

# Lockyer Valley Regional Council



## Local Disaster Management Plan

Version 5.0 Adopted 24/05/2017



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## Foreword

The Lockyer Valley Local Disaster Management Plan has been prepared to ensure there is a consistent approach to disaster management in the Lockyer Valley Regional Council area. This plan is an important tool for managing potential disasters and is a demonstrated commitment towards enhancing the safety of the Lockyer Valley Regional Council community.

The plan identifies potential hazards and risks in the area, identifies steps to mitigate these risks and includes strategies to enact should a hazard impact and cause a disaster.

Depending on the scale of a disaster, the Lockyer Valley Local Disaster Management Group will ensure there is adequate coordination for the region to reduce adverse impacts. The plan also documents efforts to mitigate against identified hazards. The ultimate benefit is to reduce community consequences following an event.

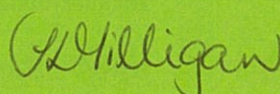
A significant feature of this plan is the way it integrates into Queensland's disaster management arrangements. Should there be an event that is of greater impact to the local community, district and state disaster management groups would become involved. Where these agencies are not able to deal effectively with an event, the Australian Government may be requested to provide assistance.

I am confident that the Lockyer Valley Local Disaster Management Plan provides an excellent disaster preparation, response and mitigation framework for our community. The residents and visitors to our region can feel secure in the fact the agencies that comprise our Lockyer Valley Local Disaster Management Group are dedicated and capable in their respective fields.

This plan is consistent with the standards and guidelines produced by the Inspector General Emergency Management. The primary focus shared by the members of the Lockyer Valley Local Disaster Management Group is to help reduce:

- loss of human life, or illness or injury to humans
- widespread or severe property loss or damage
- widespread or severe damage to the environment

Tanya Milligan  
Chair



Lockyer Valley Regional Council Local Disaster Management Group



## Approval of the Plan


### Authority to Plan

This sub plan has been prepared by the Lockyer Valley Regional Council Local Disaster Management Group (LDMG) for the Lockyer Valley Region Council under the provisions of Section 57(1) of the Disaster Management Act 2003.

### Approval

The preparation of this Local Disaster Management Plan has been undertaken in accordance with the Disaster Management Act 2003 (the Act), to provide for disaster management and disaster operations in the Lockyer Valley local government area.

The plan is endorsed for distribution by the Local Disaster Management Group.



**Cr Tanya Milligan**  
**Chair Local Disaster Management Group**

Date: 01 June 2017

### Endorsement

The preparation of this Local Disaster Management Plan has been undertaken in accordance with the Disaster Management Act 2003 (the Act), to provide for effective disaster management in the Lockyer Valley local government area.

The plan is endorsed by the Lockyer Valley Regional Council.



**Cr Tanya Milligan**  
**Lockyer Valley Regional Council**

Date: 01 June 2017

## Amendments and Review

This plan will be reviewed at least annually as required by *Section 59 of the Disaster Management Act 2003*, with relevant amendments made and distributed.

Approved amendments to the plan will be circulated as per the distribution and contacts lists, which are maintained by Lockyer Valley Regional Council on behalf of the local group.

### Document Control

#### Amendment Control and Version Register

The controller of the document is the Lockyer Valley Local Disaster Coordinator (LDC). Any proposed amendments to this plan should be forwarded in writing to:

*Lockyer Valley Local Disaster Coordinator, Lockyer Valley Regional Council, Po Box 82, Gatton Qld 4343*

The LDC may approve inconsequential amendments to this document. Any changes to the intent of the document must be approved and endorsed by the local government.

#### Amendment Register

No / Ref	Issue Date	Comments	Inserted by	Date
1.0		Final version of the Lockyer Valley LDMP		
2.0	January 2011	Update of changes in accordance with amendments to the Disaster Management Act 2010	M Brennan	
3.0	08/06/2011	Plan updates due to review by LDMG	M Brennan	
	09/06/2011	Reviewed by Emergency Management Queensland		
	12/10/2011	Reviewed By Toowoomba DDMG		
4.0	26/09/2011	Version 4.0 of the Lockyer Valley LDMP adopted by Council.	D Mazzaferri	26/9/2012
4.1	27/11/2013	Version 4.1 of the Lockyer Valley LDMP adopted by Council	B de Jong	27/11/2013
4.2	10/09/2014	Version 4.2 of the Lockyer valley LDMP adopted by Council	B de Jong	10/09/2014
4.3	16/12/2015	Modifications in line with IGEM Assurance Framework. Adopted by Council	D Mazzaferri	16/12/2015
5.0	17/05/17	Version 5.0 of the Lockyer Valley LDMP reviewed by Peter Hillcoat endorsed by LDMG on 03/05/2017 adopted by Council on 24/05/2017	P Hillcoat	31/05/17

## Distribution

Distribution of the plan is in compliance with Section 60 of the Disaster Management Act 2003 which requires the Local Disaster Management Plan to be available for inspection, free of charge, to members of the public.

The controlled master copy of this plan is held by Lockyer Valley Regional Council. Copies of the plan, including confidential annexures and supporting documents will be distributed to members of the Lockyer Valley Local Disaster Management Group and key stakeholders as identified by the Local Disaster Coordinator.



# Administration and Governance

## Authority to Plan

This plan has been prepared by the Lockyer Valley Local Disaster Management Group for the Lockyer Valley Regional Council under the provisions of Section 57(1) of the Disaster Management Act 2003.

## Purpose

This plan details the arrangements within the Lockyer Valley Regional Council area to plan and coordinate capability in disaster management and disaster operations, and to ensure and maintain safety in the Lockyer Valley community prior to, during and after a disaster.

The Lockyer Valley Local Disaster Management Group will constantly review and update the community's disaster management arrangements that are outlined in this plan and will investigate new initiatives to meet the changing needs of the area.

## Objectives

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

- the development, review and assessment of effective disaster management for the local government area including arrangements for mitigating, preventing, preparing for, responding to and recovering from a disaster
- compliance with the State's *Strategic Policy Framework*; the State Disaster Management Plan; the *Local Disaster Management Guidelines*; and any other Guidelines relevant to local level disaster management and disaster operations
- the development, implementation and monitoring of priorities for disaster management for the local government area

The all-encompassing objective of applying a disaster management framework is to ensure the safety of the region. Individual objectives to support the aforementioned are:

- Prevention
  - Increase adherence to and introduction of systems and regulations that reduce disaster risks
  - Investigate and implement (where appropriate) strategies/initiatives to eliminate or reduce the impact of the effects of hazards on the community through the use of the Emergency Risk Management Process
- Preparedness
  - Develop risk-based plans and management arrangements with a community focus
  - Increase community safety through public awareness, information and education
  - Encourage an all agencies, all hazards ethos through the workings of the Local Disaster Management Group
  - Identify resources to maximise response
  - Develop contingency plans to address response and recovery issues

- Establish and maintain working relationships with other agencies to increase disaster management capability
- Response
  - Describe the organisation, roles and responsibilities for effective disaster management within Council as well as for the Local Disaster Management Group (LDMG)
  - Efficiently and effectively coordinate the response to an event in conjunction with other emergency response agencies (commitment to an all-agencies approach)
  - Minimise the impact on the community of a disaster event
- Recovery
  - Adequately provide immediate welfare post event
  - Ensure the recovery priorities of the community are met in collaboration with other member agencies of the Lockyer Valley Regional Council Recovery Group

## Disaster Management Priorities

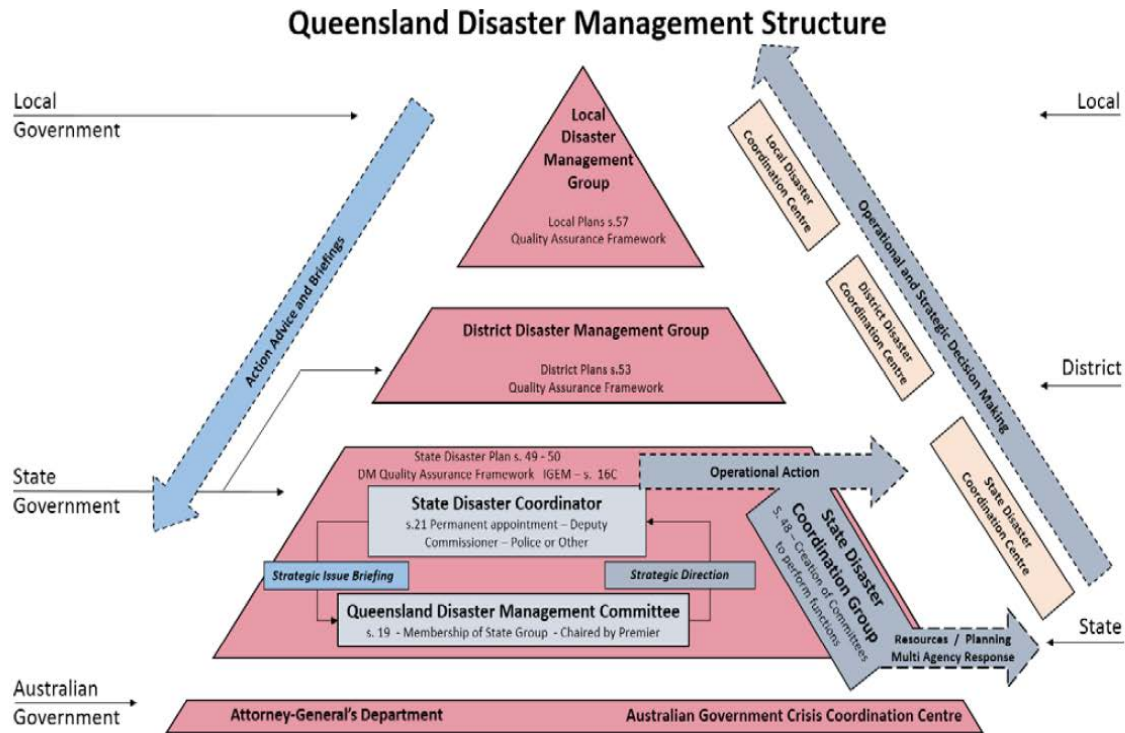
The priorities for the Lockyer Valley Local Disaster Management Group are to:

- Develop and maintain a Local Disaster Management Group membership who are appropriately qualified, and able to contribute to meeting the functions of the Local Disaster Management Group
- Review and implement Local Sub Committees to carry out identified functions
- Write, review and exercise Local Plans to ensure effective Disaster Management
- Develop and maintain effective local community communications strategies
- Evaluate the relevance of, and where necessary implement State recommendations and Commission of Inquiry recommendations





# Disaster Management System in Queensland



During a disaster, the Lockyer Valley Local Disaster Management Group provides initial support for the affected community until its resources are fully committed. State support is then requested and is provided by Queensland Government agencies in accordance with their core functions through the district disaster structure.

Queensland's whole-of-government disaster management arrangements are based on partnerships between government, government-owned corporations, 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.

