- Heatwave Risk Assessment 2019
- State Earthquake Risk Assessment 2019
- Tsunami Guide for Queensland 2019
- Severe Wind hazard Assessment for Queensland 2021

The Queensland Reconstruction Authority https://www.qra.qld.gov.au/
World Health Organisation https://www.who.int/
Queensland Health for heatwave and pandemic information,
https://www.qld.gov.au/emergency/dealing-disasters/disaster-types/pandemic
https://www.qld.gov.au/emergency/dealing-disasters/heatwave.html

Australian Government Department of Health https://www.health.gov.au/
Tsunami evacuation areas, https://www.qfes.qld.gov.au/prepare/tsunami/evacuation-areas

Inspector General of Emergency management – Emergency management Lexicon, https://www.igem.qld.gov.au/lexicon

Dealing with floods in Queensland Flood | Emergency services and safety | Queensland Government (www.qld.gov.au)

Understanding Emergency Alerts, https://www.emergencyalert.gov.au/frequently-asked-questions/what-is-emergency-alert

Rural fire services, https://www.qfes.qld.gov.au/about-us/frontline-services/rural-fire-service

Service continuity and emergency events in aged care | Australian Government Department of Health and Aged Care

QRA disaster funding https://www.qra.qld.gov.au/funding/drfa

Agriculture recovery after flooding and high rainfall | Business Queensland

Get Ready Queensland, https://www.getready.qld.gov.au/

Livestock – go to https://www.business.qld.gov.au and search for preparing animals for natural disasters.

A Better Practice Guide for Disasters – Aged Care Facilities at https://www.disaster.qld.gov.au/dmp/Documents/BCP-A-Better-Practise-Guide-for-Disasters-Aged-Care-Facilities.pdf

Seniors in the community www.qld.gov.au/emergency/community/seniors.html

The RediPlan provides resources on preparedness for people with a disability, https://www.redcross.org.au/get-help/emergencies/resources-about-disasters

APPENDIX 1: ACRONYMS AND ABBREVIATIONS

The following abbreviations are used throughout the LDMP:

Acronym	Meaning
AHD	Australian Height Datum
BoM	Bureau of Meteorology
DDC	District Disaster Coordinator
DDCC	District Disaster Coordination Centre
DDMG	District Disaster Management Group
DTMR	Department of Transport and Main Roads
EA	Emergency Alert
IGEM	Inspector General Emergency Management
LDC	Local Disaster Coordinator
LDCC	Local Disaster Coordination Centre
LDMG	Local Disaster Management Group
LDMP	Local Disaster Management Plan
LRG	Local Recovery Group
MSQ	Maritime Safety Queensland
NPWS	National Parks and Wildlife Service
PDSTCS	Port Douglas Storm Tide and Cyclone Shelter
QAS	Queensland Ambulance Service
QDMA	Queensland Disaster Management Arrangements
QFES	Queensland Fire and Emergency Services
QPS	Queensland Police Service
RFA	Request for Assistance
RFS	Rural Fire Service
SDCC	State Disaster Coordination Centre
SES	State Emergency Service
SitRep	Situation Report
The Act	Disaster Management Act 2003

APPENDIX 2: GLOSSARY – DISASTER MANAGEMENT DEFINITIONS

Advisor: A person invited to participate in the business of a disaster management group in an advisory capacity on an as-required basis.

All-hazards approach: This means dealing with all types of emergencies or disasters, and civil defence, using the same set of management arrangements.

Assessment: Survey of a real or potential disaster, to estimate actual or expected damages, and to recommend prevention, preparedness and response measures.

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

Community recovery: Focuses on those 'people issues' by which individuals, families and whole communities are assisted to regain an acceptable level of functioning after the disaster. It is usually divided into two phases, initial and longer-term recovery.

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 operates horizontally across organisations and agencies.

Coordination centre: A centre established at state, disaster district or local level as a centre of communication and coordination during response and recovery operations, in Council this is the LDCC.

Declaration: The formal procedure to enable declared disaster powers under the Disaster Management Act 2003 (s64-s69) as required. Specific powers may be used to prevent or minimise loss of life, injury or damage.

Disaster: 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. 'Serious disruption' means:

- Loss of human life or illness or injury to humans.
- Widespread or severe property loss or damage.
- Widespread or severe damage to the environment. (SDMP, the Act).

Disaster district: A part of the state prescribed under a regulation as a disaster district. (The Act.)

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. (The Act)

Disaster operations: Activities undertaken before, during or after an event happens, to help reduce the 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. (State Disaster Management Plan.)