## Strategic Policy Framework

Disaster management and disaster operations in the Lockyer Valley Regional Council area are consistent with the *Disaster Management Strategic Policy Framework*. This is achieved by:

- ensuring a comprehensive, all hazards, all agencies approach by achieving the right balance of prevention, preparedness, response and recovery
- supporting the mainstreaming of disaster preparedness and mitigation into relevant areas of activity of government, non-government, small business and corporations
- aligning disaster risk reduction, disaster mitigation, disaster resilience and climate change adaptation policy and actions with international and national reforms

- promoting a transparent, systematic and consistent approach to disaster risk assessment and management, based on the Australian/New Zealand Standard AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines
- recognising the commitment of stakeholders and the need for collaboration across all levels of government, community, industry, commerce, government owned corporations, private and volunteer organisations, and local communities in all aspects of disaster management
- emphasising building and maintaining sincere relationships, trust, teamwork, consultative decision-making and shared responsibilities among stakeholders
- promoting community resilience and economic sustainability through disaster risk reduction

State Government strategic documents or other infrastructure entities that relate to this Plan include:

*Disaster Management Act 2003*  
*Queensland State Disaster Management Plan*  
*Queensland State Recovery Plan (2017 in draft)*  
*Queensland Disaster Management Planning Guidelines for Local Government 2005*  
*Operational Planning Guidelines for Local Disaster Management Groups 2006*  
*Mitigating the Adverse Impacts of Cyclones: Evacuation and Shelter 2008*  
*Public Safety Preservation Act 1986*  
*Fire and Rescue Service Act 1990*  
*Natural Disaster Relief and Recovery Arrangements (NDRRA) Determination 2012*  
*NDRRA Community Recovery Package Guidelines 2016*

#### Local Planning Instruments

*Laidley Shire Planning Scheme 2003*  
*Gatton Shire Planning Scheme 2007*  
*Temporary Local Planning Instrument 01-2017 Flood Regulation affecting the Gatton Shire Planning Scheme 2007 and the Laidley Shire Planning Scheme 2003*  
*Grantham Reconstruction Area Development Scheme*





# Local Disaster Management Group

## Functions of a local group

The *Disaster Management Act 2003* prescribes a range of functions to be performed by the local group:

- ensure disaster management and disaster operations in the area are consistent with the state group's strategic policy framework for disaster management for the state
- develop effective disaster management, and regularly review and assess the disaster management
- help the local government for its area to prepare a local disaster management plan
- identify and provide advice to the relevant district group about support services required by the local group to facilitate disaster management and disaster operations in the area
- ensure the community is aware of ways of mitigating the adverse effects of an event, and preparing for, responding to and recovering from a disaster
- manage disaster operations in the area under policies and procedures decided by the State group
- provide reports and make recommendations to the relevant district group about matters relating to disaster operations
- identify and coordinate the use of resources that may be used for disaster operations in the area
- establish and review communications systems in the group, and with the relevant district group and other local groups in the disaster district of the relevant district group, for use when a disaster happens
- ensure information about a disaster in the area is promptly given to the district group
- perform other functions given to the group under the Disaster Management Act
- perform a function incidental to a function mentioned in paragraphs above

## Membership

Members of the Local Group have been appointed by the Lockyer Valley Regional Council and Council has sought to select representatives from those agencies and organisations representing Lockyer Valley who:

- have a key role in responding to disaster or emergency situations
- manage key assets, or
- provide essential community services

Membership of the Group will be reviewed annually and the Chief Executive of Queensland Fire and Emergency Services (QFES) and the Toowoomba District Disaster Coordinator (DDC) will be advised of the membership of the Group.

In addition to its members, the Local Group may seek the assistance of individuals or organisations as circumstances require. These persons sit as advisors to the group. They will receive copies of the agendas and minutes and can attend and participate in meetings and discussions as required. They do not have voting rights on decisions.

Full list of persons appointed to the Local Disaster Management Group can found be **Annexure C – Lockyer Valley Local Disaster Management Group Contact List**.

## Chair and Deputy Chair

Council has appointed the Mayor of the Lockyer Valley Regional Council as the Chair of the Lockyer Valley Local Disaster Management Group is.

Council has appointed the Councillor with the Infrastructure Portfolio (including Disaster Management) as the Deputy Chair of the Lockyer Valley Local Disaster Management Group.

## Functions of Chair of Local Group

The chairperson of a local group has the following functions—

- to manage and coordinate the business of the group
- to ensure, as far as practicable, that the group performs its functions
- to report regularly to the relevant district group, and the chief executive of the department, about the performance by the local group of its functions

## Local Disaster Coordinator

The Chairperson of the Local Disaster Management Group, after consultation with the Chief Executive will appoint an employee of the Council as the Local Disaster Coordinator of the Local Group. The Chairperson has appointed the Executive Manager Corporate and Community Services, as the Local Disaster Coordinator.

The Local Disaster Coordinator may delegate the coordinator's functions under Section 36 to an appropriately qualified person. Section 143 (9) notes appropriately qualified includes having the qualifications, experience or standing appropriate to exercise the power. The Local Disaster Coordinator is supported by the Deputy Local Disaster Coordinator. The appointed Deputy Local Disaster Coordinator is the Disaster Management Coordinator.

## Functions of Local Disaster Coordinator

The local disaster coordinator has the following functions:

- to coordinate disaster operations for the local group
- to report regularly to the local group about disaster operations
- to ensure, as far as practicable, that any strategic decisions of the local group about disaster operations are implemented

## Members of the Local Group

Members of the local group in undertaking their normal LDMG responsibilities should ensure they:

- Attend LDMG activities with a full knowledge of their agency resources and services and the expectations of their agency



- Are available and appropriately briefed to actively participate in LDMG activities to ensure that plans, projects and operations use the full potential of their agency or function, while recognising any limitations
- Are appropriately positioned within their agency to be able to commit agency resources to LDMG normal business activities
- Have a deputy who is appropriately trained to take on their responsibilities should they be unavailable or to provide additional support during extended operations
- Members must be nominated by their agency on the LDMG Membership Appointment Form **(Annexure D)**
- Contribute to Disaster Management Planning

Local group members should maintain a state of readiness for activations by:

- Maintaining current contact registers for LDMG members
- Maintaining copies of the Local Disaster Management Plan (LDMP) and supporting documentation, as appropriate
- Ensuring resources are available to participate in disaster operations; i.e. access to a laptop, information management templates, operational checklists, telecommunications and human resource provisions
- Being appropriately positioned within each agency to be able to commit agency resources to LDMG operational activities
- Participating in disaster management exercises and training opportunities

In order to be effective during operations, LDMG member administration and activation processes should include:

- Immediately informing their agency of the LDMG's activation and reinforcing their role as the designated single point of contact between the LDCC and their agency
- Maintaining a close liaison with all members of the LDMG including participating in briefings/meetings of the LDMG and operating from the LDCC as required
- When possible, assessing the likelihood of extended operations and the possible need to implement LDMG member relief arrangements
- Ensuring appropriate agency specific disaster cost management arrangements are established quickly and utilised effectively, including the collation of financial documentation to ensure costs are captured for reimbursement, where eligible

All members must have undertaken the required training as identified in the Queensland Disaster Management Training Framework.

## Deputy Members of the Local Group

Members of the local group are to identify a Deputy who is able to attend local group meetings or take on the duties of the member in their absence or unavailability. A person who is a deputy member should have the necessary expertise and experience to fulfil the role of member of the local group if required.

Deputy Members must be nominated by their agency on the Authorisation to Appoint a Deputy Form **(Annexure D)**.

Section 40A of the Disaster Management Act identifies that:

- A member of a disaster management group may, with the approval of the chairperson of the group, appoint by signed notice another person as his or her deputy.
- The deputy may attend a group meeting in the member's absence and exercise the member's functions and powers under this Act at the meeting.
- A deputy attending a group meeting is to be counted in deciding if there is a quorum for the meeting.

## Sub-Groups

Two Sub Groups have been established:

- Lockyer Valley Bushfire Sub Committee
- Recovery & Resilience Sub Committee

The Lockyer Valley Regional Council may establish other sub-groups to address specific functions within its disaster management arrangements.

## Roles and Responsibilities

State government agencies and organisations have designated responsibilities in disasters which reflect their legislated and/or technical capability and authority with respect to hazards, functions and/or activities of disaster management.

The list on page 16 is not exhaustive; it focuses on the roles and responsibilities. Importantly, this list aims to ensure, from a whole-of-government perspective, that all accountabilities of the State government with respect to disaster management have been addressed.





## Functions as allocated to the group

Organisation	Roles and Responsibilities
<b>Lockyer Valley LDMG</b>	<ul style="list-style-type: none"> <li>• Development of comprehensive local disaster management plan and strategies based on Disaster Management Strategic Policy Framework</li> <li>• Design and maintenance of a public education/awareness program, which is delivered through member agency resources</li> <li>• Support for the coordination of response agencies through LDCC</li> <li>• Reconnaissance and impact assessment</li> <li>• Provision of public information prior to, during and following disaster events</li> <li>• Recommended areas/locations to be considered for directed evacuation</li> <li>• Public advice regarding voluntary evacuation</li> <li>• Identification, resourcing, staffing, management and operation of evacuation centres</li> <li>• Provision of locally based community support services</li> <li>• Design, maintenance and operation of a disaster coordination centre, including the training of sufficient personnel to operate the centre</li> </ul>
<b>Lockyer Valley Regional Council</b>  	<p>Perform the following roles and responsibilities in support of the Lockyer Valley Local Disaster Management Group:</p> <ul style="list-style-type: none"> <li>• Management, support, policy advice and coordination of the business of the Lockyer Valley Local Disaster Management Group and its subgroups, including the development and maintenance of disaster management plans and sub plans</li> <li>• Identification, development, maintenance and operation of a Lockyer Valley Local Disaster Coordination Centre at a primary location and maintenance of alternative locations</li> <li>• Identification and delivery of training and staffing required to operate the Lockyer Valley Local Disaster Coordination Centre</li> <li>• Coordination of disaster operations by the Local Disaster Coordinator through the LDCC for the Lockyer Valley Local Disaster Management Group, ensuring that strategic decisions of the Local Group are implemented</li> <li>• Coordination of immediate community support and recovery needs in conjunction with the Department of Communities, including the management &amp; operation of evacuation or temporary relocation centres</li> <li>• Assist the community to prepare for, respond to and recover from an event or disaster</li> <li>• Issue of public information or warnings about disaster situations in accordance with Local Plan</li> <li>• Provide advice and support to the Toowoomba District Disaster Coordinator</li> <li>• Development and maintenance of prevention and mitigation strategies such as Land Use Planning and Capital Works programs</li> <li>• Development &amp; maintenance of a coordinated disaster response capability</li> <li>• Maintenance of Council essential services to the community including               <ul style="list-style-type: none"> <li>○ Animal control</li> <li>○ Civic leadership</li> <li>○ Community contact and information provision</li> <li>○ Disaster &amp; emergency management</li> <li>○ Environmental protection</li> <li>○ Maintenance (including debris clearance) of local roads and bridges</li> <li>○ Public health</li> </ul> </li> </ul>

**QLD Fire and  
Emergency  
Services**



**QFES – Fire**



- Fire control and prevention
- Specialist urban search and rescue
- Specialist Rescue – Confined Space, High Angle and Swift Water Rescue
- Rapid damage assessment capabilities
- Management of hazardous material situations
- Provision of expert advisory services on chemicals and hazardous materials through the Scientific Unit
- Development of fire prevention and mitigation strategies and response plans
- Provide control, management and pre-incident planning of fires (structural, landscape and transportation)
- Safety of persons in relation to fire prevention, suppression, response and recovery operations
- Advice and directions on public safety/evacuation from fire danger zones
- Assisting the community to prepare for, respond to and recover from an event or disaster e.g. Public education and awareness programs
- Provide rescue capability for persons trapped in any vehicle, vessel, by height or in a confined space.
- Provide rescue of person isolated or entrapped in swift water / floodwater events
- Assist in pumping out and clean-up of flooded buildings
- Provide mass and technical decontamination capabilities under State Biological Disaster and State Radiological Disaster Response
- Provide impact assessment and intelligence gathering capabilities
- Provide logistical and communications support to disasters within capabilities
- Provision of advice and communication with the LDC about the operations of the ICC
- Request and provide assistance through the LDCC as required during disaster operations





**QFES – Emergency Management**






- Development and maintenance of Incident Coordination Centre plans and capacity which is able to be activated for events where the QFES is the Lead Agency including training in AIIMS and staffing with sufficient trained personnel to operate the Centre.
- Review and assess and report on the effectiveness of disaster management by the State at all levels, including Local Plans
- Provision disaster management officers of coordination, policy and operational advice, at all levels of the State's disaster management system, including at the Local Group
- Coordination of State and Federal assistance for disaster management and operations
- Facilitation of a comprehensive (prevention / preparedness / response / recovery ) - all hazards - all agencies approach to disaster management
- Assisting the community to prepare for, respond to and recover from an event or disaster e.g. Public awareness and education campaigns
- Management, coordination and support of the State Emergency Service in the Lockyer Valley
- Perform the following roles and responsibilities in support of disaster operations:
  - Operation and maintenance of the State Disaster Coordination Centre (SDCC)
  - Manage resupply operations
  - Coordinate and manage the deployment of State Emergency Service across the State
  - Support the deployment of Qld Corrective Services resources
  - Provision of public information during disaster and emergency situations

<p><b>State Emergency Service</b></p> 	<p><b>QFES – State Emergency Service</b></p> <ul style="list-style-type: none"> <li>• Development and maintenance of a capacity to respond or assist other agencies respond to disaster and emergency situations</li> <li>• Assisting the community to prepare for, respond to and recover from an event or disaster</li> <li>• Public education and awareness programs</li> <li>• Rescue of trapped or stranded persons</li> <li>• Search operations for missing persons</li> <li>• Emergency repair/protection of damaged/vulnerable buildings especially for members of the community</li> <li>• Assistance with debris clearance</li> <li>• First Aid support</li> <li>• Traffic Control support</li> <li>• Assistance with communications and specialist radio communications</li> <li>• Assistance with emergency lighting</li> <li>• Provide a Liaison Officer at the ICC</li> </ul>
<p><b>QLD Police Service</b></p> 	<ul style="list-style-type: none"> <li>• Assisting the community to prepare for, respond to and recover from an event or disaster</li> <li>• Prevention of crime</li> <li>• Security of any site as a possible crime scene</li> <li>• Investigation of the criminal aspect of any event</li> <li>• Coronial investigation procedures</li> <li>• Traffic control, including assistance with road closures and maintenance of road blocks in consultation with other agencies</li> <li>• Crowd management/public safety</li> <li>• Coordination of search and rescue</li> <li>• Control and coordination of evacuation operations</li> <li>• Provide security for damaged or evacuated premises</li> <li>• Manage the register of evacuated persons in association with the Australian Red Cross</li> <li>• Provide a disaster victim identification capability</li> <li>• Respond to and investigate traffic, rail and air incidents.</li> <li>• Advise the LDCC, and request and provide assistance through the Coordination Centre as required during disaster operations</li> <li>• Provide liaison officers to the LDCC</li> </ul>
<p><b>QLD Ambulance Service</b></p> 	<ul style="list-style-type: none"> <li>• Collaborate with Queensland Clinical Coordination Centre in the provision of paramedics for rotary wing operations</li> <li>• Participate in search and rescue, evacuation and victim reception operations</li> <li>• Participate in health facility evacuations</li> <li>• Collaborate with Queensland Health in mass casualty management systems</li> <li>• Provide disaster, urban search and rescue (USAR), chemical hazard (Hazmat), biological and radiological operations support with specialist logistics and specialist paramedics</li> <li>• Emergency Pre-Hospital Patient Care assessment, treatment and transportation of ill and/or injured persons, selection of triage and treatment areas</li> <li>• Coordination of all other Volunteer first aid groups including QAS first responder groups</li> <li>• The establishment of an on -site triage / treatment area, casualty clearing and vehicle marshalling areas</li> <li>• Assistance with the evacuations of persons with medical conditions (specialised medical transport including aero-medical transport)</li> </ul>











	<ul style="list-style-type: none"> <li>• Liaison with all other emergency services, local and state government and non-government agencies</li> <li>• Advise the LDCC, and request and provide assistance through the Coordination Centre as required during disaster operations</li> </ul>
<p><b>West Moreton Hospital and Health Service</b></p> 	<ul style="list-style-type: none"> <li>• Functional lead agency for health services</li> <li>• Primary agency for Pandemic Influenza, Biological and Radiological incidents</li> <li>• Coordinate the disaster response operations for the State group if a Queensland Health officer is appointed as a State Disaster Coordinator</li> <li>• Protect and promote health in accordance with Health Services Act 1991 and Public Health Act 2005</li> <li>• Provide Clinical and State-wide and Forensic services support for disaster response and recovery</li> <li>• Provide human-social support for response and recovery</li> <li>• Provide appropriate pre-hospital on-site medical and health support</li> <li>• Coordinate aeromedical tasking in partnership with QAS throughout the State</li> <li>• Provide state representation at the Australian Health Protection Committee</li> <li>• Ensure a whole-of-health emergency incident management capability to prevent, respond to, and recover from any event</li> <li>• Provide appropriate public and community health risk and preventative measures information</li> <li>• Provide health emergency incident information for media communications</li> <li>• Maintains an up to date register of all of Qld Health patients in the community who are at risk and vulnerable</li> </ul>
<p><b>Department of Communities, Child Safety and Disability Services</b></p> 	<ul style="list-style-type: none"> <li>• Coordinate provision of human-social recovery services during recovery operations in partnership with local, State, federal and non-government agencies</li> <li>• Work with affected individuals and communities to support their own recovery activities</li> <li>• Establish and manage Community Recovery Outreach Programs, Centres (one-stop-shops) and Coordination Centres</li> <li>• Distribute financial assistance to eligible individuals and families affected by natural disasters in accordance with SDRA &amp; NDRRA</li> <li>• Establish outreach service teams to visit households and determine their recovery needs</li> <li>• Co-ordinate the development of community recovery communication strategy messages (strategic and operational) to support the broader disaster recovery and disaster management public communication strategy.</li> <li>• Provision of advice and communication with the LDC and DDC about Community Recovery requirements and operations</li> <li>• Request and provide assistance through the LDCC as required during disaster response and recovery operations</li> </ul>

<p><b>Department of National Parks, Sports &amp; Racing</b></p> 	<ul style="list-style-type: none"> <li>• State Land Management fire and flood response (assistance to Parks or Forestry)</li> <li>• Fire suppression and control within State Forests</li> <li>• Provide for the safety of National Parks users including issuing warnings in extreme conditions, closing areas where necessary and coordinating evacuations</li> </ul>
<p><b>Department of Natural Resources and Mines</b></p> 	<ul style="list-style-type: none"> <li>• Advisory agency for erosion in watercourses and replacement of in stream/over stream infrastructure post disaster</li> <li>• Assessment and advice for referable dams (&gt;500 megalitres)</li> <li>• Monitoring network of gauging stations that provide hydrological (both ground and surface water) and long term weather data. Third parties have free access to this data for early warning and post planning.</li> <li>• GIS and aerial photography immediately following natural disasters for use in post disaster planning</li> <li>• Advisory capacity for contaminated soils</li> <li>• Advisory capacity for explosives</li> </ul>
<p><b>Department of Transport and Main Roads</b></p> 	<ul style="list-style-type: none"> <li>• Functional lead agency for transport systems</li> <li>• Coordinate the disaster response operations for the State group if a Department of Transport and Main Roads officer is appointed as a State Disaster Coordinator</li> <li>• Provide information and advice on the impact of disruptive events on road, rail, aviation and maritime infrastructure as it affects the transport system</li> <li>• Enable an accessible transport system through reinstating road, rail and maritime infrastructure</li> <li>• Assist with the safe movement of people as a result of mass evacuation of a disaster affected community</li> <li>• Ensure the capability of logistics related industries are appropriately applied to disaster response and recovery activities</li> </ul>
<p><b>Energex</b></p> 	<ul style="list-style-type: none"> <li>• Electricity supply information and warnings to Lockyer Valley disaster management agencies and the community</li> <li>• Maintenance of electrical power supply distribution</li> <li>• Advice in relation to electrical power supply outages to agencies and community</li> <li>• Restoration of power and advice regarding timeframes for power restoration</li> <li>• Safety advice for consumers during disaster and emergency situations</li> <li>• Assisting the community to prepare for, respond to and recover from an event or disaster e.g. Public education and awareness programs</li> </ul>

<p><b>Queensland Urban Utilities</b></p> 	<ul style="list-style-type: none"> <li>• Development &amp; maintenance of Incident Coordination Centre capacity which is able to be activated for events where Queensland Urban Utilities is a Critical Agency.</li> <li>• Maintenance of Queensland Urban Utilities essential services to the community including: <ul style="list-style-type: none"> <li>○ Environmental protection</li> <li>○ Public health</li> <li>○ Waste Water Treatment and Disposal (Sewage)</li> <li>○ Water (via Business Continuity Management Planning)</li> </ul> </li> <li>• Provision of advice and communication with the LDC and DDC about the operations of Queensland Urban Utilities during disaster operations</li> <li>• Request and provide assistance through the LDCC as required during disaster operations</li> <li>• Assisting the community to prepare for, respond to and recover from an event or disaster e.g. Public education and awareness programs</li> <li>• Impact Assessment</li> </ul>
<p><b>Qld Rail</b></p> 	<ul style="list-style-type: none"> <li>• Advice on critical rail infrastructure</li> <li>• To coordinate any response to affected railway infrastructure</li> </ul>
<p><b>RSPCA</b></p> 	<ul style="list-style-type: none"> <li>• Advice and support on animal management</li> </ul>
<p><b>Southern Queensland Correctional Precinct</b></p> 	<ul style="list-style-type: none"> <li>• Support as required</li> </ul>
<p><b>Telstra</b></p> 	<ul style="list-style-type: none"> <li>• Telephone communication restorations</li> <li>• Provision of communications facilities</li> <li>• Advise the Local Disaster Management Group, and request and provide assistance through the local group as required during disaster operations</li> </ul>