District disaster coordinator: A person appointed as a district disaster coordinator under Section 25 of the Act.

Economic recovery: Refers to the processes and activities that are put in place following a disaster, to encourage the resumption of normal levels of economic activity within the disaster-affected community. The contributing agencies may include all levels of government, industry-based organisations and private enterprise companies.

Emergency alert: A national telephone warning system that provides Australian emergency authorities with an enhanced ability to warn the community in the event of an emergency. The warning system is another tool available for organisations to issue emergency warnings. Emergency Alerts will be issued via landline and mobile telephones.

Emergency human services: Refers to a range of activities undertaken to manage the immediate impacts of a disaster or an emergency event on the people in the community. The functions to be performed may include evacuation, registration, catering, short-term sleeping accommodation and ablutions, personal support, first aid services, volunteer coordination and management of donations.

Evacuation: The planned movement of persons from an unsafe or potentially unsafe location to a safer location and their eventual return.

Evacuation centre: A building located beyond a hazard to provide temporary accommodation, food and water until it is safe for evacuees to return to their homes or alternative temporary emergency accommodation. Event:

- A cyclone, earthquake, flood, storm, storm tide, tornado, tsunami, volcanic eruption or other natural happening.
- An explosion or fire, a chemical, fuel or oil spill or a gas leak.
- An infestation, plague or epidemic.
- A failure of, or disruption to, an essential service or infrastructure.
- An attack against the state.
- Any other event similar to those listed above.

An event may be natural or caused by human acts or omissions (SDMP).

Hazard: A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation. Hazards may be natural, anthropogenic or socio-natural in origin.

Immediate evacuation: An evacuation resulting from a hazard impact that forces immediate action, thereby allowing little or no warning and limited preparation time.

Incident: Day-to-day occurrences, which are responded to by a single response agency by itself or in cooperation with other response agencies.

Infrastructure recovery: Focuses on the facilities, installations and utilities necessary for the proper functioning of the community. These include power, water supply, transport systems and communications.

LDCC Local Controller: Manages Council's response to an event and is responsible for coordinating and implementing the directions of the Douglas LDMG. The LDCC Local Controller coordinates Council's response through the LDCC.

Lead agency: An organisation which, because of its expertise and resources, is primarily responsible for dealing with a particular hazard.

Local Controller: The local controller of an SES unit means the person appointed as the Local Controller under section 134 (1) of the *Fire and Emergency Services Act*. (The local controller is nominated by the local government.)

Local Disaster Coordinator: The local disaster coordinator is appointed under section 35 of the Act to coordinate the operations during a disaster for the local group.

Local Disaster Coordination Centre (LDCC): Focal point for implementing Douglas LDMG priorities and for coordinating Council's response and recovery in the event of a disaster.

Local Disaster Management Group (LDMG): Chaired by the Mayor, the Douglas LDMG oversees the development and implementation of the Douglas Shire Local Disaster Management Plan.

Local Disaster Management Plan (LDMP): Under section 57 of the Act a local disaster management plan must be prepared. '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 Act).

Mitigation: Activities intended to reduce or eliminate risks or lessen the actual or potential effects or consequences of an event.

Planning: The process of developing a system for coordinating disaster response and establishing priorities, duties, roles and responsibilities of different individuals and organisations, including actual state of preparedness.

Preparedness: The taking of preparatory measures to ensure that, if an event occurs, communities, resources and services are able to cope with the effects of the event.

Prevention: 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.

Recovery: The coordinated process of supporting disaster-affected communities' psychosocial (emotional and social), and physical well-being; reconstruction of physical infrastructure; and economic and environmental restoration.

Relief: Efforts to meet the needs of persons affected by a disaster, to minimise further loss through the provision of immediate shelter and basic human needs.

Resources: All personnel and equipment available, or potentially available, for incident tasks.

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.

Risk: The concept of risk combines an understanding of the likelihood of a hazardous event occurring with an assessment of its impact represented by interactions between hazards, elements at risk and vulnerability.

Shelter in place: An alternative or in addition to evacuation where individuals shelter within their homes, workplace or with family/friends if considered safe to do so.

Voluntary organisation: Non-governmental organisations or agencies, some possessing personnel trained to assist when disaster strikes. Some have capabilities extending from local to national and international levels.

Vulnerable groups: Categories of displaced persons with special needs, variously defined to include unaccompanied minors, the elderly, the mentally and physically disabled, victims of physical abuse or violence and pregnant, lactating or single women.

Vulnerability: The conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of a community to the impact.