<b>University of Qld (Gatton Campus)</b>  THE UNIVERSITY OF QUEENSLAND AUSTRALIA	<ul style="list-style-type: none"> <li>• Support as required</li> </ul>
<b>Department of Agriculture &amp; Fisheries</b> 	<ul style="list-style-type: none"> <li>• Lead Agency role for any outbreak of emergency animal disease</li> <li>• Public information and warnings regarding emergency animal disease matters</li> <li>• Public education and awareness programs</li> <li>• Development and maintenance of emergency animal disease plans</li> <li>• Capacity to operate an Incident Coordination Centre (ICC)</li> <li>• Detection and location of animal infection</li> <li>• Advice relative to Biosecurity matters e.g. exotic animal disease threats</li> <li>• Advice regarding destruction of animals as required</li> <li>• Advice about disaster recovery processes for primary producers</li> <li>• Provision of advice and communication with the Executive Officer Local Group and DDC about the operations of the ICC</li> <li>• Request and provide assistance as required during disaster operations</li> </ul>
<b>Department of Housing and Public Works</b> 	<ul style="list-style-type: none"> <li>• Functional lead agency for building and engineering services</li> <li>• Coordinate the logistics support framework</li> <li>• Assist agencies source disaster response-related (emergency) supplies and equipment</li> <li>• Provide support to establish strategic coordination/command and other response related built infrastructure through access to specialist building services, vehicle hire solutions and temporary voice/data communications</li> <li>• Provide public works-related professional services, trade staff, damage inspection, building repairs and technical support to disaster response and recovery</li> <li>• Provide temporary/portable accommodation and alternative building accommodation solutions for disaster response and recovery</li> <li>• Provide technical advice on structural/services suitability of buildings for use as community evacuation centres and new cyclone shelters</li> <li>• Provide SES 132500 and community call centre operations and government internet pages for the provision of public information about major events and/or disasters – through Smart Service Queensland (SSQ)</li> </ul>
<b>Department of the Premier and Cabinet</b> 	<ul style="list-style-type: none"> <li>• Provide Chair of the State group</li> <li>• Functional lead agency for public information</li> <li>• Support and provide advice to the Premier as Chair of the of the Disaster Management Cabinet Committee and as leader of the Government</li> <li>• Coordinate and liaise with the Australian Government's Crisis Coordination Centre in relation to Queensland Government policy positions (when required)</li> <li>• Represent Queensland at meetings of the National Crisis Committee when initiated by the Australian government</li> <li>• Coordinate and represent Queensland government positions on national bodies such as the National Emergency Management Committee and the National Counter-Terrorism Committee and the Council of Australian Governments</li> <li>• Establish a Premier's Disaster Relief Appeal if requested to support community recovery</li> </ul>

<p><b>SEQWater</b></p> 	<ul style="list-style-type: none"> <li>• Provide advice on bulk water facilities</li> </ul>
<p><b>Red Cross</b></p> 	<ul style="list-style-type: none"> <li>• Provide evacuation centre support</li> </ul>
	<ul style="list-style-type: none"> <li>• Provide welfare support where possible</li> </ul>
<p><b>Department of Education QLD</b></p> 	<ul style="list-style-type: none"> <li>• Ensure schools have emergency action plans</li> <li>• Provide facilities for evacuation centre when required</li> </ul>

## LDMG Business and Meetings

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

### Meeting Types

**Ordinary Meeting** – a meeting which is scheduled and convened on a regular basis at an agreed time (set by the Chairperson). Ordinary meetings are used to address the general business of the group and are currently held twice per year.

**Extraordinary Meeting** – a special meeting convened by the Chairperson in response to an operational event. An event would generate its own meeting file for audit purposes. Meeting minutes, attendance sheets and resolution statements must be included in the event file.

### Times and Places

At least two ordinary meetings of the LDMG should be held each year, at a time and place decided by the Chairperson. The Chairperson of the LDMG must call a meeting of the group if asked, in writing, to do so by the relevant DDC or by at least half of the LDMG members.

**Ordinary Meetings** – meeting details for the coming year should be endorsed as a resolution at the last meeting of the year.

**Extraordinary Meetings** – extraordinary meetings are convened as required and individual members are advised of the extraordinary meeting date, venue and time by a nominated person.

### Quorum

A quorum is required in order for meeting resolutions to be officiated. DMG members are required to achieve quorum which is equal to one-half of its members holding office plus one, or when one-half of its members is not a whole number, the next highest whole number.

An attendance sheet is to be completed at the commencement of each LDMG meeting to record member attendance and ensure the meeting has a quorum. This attendance sheet also forms part of the meeting minutes.

If it is anticipated that a scheduled meeting will not achieve quorum, the Chairperson may:

- Proceed with the meeting - allow members to participate remotely using technology (see Member attendance at meetings below)
- Proceed with the meeting - endorse any proposed resolutions via a flying minute (see section 'Flying minute')
- Reschedule the meeting - preferred if there are proposed agenda items requiring discussion or endorsement



- Cancel the meeting – whilst not the preferred option, subject to legislative requirements regarding minimum annual meetings the Chairperson may cancel a meeting if the proposed agenda items can be held over until the next scheduled meeting, or
- If the meeting is cancelled or rescheduled, progress the business via a flying minute – this option allows progression of any urgent agenda items whilst not requiring a physical meeting of the LDMG

## Member attendance at meetings

LDMGs are encouraged to hold meetings, or allow members of the group to take part in its meetings, by using any technology that reasonably allows members to hear and take part in discussions as they happen. Accordingly, members may attend meetings via teleconference or video conference if appropriate. A member who takes part in a LDMG meeting via teleconference or video conference is taken to be present at the meeting and should be marked on the attendance sheet.

## Member non-attendance at meetings

If a member continually does not attend LDMG meetings it is suggested that the LDMG Executive Team meet with the member to discuss the ongoing non-attendance at LDMG meetings. A formal record of LDMG member attendance should be maintained and this can be used to monitor member attendance across meetings.

## Members' Deputy

A deputy may attend a group meeting in the member's absence and exercise the member's functions and powers under the Disaster Management Act at the meeting. A deputy attending a group meeting is to be counted in deciding if there is a quorum for the meeting.

## Flying Minute

Section 42 of the Disaster Management Act allows for resolutions to be made by the LDMG, even if not passed at a LDMG meeting, if a majority of the members provide written agreement to the resolution and if notice of the resolution is given under procedures approved by the LDMG.

A flying minute may be used to progress business of an urgent nature in the instance where convening a meeting of the LDMG is not practicable.

Some guidelines for the use of flying minutes are:

- A flying minute should detail necessary background on the matters being raised and should clearly articulate recommendations for LDMG members' consideration;
- The flying minute should contain a section for members to complete and indicate whether they agree or disagree with the proposed resolution;
- A LDMG Briefing Paper on the issue should accompany the flying minute endorsement schedule, as it provides in-depth information on the matter which is being considered;
- A LDMG Agenda listing the Item/s should also be attached;
- As flying minutes are only used for urgent business, they may be conducted via email.
- Proposed resolutions passed by members via a flying minute are to be included for ratification on the next ordinary LDMG meeting agenda.

Templates for LDMG flying minute, LDMG briefing paper and LDMG agenda are available on the DM Portal.

## Meeting Agenda

It is imperative that agenda items raised at an ordinary meeting reflect the goals and aims of the LDMG. To ensure this occurs, all proposed agenda items should be documented on a meeting brief and submitted to the Secretariat for vetting by the Chairperson prior to the distribution of the agenda and meeting papers.

The suggested timeframe for a meeting cycle is that a call for agenda items should be made by the LDC or Secretariat one month prior to the scheduled meeting. Members should then be given a two week period to provide agenda items, allowing time for the Secretariat to collate them. The Chairperson or the LDC may also request a LDMG member provide a meeting brief or a noting brief regarding a particular issue which the Chairperson or LDC feels should be addressed at a LDMG meeting.

## Member Status Reports

Written member status reports on behalf of the member agency are used to update LDMG members on the status of the member agency's disaster management initiatives. This includes mitigation, planning and community awareness/education activities, capacity and capability development, projects, disaster management plans, operations and contact information. This information assists the LDMG to evaluate the status of the disaster management and disaster operations for the local government area. Verbal member status reports would be provided at LDMG meetings by exception.

## Meeting Minutes

It is a requirement that a disaster management group keep minutes of its meetings.

The LDMG meeting minutes should provide a summary of key discussion points and resolutions. It is important to remember that the minutes may be subject to public scrutiny under the Right to Information Act 2009.

It should be noted in the meeting minutes whether or not a quorum was established at the meeting. The meeting attendance sheet should then be attached to the back, as it forms part of the meeting minutes as an accurate account of who attended the meeting and whether the meeting had a quorum, thus making any resolutions or decisions valid.

## Resolutions

In order for LDMG meeting resolutions to be validated, it is a requirement under Section 42 of the Disaster Management Act that a majority of members provide written agreement to the resolution. This can occur even if the resolution is not passed at the meeting, i.e. via a flying minute.

In order to ensure that resolution requirements are met, the LDMG can conduct its business in numerous ways:

- Via meeting where a quorum is achieved
- Meeting resolutions are passed by a majority of members at the meeting;

- Resolutions are communicated to members via meeting minutes
- Members are asked to endorse the meeting minutes in writing via email to the LDMG Secretariat (email must be received from the appointed member's email address to be counted towards quorum)
- Via meeting where a quorum is not achieved
- Proposed resolutions are identified at the meeting
- Proposed resolutions are communicated to members via a flying minute
- Members are requested to endorse the flying minute via signature and return to the LDMG Secretariat

## Resolution Statement

In addition to meeting minutes, the LDMG Secretariat should produce a resolution statement. The purpose of this document is to provide a running log of actions undertaken and an audit trail through to the acquittal of those resolutions.

Prior to each ordinary meeting of the LDMG, members will be requested to:

- Review the current resolution statement (distributed with meeting papers)
- Provide (where applicable) a status update advising of any actions undertaken with regards to the resolution
- To capture any actions as a result of discussion outcomes a resolution statement should be documented. Refer to examples below:
  - The LDMG decision in relation to <XYZ> is to <<insert the action required and the responsible position/person/s>>.
  - The LDMG decision is that this matter will be dealt with out-of-session and the LDMG member/s <<XYZ>> will <<insert what the members are required to do>>. The outcome of this resolution will be reported back to the LDMG at the next meeting.

The resolution will remain active on the resolution statement until such time that it has been acquitted (e.g. all required actions have been undertaken), when it will be removed from the resolution statement and recorded on the LDMG resolution register.

## Resolutions Register

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

## Correspondence Register

In order to assist with tracking of LDMG correspondence, both inwards and outwards, a LDMG Correspondence Register is to be kept. This allows for all members to be aware of any correspondence that concerns the LDMG, and will assist with the information flow and decision making of the LDMG.



## Annual Reporting

LDMG's play an integral part in the disaster management of the State and it is important that they have input into the Queensland Disaster Management Committee (QDMC) annual reporting process. LDMGs are required to complete a status report at the end of each financial year and provide the completed report to the relevant DDC. LDMGs may contact the QFES-EM member on the group for advice and assistance in the completion of the status report.

The DDMG will compile the DDMG Annual Report by incorporating information provided in the LDMG status reports. The QDMC receives the DDMG Annual Reports at the end of July each year. The reports are then reviewed to ensure disaster management groups are meeting their legislative requirements and incorporated into the QDMC annual reporting process. The QDMC is required under Section 44 of the Disaster Management Act to prepare an annual report about disaster management in the State following each financial year.

QDMC Annual Reports are publicly available at [www.disaster.qld.gov.au](http://www.disaster.qld.gov.au).

## Records Maintenance

Records management is an activity targeting preservation of evidence of actions, decisions and important communications by creating, keeping and maintaining records of these actions, decisions and communications. Public records are protected by the Public Records Act 2002 and maybe subjected to public scrutiny under the Right to Information Act 2009.

A public record is a file providing evidence of actions, decisions, activities and functions of a disaster management group. This can include internal or external correspondence, for example letters, emails, memos, reports, minutes, agendas, complaints, contact with the community, other agencies etc. LDMGs must ensure that these records are complete, authentic, reliable, inviolate and usable.

The LDMG must comply with the legal, evidentiary and financial requirements (including lawful and accountable disposal of records) when managing LDMG records. The Queensland State Archives General Retention and Disposal Schedule for Administrative Records requires outlines the requirements for retaining documents in accordance with the Public Records Act 2002.

The Schedule and further information for LDMGs, including managing records during disaster events, can be obtained at [www.archives.qld.gov.au](http://www.archives.qld.gov.au) in the section "Services to Government".

## Letterhead

As LDMG business is conducted on behalf of the Lockyer Valley Regional Council, the relevant local government letterhead and logos should be used for all LDMG business.

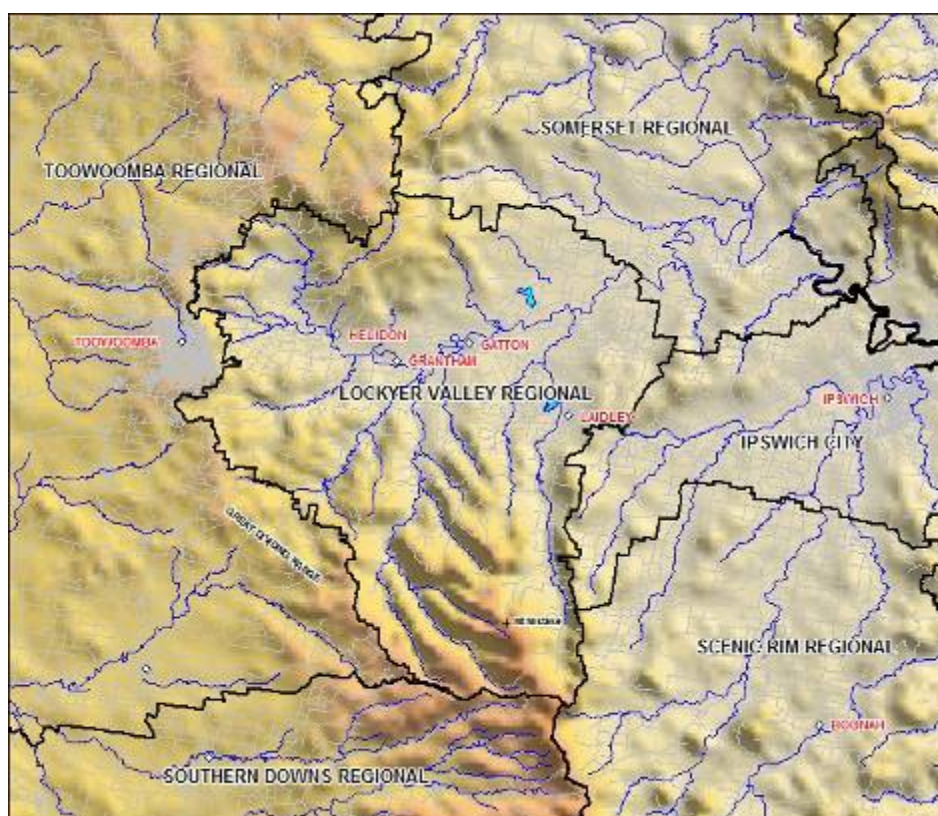


# Disaster Risk Management

## Community Context – Lockyer Valley Region

The current boundaries of Lockyer Valley Region were established in 2008 as part of the State-wide series of council amalgamations and boundary adjustments. The current boundaries are shown in Figure 1.1. They enclose a total land area of approximately 2270 square kilometres.

Lockyer Valley Region is bordered by Southern Downs Region in the south, Toowoomba Region in the west, Somerset Region in the north-east, Ipswich City in the east and Scenic Rim Region in the south-east.



*Figure 1.1: Lockyer Valley Regional Council locality*

## Terrain

The topography of Lockyer Valley Region is dominated by the mountains of the Great Dividing Range to the west and south and the wide floodplain of Lockyer Creek in the north. The highest point is Mt Mistake at 1052 metres ASL while Mt Haldon (904 m) and Mt Cooper (712 m) are also prominent high points.

The region is drained by Lockyer Creek and its major tributaries including Murphy's, Gatton, Ma Ma, Blackfellow, Tenthill, Sandy and Laidley Creeks. There are three small impoundments to provide local requirements: Lake Apex, Lake Dyer and Lake Clarendon. Most of the water for agriculture, however, comes from ground water.

Figure 1.2 provides a generalised view of the Lockyer Valley topography.

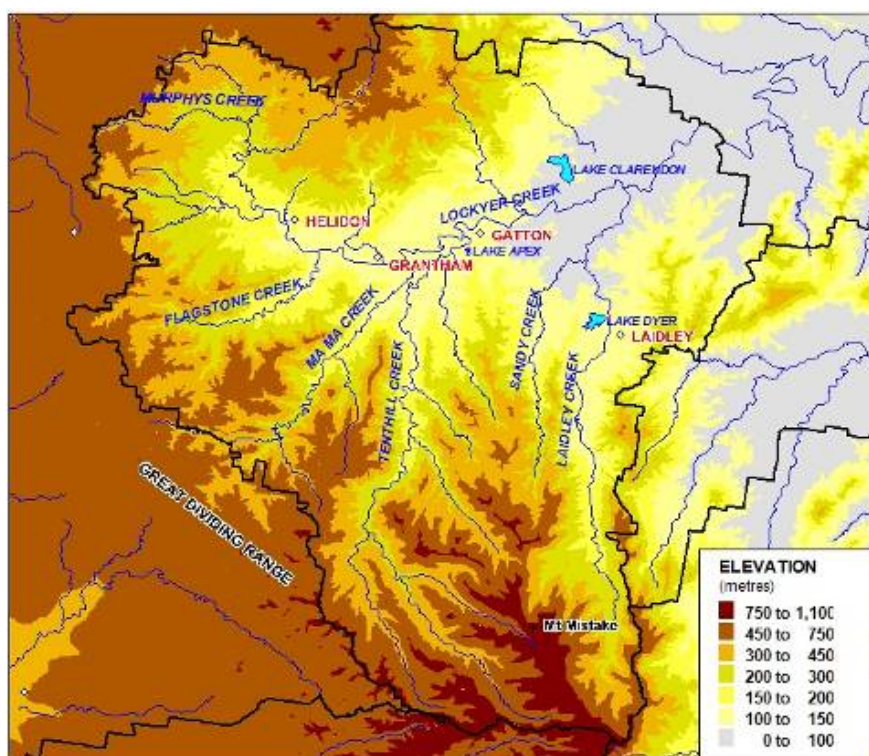


Figure 1.2: Lockyer Valley generalised topography

## Geology

The terrain of the Lockyer Valley is created by its underlying geology. In broad terms, the region is made up of three major groups of material.

- The volcanic rocks that make up the mountains of the Great Dividing Range. Most of these are of basalt of Tertiary origin (65 to 2.6 million years);
- The Triassic-Jurassic aged (250 to 146 million years) sandstones of the Bundamba/Landsborough Groups make up the bulk of the region; and
- The Quaternary age (less than 2.6 million years) alluvium of sand, gravel and silt along the Lockyer Creek.

There are also small areas of Injune or Ipswich coal measures in the south of the region which are outliers of the much more extensive areas found to the east in Ipswich City.

A more detailed discussion of specific aspects of the geology is contained in the Landslide and Earthquake hazards in this plan.

## Vegetation

Large areas of the native vegetation of Lockyer Valley have been removed or greatly modified over time by agriculture. The extensive areas of remnant native vegetation that remain, especially in the south, includes the temperate rainforests and wet sclerophyll forest of the mountains. Rainforests grow in moist or sheltered locations, with open eucalypt forest occurring on the drier ridges and



valleys. Montane heath vegetation grows on the cliffs and rocky outcrops. A more detailed description of the Region's vegetation is included in the bushfire hazards in this plan.

## Climate

Lockyer Valley Region has a climate that is classed, under the Koeppen climate classification system, as 'subtropical with no dry season'. Rainfall is none-the-less seasonal with the greatest totals occurring during the summer. Its inland location also tends to exaggerate the extremes of temperature that can occur at sub-tropical latitudes though the higher country is generally several degrees cooler and much wetter than the lowlands.

The Bureau of Meteorology (BoM) website provides climate summaries for several stations within or close to Lockyer Valley – Gatton (data from 1897 to the present) being representative of the low land sites and Toowoomba (data from 1869 to 2007) being representative of the higher country . The statistics clearly show the influence of altitude on temperatures and the influence of the ranges to generate high rainfall. Key statistics for each site are contained in the following two tables.