Warning: The dissemination of messages signalling imminent hazard, which may include advice on protective measures.

For more disaster management definitions go to the Queensland Disaster Management Lexicon https://www.igem.qld.gov.au/assurance-framework/queensland-disaster-management-lexicon

These definitions have been taken from the IGEM Lexicon, the further definitions refer to the Australian Disaster Resilience Glossary (ADR), Queensland Disaster Management Guidelines, Risk Management Vocabulary ISO Guide, Australian National Search and Rescue Council, Queensland Reconstruction Authority (QRA), Queensland Fire and Emergency Services (QFES) and Queensland State Disaster Management Plan (SDMP).

APPENDIX 3: EMERGENCY CONTACTS

Issue	Contact
Life-threatening emergencies	Triple zero (000) for police, fire or ambulance services
Report a fire	Triple zero (000) for fire
Non-emergency situations	Qld Police Policelink – 13 14 44 Qld Ambulance (general enquiries) – 13 74 68
SES **Flood or storm damage**	State Emergency Service (SES) – 132 500
Council-related emergencies/enquiries	If the Local Disaster Coordination Centre is activated, the emergency contact immediately AFTER a cyclone or major flood is (07) 4098 2599
Water supply emergencies	Queensland Urban Utilities (faults and emergencies) – 13 23 64
Fallen power lines	Call Ergon on 13 22 96. Stay away from fallen power lines and alert people of the danger.
Power outages	Call Egon on 13 16 70
Telecommunication problems (trouble shooting)	Telstra – www.telstra.com.au – 13 22 00
	Optus – www.optus.com.au – 13 13 44
	Vodafone – www.vodafone.com.au – 1300 650 410
Gas emergencies	APA Group – 1800 427 532
Health and hospital information – non-emergency situations	Queensland Health – 13 HEALTH (13 43 25 84)
School closures	Contact your child's school directly or visit www.education.qld.gov.au
Road and traffic conditions	Transport and Main Roads – 13 19 40 or visit 131940.qld.gov.au
Support and financial assistance	Community Recovery Hotline on 1800 173 349 or visit www.qld.gov.au/community/disasters-emergencies
Animal emergencies	Wildlife Hotline – 1300 130 372 (press option 1) RSPCA – 1300 264 625 - https://www.rspcaqld.org.au/what-we-do/disasters-and-alerts Disaster support for livestock owners https://www.daf.qld.gov.au/business-priorities/agriculture/disaster-recovery
Biosecurity	Animal and plant biosecurity health information, alerts and advice https://www.daf.qld.gov.au/business-priorities/biosecurity
National Relay Service (for people with hearing/vision impairment)	TTY voice calls – 133 677 Speak & listen – 1300 555 727 SMS relay – 0423 677 767
Translating or interpreting services	Translating and Interpreting Service National - 131 450 https://www.tisnational.gov.au/
Lifeline	24/7 help hotline – 13 11 14
Red Cross Register.Find.Reunite	https://register.redcross.org.au/
Volunteering	www.volunteeringqld.org.au
National Security Hotline	1800 123 400
Poisons Information	13 11 26

APPENDIX 4: OPERATIONAL PLANS AND SUPPORTING DOCUMENTATION

Douglas LDMG is supported by a series of confidential hazard specific sub-plans, standard operating procedures, reports, studies and supporting documents. For internal council staff – please click on the sub-plans name to access the plan. These documents include:

- **Environmental Health Sub Plan 912379** – This Plan sets out the responsibilities of the Environmental Health Officer in the event of a disaster and the support given by Queensland Health. *(reviewed February 2022)*.
- **Port Douglas Storm Tide Cyclone Shelter Sub Plan 1063986** – establishes the roles and responsibilities for the opening up, staffing, registering and in general caring for evacuees. *(reviewed August 2022)*.
- **Severe Weather Preparedness Levels 993613** – 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. *(reviewed 2021)*.
- **Financial Management Plan 432590** – internal financial arrangements in support of disaster events, and the subsequent financial reimbursement of eligible costs expended. *(reviewed 2021)*.
- **Public information and Warnings Sub Plan 431971** – provides the guidelines for the public awareness and education programs undertaken by members of the LDMG-DR and also the procedure for issuing warnings or advice pre, during or post event *(reviewed August 2022)*.
- **Resupply** (417290) - to outline the processes and procedures used by the Douglas Local Disaster Management Group (LDMG) when planning and conducting resupply operations. *(reviewed 2020)*.
- **Recovery** (434519) – Effective recovery requires a range of services operating in a coordinated and streamlined way. The integration of government agencies and government owned corporations, NGOs, industry groups, the private sector and whole-of-community is the foundation of recovery. *(reviewed 2020)*.
- **Activation** (417023) - Local Disaster Management Group and Local Coordination Centre. The sub-plan details the process for the activation of the LDMG and the LDCC including standard operating procedures.
- **Evacuation** (416459) – this plan sets out the process for evacuation, who makes the decision, how it is activated, who gives direction to evacuate, evacuation routes and buildings for use.
- **Community Support** (434715) – includes the Community Support Sub Plan and provides procedures and processes to be used during both the response and recovery phase of an event.
- **Impact Assessment** (434255) – this plan provides the LDMG-DR 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.