*Table 1.2: UQ Gatton (station 0400082) selected climate statistics 1897-2015 (source BoM)*

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
Mean max (°C)	31.5	30.7	29.5	27.1	23.7	21.1	20.7	22.4	25.5	28.2	30.2	31.3	26.8
Highest max (°C)	44.5	42.0	39.5	37.4	33.7	28.9	29.0	37.9	38.5	41.6	42.8	42.0	44.5
Days over 35°C	4.6	2.4	1.3	0.2	0.0	0.0	0.0	0.0	0.3	1.5	3.1	4.2	17.6
Mean min (°C)	19.1	19.0	17.3	13.7	10.1	7.6	6.2	6.7	9.5	13.1	16.0	18.1	13.0
Lowest min (°C)	12.0	8.3	6.7	3.2	-0.2	-2.4	-5.6	-1.9	0.0	4.3	6.3	8.8	-5.6
Mean rain (mm)	112.1	100.0	78.6	49.6	46.0	42.0	36.8	27.0	35.0	64.2	79.3	100.1	769.5
Highest rain (mm)	452.9	307.3	323.4	324.1	443.5	319.6	306.4	94.8	190.5	269.0	321.2	317.0	1241.4
Lowest rain (mm)	2.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	1.3	354.5
Highest daily rain	199.4	182.0	141.5	91.2	118.9	111.5	192.3	46.2	71.4	107.2	170.6	108.8	199.4

red = highest value blue = lowest value

*Table 1.3 Toowoomba (station 041103) selected climate statistics 1869-2007 (source BoM)*

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
Mean max (°C)	27.6	26.6	25.5	22.9	19.6	16.9	16.3	17.9	20.9	23.7	26.0	27.5	22.6
Highest max (°C)	39.3	37.0	35.0	32.3	27.2	26.1	24.7	29.5	31.6	36.2	38.1	38.9	39.3
Days over 35°C	1.0	0.2	0	0	0	0	0	0	0	0.1	0.5	0.9	2.7
Mean min (°C)	16.7	16.6	15.4	12.3	9.1	6.3	5.3	6.0	8.5	11.5	13.8	15.7	11.4
Lowest min (°C)	8.9	7.2	6.1	3.5	-1.8	-3.6	-4.4	-4.2	-0.4	1.9	3.8	7.4	-4.4
Mean rain (mm)	132.1	121.1	94.6	61.9	58.4	56.8	52.0	39.5	46.7	72.2	89.5	120.0	944.0
Highest rain (mm)	519.6	735.6	389.6	421.2	519.6	373.0	248.1	266.4	168.7	234.2	302.8	358.6	1735.3
Lowest rain (mm)	12.0	1.8	0	0	0	0	0.2	0	2.8	0	4.6	7.7	433.3
Highest daily rain	156.7	164.1	132.3	96.8	121.8	116.8	145.0	133.9	61.2	88.6	109.8	127.0	164.1



The extremes of widespread rainfall have been associated with the impact of active or decayed tropical cyclones, while localised extremes are associated with severe thunderstorms. The greatest 24 hour rainfall of 199.4 mm at Gatton was recorded on 26 January 1974 (TC *Wanda*), while the maximum of 164.1mm at Toowoomba was recorded on 10 February 1942 from an unnamed cyclone.

## Population and Settlement

According to the Australian Bureau of Statistics the Estimated Resident Population (ERP) of the Lockyer Valley Regional Council in 2014 was 38,312. The great majority of the population is concentrated in the urban centre of Gatton. The total populations at the previous four censuses were: 26,846 in 1996, 27,561 in 2001, 30,108 in 2006 and 35,880 in 2011.

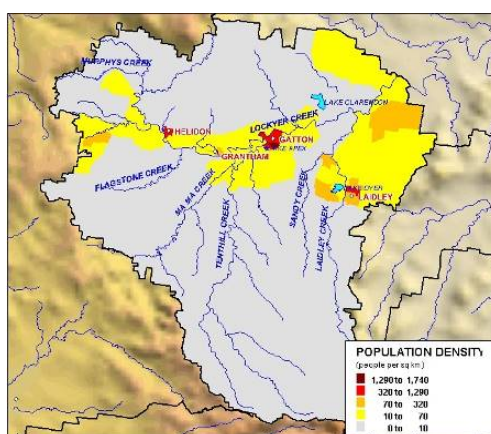
The Office of Economic and Statistical Research (OESR) produces a series of projections of resident population using high, medium and low growth assumptions. The medium range projections forecast the resident population of Lockyer Valley to reach 50,746 by June 2031. These projections are given in Table 1.5.

*Table 1.5: Lockyer Valley range of estimated resident population growth to 2031*

Scenario	2006 census	2011 census	2016	2021	2026	2031
Low		35,880	39,062	41,918	44,737	47,394
Medium	30,108	35,880	39,577	43,377	47,120	50,746
High		35,880	40,002	44,736	49,459	54,117

Based on the 2014 ERP the Lockyer Valley overall is lightly populated with an average population density of 17 persons per square kilometre. Densities across the 57 census collectors districts (CCD) used in the 2006 census, however, range from 1735 people per sq km in a Gatton CCD, to 0.6 persons per sq km in the CCD that occupies the Great Dividing Range in the south of the Region. The distribution of population density across the Region is shown in Figure 1.3 on the next page. The concentration of the population along the Lockyer Creek floodplain is clearly evident.

Lockyer Valley is divided into 82 suburbs or localities, the boundaries of which do not all coincide with the census boundaries. To simplify the risk analysis the 82 suburbs and localities have been grouped into 14 risk assessment precincts. The design of these precincts has emphasised creek catchments and centres of population and they are based on the census collector district boundaries from the 2006 census. The boundaries of these precincts are shown in Figure 1.4 and the basic statistics for each precinct are detailed in Table 1.6.



*Figure 1.3: Lockyer Valley Region population density*

## Land Use

In terms of area, Lockyer Valley is dominated by rural land uses. The largest areas are used for dry-land grazing of cattle for beef and dairying. Horticultural crops (mainly seasonal vegetables), however, account for the greatest proportion of the value of the Region's agricultural production. According to OESR (2011) in 2005-6 (the last year for which data are available) livestock and livestock products produced were valued at \$48.7 million while crops were valued at \$138.1 million.

The second largest area of use is public open space including national parks, forest reserves and catchment protection areas which total around 190 sq km.

The urban land uses, especially residential, commercial and industrial, are described in detail in the Natural Hazard Risk Assessment for Lockyer Valley Regional Council 2012.

## Land Management

Lockyer Valley Region contains a wide range of both discrete and overlapping land management jurisdictions. The nature of these jurisdictions has an important bearing on the management of a number of hazards, especially bushfire and landslide. The various forms of control and their respective areas are shown in Figure 1.5 and detailed in Table 1.7.

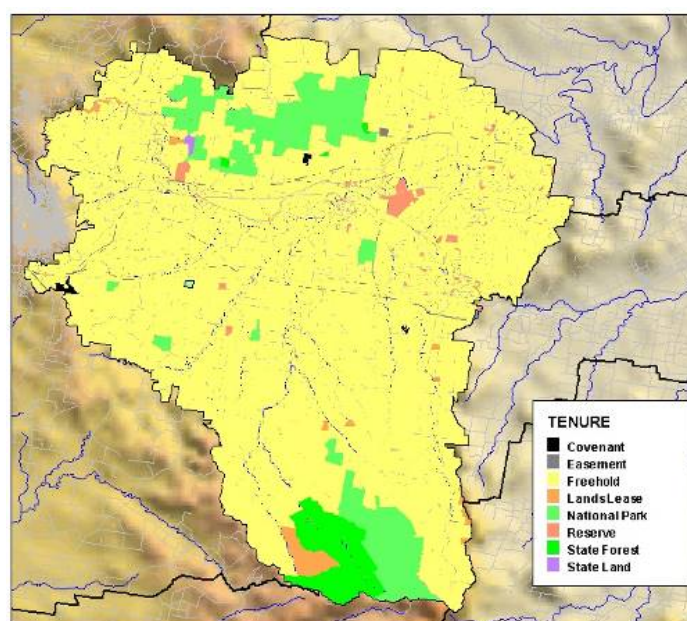


Figure 1.5: Lockyer Valley Region land tenure (DERM data)

Table 1.7: Lockyer Valley land tenure

TENURE	PARCELS	AREA (sq km)	% AREA
State Land	91	4.07	0.18
National Parks	38	188.45	8.16
State Forest	28	64.44	2.80
Reserve	234	19.42	0.84
Lands lease	322	29.94	1.30
Easement	2644	21.57	0.94
Road Reserves	7706	81.08	3.52
Covenant	90	3.34	0.14
Freehold	19,720	1890.17	82.05
<b>TOTAL</b>	<b>30,876</b>	<b>2303.61</b>	

## Public Land

The State Government controls the great majority of public lands which amount to some 257 sq km. The largest proportion is in national and conservation parks of which Main Range National Park, Lockyer National Park, Gatton National Park, Tenthill Conservation Park, Flagstone Creek Conservation Park and Dwyers Scrub Conservation Park make up the bulk.

The Lockyer Valley Regional Council also controls land for public purposes – an area of 11.43 sq km, most of it vested in parks and other community facilities. Most of this land is under freehold title.

## Private Land

A total of 82.05 % of the area and 63.9 % of the land parcels in the Lockyer Valley Region are under freehold title, the great majority of which are under private ownership and control. They range from broad-hectare agricultural holdings; to individual residential properties; to non-government institutions such as private schools and hospitals.

## Hazards

The hazards for the region were identified from the Natural Hazard Risk Assessment for Lockyer Valley Regional Council, Lockyer Creek Flood Risk Management Study, and Forest Hill Flood Hazard Study. These studies were undertaken to provide updated information on risks within the region and took into consideration earlier studies.

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

The full documents can be viewed by contacting the Lockyer Valley Regional council 26 Railway Street, Gatton or by calling 1300 005 872.

### Bushfires



Lockyer Valley Region has a significant potential bushfire hazard, primarily in its southern, western and northern areas.

Historically, the most common sources of bushfire ignition have been lightning strike. Lightning strikes may be experienced at any time of the year though they are most commonly associated with the severe thunderstorms that typically occur between September and April each year. The month of peak severe thunderstorm activity is December, though September-November is the period during which both lightning and fire weather (a combination of dry

winds and low humidity) are most likely to coincide in so-called 'dry storms'.

No point in the region is immune from the impact of lightning strike, though anecdotal evidence suggests that sites on ridge crests and other high ground are more likely to be hit than sites in valleys.

There are a number of significant areas of high and medium bushfire risk throughout the region including rural communities and state forests. The highest risk areas generally tend to be the western end of the Region adjacent to the Toowoomba Range. The Toowoomba range is a common risk area with the Toowoomba Regional Council. The high risk areas are:

- Toowoomba Range and adjacent wooded areas
- Helidon Hills which houses - 3 x explosive manufacturing facilities Orica, Dyno and Combat Simulations and one (1) storage explosive MHF reserve (DEEDI)
- Blenheim Range area.
- Little Liverpool Range area (the area locally known as Buhse's Hill)



In more recent years, this natural source of ignition has been overtaken by non-natural sources including:

- power line failure (e.g. caused by power lines coming in contact with vegetation or being brought down by high winds or falling vegetation)
- human carelessness (e.g. a poorly supervised burn-off)
- stupidity (e.g. a discarded cigarette butt, or fires lit by bored and unsupervised children)
- criminality (e.g. arson, or car thieves disposing of cars by setting them alight in bushland)

These sources are, in contrast to lightning, spatially concentrated along power supply easements; roads, tracks and other transport corridors; and, within a few hundred metres of the urban-bush interface. Anecdotal evidence suggests the timing may increase at times such as:

- periods publicised in the media as having a 'high fire danger
- school holidays
- public holiday

Bushfires cause damage, injury or loss through the action of one or more of their harm-producing components.

### Prevention

- Targeted awareness and education programs
- Reduce bushfire risk in areas subject to ember attack, radiant heat and flame contact through appropriate town planning, design and construction, and monitoring bushfire protection measures in bushfire prone zones
- Utilising statutory powers (e.g. the provisions of the *Queensland Fire and Rescue Act 1990*) in relation to total fire bans, notices, permits and the use of fire risk reduction notices
- Planning developments to be independently safer locations through more rigorous bushfire planning and assessment procedure within the revised planning scheme
- Providing for bushfire risk reduction adjacent to vulnerable assets through fire breaks and other measures that assist in reducing the consequence of bushfire
- Active prevention via back burning

### Preparedness

- Community Education: to prepare the community in line with the Go Early policy
- Establish and maintain fire breaks
- Maintenance of fire tanks and fittings
- Promotion of Neighbourhood Safer Places (NSP's)
  - Laidley Cultural Centre,
  - Open Ground Murphys Creek,
  - Laidley Football Field (Laidley Recreation Ground)
- Maintain current database of location of Lockyer Valley Regional Council plant and equipment
- Maintain communication interoperability between agencies
- Training of rural fire brigade (to training standard established by QFES)
- Reduce fuel hazards
- Hazard reduction (eg. controlled burns)
- Regular clean-up of yards and gardens.
- LDMG Bushfire Sub Committee
- Bushfire Sub Plan (reviewed annually)
- Bushfire hazard mapping

## Response

- Bushfires responded to as quickly as possible by QFES
- Lockyer Valley Regional Council deploy fire fighting support resources when required
- Issue warnings
- Local Disaster Coordination Centre and dedicated resources for larger incidents, multi-agency response
- Lockyer Valley Communication Sub Plan

## Recovery

- Recovery & Resilience Committee (LDMG subcommittee)
- Insurance Council of Australia
- Lockyer Valley Regional Council / State / Federal – essential infrastructure restoration



## Floods



In the Lockyer Valley Region it is the flash flooding and storm water surcharge in smaller streams and sub-catchments that has been demonstrated to be the most frequent problem.

**Major Flooding** - This causes inundation of large areas, isolating towns and cities. Major disruptions occur to road and rail links. Evacuation of many houses and business premises may be required. In rural areas widespread flooding of farmland is likely.

**Moderate Flooding** - This causes the inundation of low lying areas requiring

the removal of stock and/or the evacuation of some houses. Main traffic bridges may be closed by floodwaters.

**Minor Flooding** - This causes inconvenience such as closing of minor roads and the submergence of low level bridges and makes the removal of pumps located adjacent to the river necessary.

### The Lockyer Catchment

The Lockyer Valley Region is most unusual in that its boundaries contain virtually the entire catchment of its main drainage feature, Lockyer Creek. This is illustrated in Figure 2.7. Lockyer Creek is a significant component of the Brisbane River catchment. It joins the Brisbane River immediately downstream of Wivenhoe Dam.

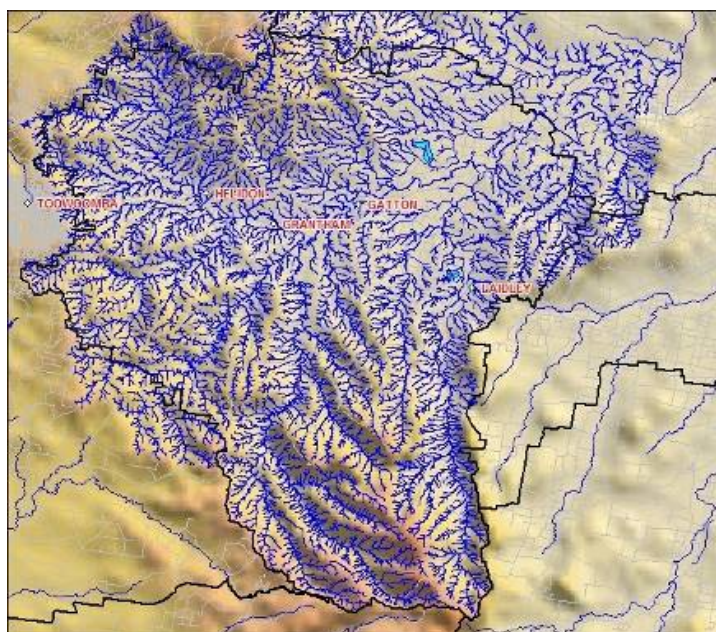


Figure 2.7: Lockyer Creek catchment



### Flood Recurrence

Records of large floods in the Lockyer Creek extend back as far as 1893, and since then there have been several major flood events. Flood peaks on three Lockyer gauges for nine significant floods are given in Table 2.5.

*Table 2.5: Lockyer Creek significant flood heights (BoM, 2012)*

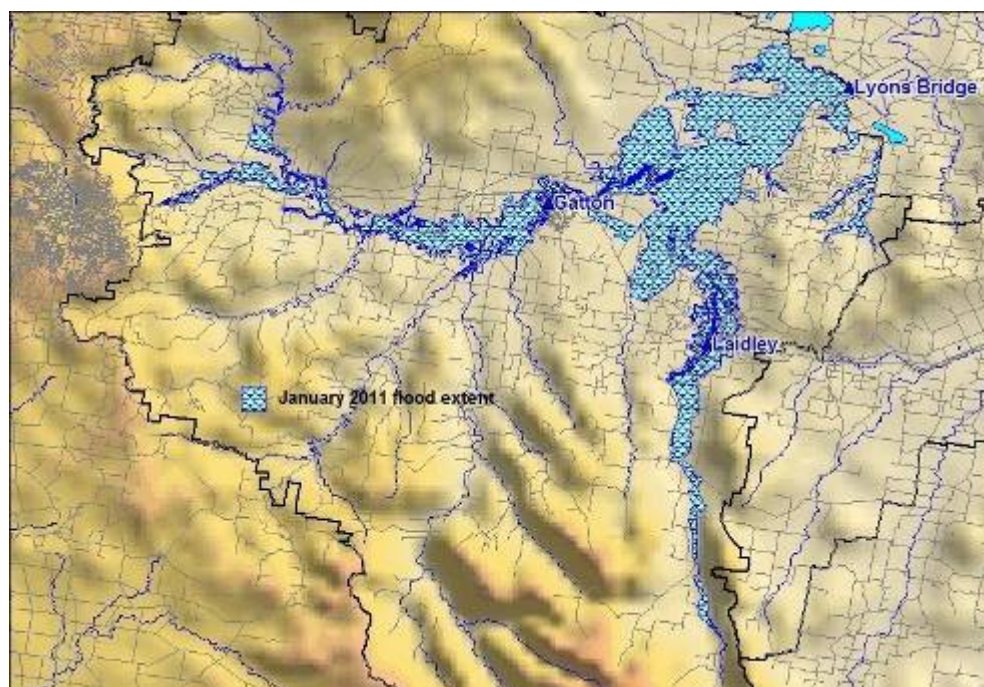
River Height Station	Feb 1893	Feb 1931	Mar 1955	Jan 1974	May 1996	Feb 1999	Feb 2001	Nov 2008	Jan 2011
Gatton	16.33	9.14	9.14	14.63	11.40	8.50	9.55	7.60	15.38
Laidley	-	-	-	-	8.50	-	8.50	6.10	8.85
Lyons Bridge	-	-	17.46	16.54	16.41	12.55	13.26	13.12	17.50

NOTE: All heights are in metres on flood gauges.

The gauge heights for 'major flood' at each of those sites are:

- Gatton 15.0 m
- Laidley 7.0 m
- Lyons Bridge 13.0 m

The extent of the January 2011 flood event is shown Figure 2.8



*Figure 2.8: Extent of January 2011 Lockyer Creek flood (LVRC data)*

Flood modelling across a range of recurrence intervals undertaken by SKM in 2012 shows that the flood hazard is strongly influenced by the topography of the valley itself. Table 2.6 shows the area within Lockyer Valley Region contained within the flood extent polygon for five modelled events.



## The Flood Threat

According to the BoM (BoM, 2012) major flooding requires a large scale rainfall situation over the Lockyer Creek catchments. The following can be used as a rough guide to the likelihood of flooding in the catchment:

*Average catchment rainfalls in excess of 200-300mm in 48 hours, may result in stream rises and the possibility of moderate to major flooding and local traffic disabilities throughout the Brisbane River catchment.*

## Warnings

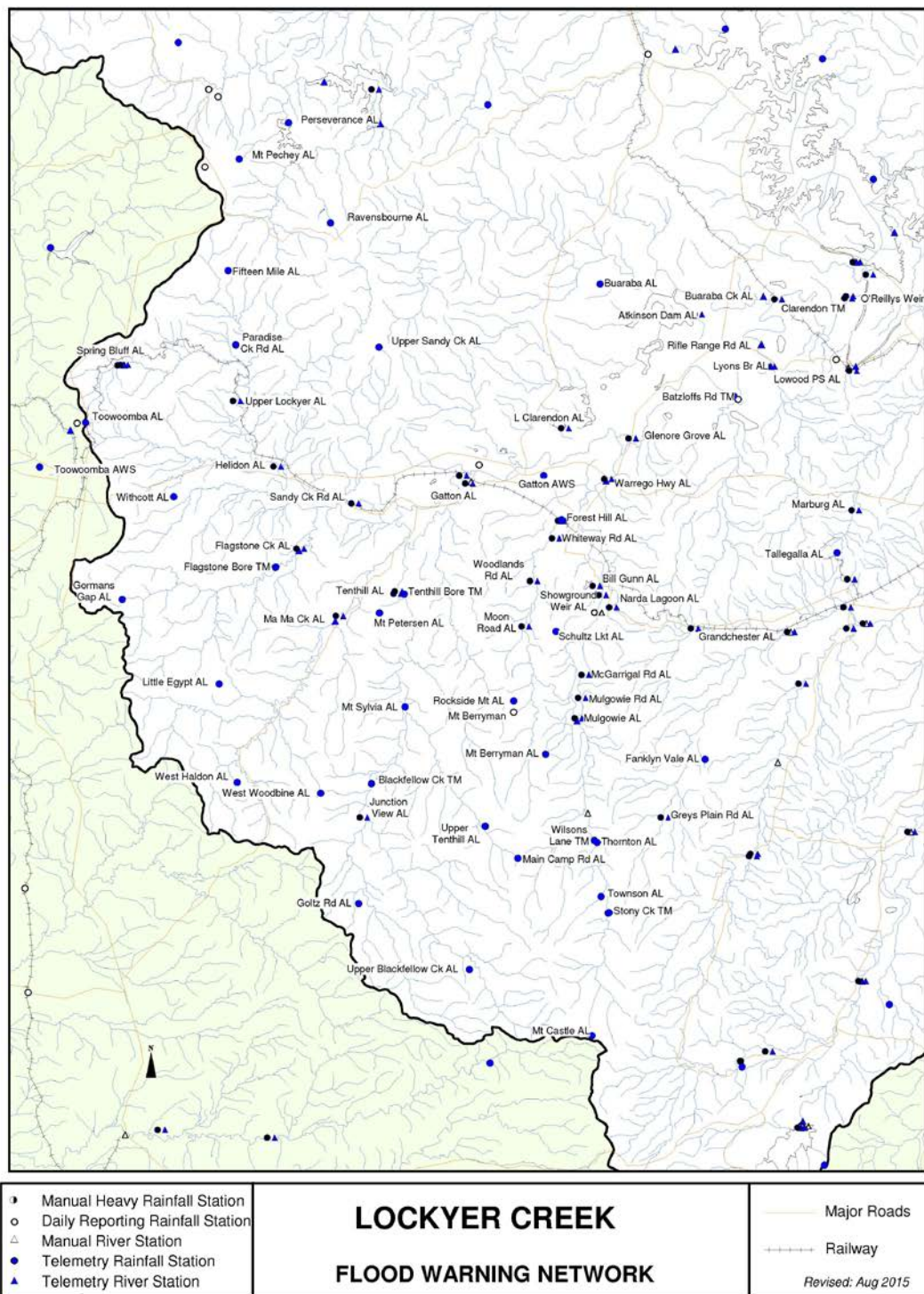
The BoM flood warning network is extensive and efficient, as are informal warning systems run by some rural communities. The BoM operates a flood warning system for the Lockyer Creek as part of the broader Stanley-Brisbane-Bremer warning system. This is based on the rainfall and river height observations network shown in Figures 2.9. The network consists of a number of volunteer rainfall and river height observers who forward observations by telephone when the initial flood height has been exceeded at their station, as well as automatic telephone telemetry stations which are operated by the Department of Environment and Resource Management (DERM) and the BoM.