- **Transport** (432636)– 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.
- **Logistics** (432636)– 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.
- **Douglas LDMG Pandemic Response Sub Plan 1054326** Scalable COVID-19 and Pandemic Response Plan *(reviewed August 2022)*.
- **Guideline for Short-Term Self-Isolation 955116** – A scalable plan to avoid transmission and reduce the spread of COVID-19 to First Nation Communities. *(reviewed August 2022)*.
- **Mossman Gorge Community Pandemic Sub Plan 947868** – This plan should be read in conjunction with the Australian Health Management Plan for Pandemic Influenza 2014 (AHMPPI) and the Queensland Health Pandemic Influenza Plan, May 2018. *(reviewed 2021)*.

APPENDIX 5: Flood Warning Infrastructure with Operating Agencies

Basin	Station No.	AWRC No.	Station Name	Rain/River	Operating Agency	Latitude & Longitude
Daintree	531067	108008	Whyanbeel Ck TM	Rain/River	Dept. Regional Development Manufacturing & Water	Lat: -16.3888 - Long: 145.3372
	31062		Whyanbeel Valley	Rain	Bureau of Meteorology	Lat: -16.3906 Long: 145.3511
	31037		Low Isles	Rain	Bureau of Meteorology	Lat: -16.3842 Long: 145.5592
	531029	108002	Bairds TM	Rain/River	Dept. Regional Development Manufacturing & Water	Lat: -16.1814- Long: 145.2828
	531110		Daintree Village TM	Rain/River	Douglas Shire Council	
	31127	108900	Daintree Village	Rain/River	Bureau of Meteorology	Lat: -16.2496 - Long: 145.3170
	531132	108800	Barratt Creek TM	River	Douglas Shire Council	Lat: -16.2626 - Long: 145.3371
	31219		Daintree Ice Cream	Rain	Bureau of Meteorology	Lat: -16.2122 - Long: 145.4042
	531135		Diwan TM	Rain	Douglas Shire Council	
	31102		Daintree Tea	Rain	Bureau of Meteorology	Lat: -16.1939 - Long: 145.4061
	31012		Cape Tribulation	Rain	Bureau of Meteorology	Lat: -16.0969 - Long: 145.4575
	531071	108003	China Camp TM	Rain/River	Dept. Regional Development Manufacturing & Water	Lat: -15.985 - Long: 145.2878

Basin	Station No.	AWRC No	Station Name	Rain/River	Operating Agency	Latitude & Longitude
Mossman	531089	100421	Palm Cove Tide TM	River	Dept. Environment and Science	Lat: -16.7401 - Long: 145.6716
	31189		White Cliff Point	Rain	Bureau of Meteorology	Lat: -16.6581 - Long: 145.5675
	531094		Black Mountain TM	Rain	Dept. Regional Development Manufacturing & Water	
	531133		Craiglie TM	Rain	Douglas Shire Council	Lat: -16.5395 - Long: 145.4739
	31204		Reef Park	Rain	Bureau of Meteorology	Lat: -16.5261 - Long: 145.4628
	531134		Port Douglas TM	Rain	Douglas Shire Council	Lat: -16.49384 - Long 145.46083
	31052		Port Douglas Warner St	Rain	Bureau of Meteorology	Lat: -16.4833 - Long: 145.4639
	531016	109801	Port Douglas Tide TM	River	Dept. Environment and Science	Lat: -16.4851 - Long: 145.4594
	31055		Mossman South	Rain	Bureau of Meteorology	Lat: -16.4725 - Long: - 145.3747
	31044		Mossman Central Mill	Rain	Bureau of Meteorology	Lat: -16.4586 - Long: - 145.3795
	531063	109001	Mossman TM	River	Dept. Regional Development Manufacturing & Water	
	531014	109800	Mossman Tide TM	River	Dept. Environment and Science	Lat: -16.4358 - Long: 145.4031