The Bureau, in conjunction with Lockyer Valley Region Council, also operates an ALERT radio telemetry network of flood warning stations in the Lockyer system. This network has been significantly enhanced since the tragic January 2011 flood including the augmented station on Murphy's Creek shown in Figure 2.10 with the addition of a CCTV camera and an experimental radar system.



*Figure 2.10: Murphy's Creek stream gauge upgraded since January 2011*

These rainfall and river height stations regularly send data via radio telemetry to a base station located in Council offices and the Bureau's Flood Warning Centre in Brisbane. The system provides early warning of heavy rainfall and river rises throughout the catchment and enables more accurate and timely flood warning and forecasts. The location of stream gauging stations in the Lockyer ALERT warning system is shown in Figure 2.11.



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Figure 2.11: Lockyer Valley Region major catchments (BoM, 2015)

## Conclusions

Lockyer Valley Region has a significant exposure to flood hazards, in both main stream and from flash flood in the smaller catchments. Main stream flooding from the various major creeks is less frequent than flash flooding and storm water surcharge.

Localised flooding is an annual problem which can occur in any month of the year, but flooding is most likely to occur in the months from December through to March.

## Prevention and Preparedness Strategies

Short:	Maintain an effective SES Unit Public education Public access to local Plan Staff who are conversant with Resupply Policy and procedures
Medium:	Town planning Adequate private insurance
Long:	Town planning Upgrade flood affected roads and bridges

## Areas of Significant Risk

- Low lying areas abutting Lockyer Creek
- Low lying areas abutting Laidley Creek
- Much of the township of Laidley
- The low lying areas of Hatton Vale
- Much of the township of Grantham
- Much of the township of Forest Hill

## Effects

Flooding may cause damage to structures, buildings, roads, bridges and may cause loss of life.

## Mitigation

Council has recently engaged a consultant to prepare flood maps for the Region. Once these are available, affected residents may be advised to be prepared for any flooding. Any new development will require floor levels to be constructed above flood levels.

It is important that Council staff erect signs once flooding is known to have occurred as soon as possible to minimise damage or injury as the result of entering flooded areas.



## Landslides



### The Phenomenon

Landslides are defined in SPP 1/03 (DLGP/DES, 2003a) as:

*A movement of material downslope in a mass as a result of shear failure at the boundaries of the mass.*

Hayne & Gordon (2001) provide a broader description, namely:

*A landslide is the movement of a mass of rock, debris or earth down slope. Whilst the causes of slope*

*movement can be quite complex, all slides have two things in common, they are the result of failure of part of the soil and rock materials that make up the slope and they are driven by gravity. Landslides can vary in size from a single boulder in a rock fall to tens of millions of cubic metres of material in a debris avalanche. While not as well recognized as many other hazards such as cyclones, storm surge, floods and earthquakes, in Australia landslides cause more economic loss as well as injury and loss of life than is generally recognized.*

The landslide process is complex and involves a range of factors including the underlying geology and soils, slope, geomorphology, drainage and vegetation status (cleared or uncleared). Developing landslide hazard management strategies based simply on slopes of 15% (8.5°) or more, as suggested as a default method by the SPP 1/03 Guidelines (DLGP/DES, 2003b), is most undesirable, as Willmott (1983) observed:

Willmott's (1992) descriptions of the types of landslide that have occurred in the Gold Coast hinterland are equally applicable within the southern and western portions of the Region as follows:

**Debris slides (or flows)** occur on the scarps and very steep slopes. They are narrow failures of hillside debris and soil which move rapidly downslope, often as a viscous fluid, leaving behind a small semi-circular head scarp. They commonly occur beside gullies, or on concave slopes, where the hillside debris is thicker, and seepage of ground water is greater than elsewhere.

**Rotational slides or slumps** develop on moderate to steep slopes, again mainly adjacent to gullies or in concave areas. They occur relatively suddenly and show a semi-circular head scarp, a back tilted upper section and a disrupted toe that grades into an earthflow.

**Complex multiple rotational slides** disrupt large areas on the benches and on the aprons of hillside debris at the base of the slopes. They are broad, deep, slow moving slides which occur on the outer edges of the benches, or above changes of slope on the aprons, almost always around gully mouths (where a gully drops over the edge), or on other low concave areas which tend to be spring zones. The slopes on the upper sections of slides can be quite low, and the low head scarp can be subdued, making it difficult to recognise the hazard. Virtually all cleared benches and aprons show examples of these slides, which in places may be several hundred metres across, and together disturb a bench for a length of up to 2km. Once started, movement can be expected to be reactivated intermittently during major wet seasons.



**Earthflows** are shallow failures where most of the movement is by a form of flowage. They occur mainly on the aprons of debris at the bases of slopes, where they are gradational from the multiple rotational slides.

Rainfall is clearly the most common trigger for landslides and the more widespread the rainfall - as with a tropical cyclone or east coast low - the more widespread will be the occurrence of landslides. Conversely, the more localised the rainfall, the more localised will be the landslide occurrence. As a broad rule-of-thumb, the following rainfall intensities are likely to produce landslides:

- 500 mm cumulative rainfall over four weeks, and/or
- 200 mm rainfall in 24 hours, and/or
- 50 mm rainfall in one hour

In Lockyer Valley, rainfall intensities of such magnitude have an average recurrence interval (ARI) of less than one year.

Developed slopes, such as road cuttings and benched house sites, tend to be more susceptible to landslide than natural slopes because of:

- artificially steepening the slope with batters
- potentially weakening the site with fill
- loading the upper part of the slope
- removing support from the base of the slope
- clearing vegetation during development
- watering developed land

Such hazards can, however, generally be mitigated by carrying out the development with appropriate geotechnical advice.

There has not been a detailed study of landslide hazards within the Lockyer Valley Region. However the Australian Landslide Database maintained by Geoscience Australia contains descriptions of representative landslides within the region details of which are given in Table 2.8.

There is clear evidence that in parts of Murphy's Creek the 'inland tsunami' flash flood was in fact a major debris flow. This was most evident in the area immediately downstream of the stream gauge shown in Figure 2.10. In that area, the stream carved a new course running parallel to the road, scouring the new stream to bedrock over a length of around 300m and removing as much as 5000m<sup>3</sup> of rock and soil in a very short time. The impacts of that event are shown in Figures 2.12 and 2.13.

## Warnings

There are no systems or procedures designed to provide warnings of landslide in Australia. Since 2001, however, the BoM Queensland Regional Office has included statements relating to the possibility of landslide in their severe weather warnings when they anticipate intense rainfall. Such warnings are non-specific.

## Conclusions

Lockyer Valley has a well-recognised and documented landslide hazard that is confined to well identified zones of steeper slopes and slip-prone soils. The Warrego Highway, in particular, has been affected by repeated landslides where it ascends the escarpment. However, flat areas are susceptible to debris flow runout combined with flooding during periods of extreme rainfall.

## Tropical Cyclones, East Coast Lows and Severe Thunderstorms



### The Phenomena

The phenomena of tropical cyclones, east coast lows and severe thunderstorms each bring with them potentially destructive winds and intense rainfall. Thunderstorms also bring the potential for damaging hail and lightning strike. Each one of these forms of severe weather has had damaging impacts within Lockyer Valley Region. In this section, only the destructive wind, hail and lightning threat will be addressed. The flooding and landslides produced by intense rainfall are addressed

separately.

These are very large-scale and intense tropical low-pressure weather systems that form over warm tropical seas, generally during the warmer months between November and April. Typically, they degenerate rapidly into large rain depressions once they cross the coast.

Their destructive capacity is defined by the strength of the winds generated. In Australia there are two measures used – sustained wind (averaged over a ten minute period) and gust (wind speed averaged over three seconds). The Bureau of Meteorology (BoM) web site ([www.bom.gov.au/weather/cyclone](http://www.bom.gov.au/weather/cyclone)) contains the following observation relating to cyclone wind speeds<sup>1</sup>:

*Typically gusts over open land will be about 40% greater than the mean wind and gusts over the ocean will be 25 - 30% greater than the mean wind. It is often the stronger gusts that cause the most significant damage to buildings.*

*While a cyclone advice may refer to a certain maximum sustained wind or gust, there will be localised points where the winds will exceed this value, particularly in gullies, about ridges and between buildings where winds can be funnelled by the landscape.*

Threshold wind speed velocities are used to define the five-point cyclone intensity scale. This scale, and the wind thresholds employed by the BoM in Australia, is given in Table 2.1.

Table 2.1: Australia tropical cyclone category system

CATEGORY	SUSTAINED WIND	GUST	POTENTIAL DAMAGE
1	65-90 km/h	90-125 km/h	Negligible house damage.
2	91-118 km/h	125-164 km/h	Minor house damage
3	119-166 km/h	165-224 km/h	Some roof and structural damage
4	167-212 km/h	225-279 km/h	Significant roof loss and structural damage
5	<213 km/h	<280 km/h	Extremely dangerous with widespread destruction

\*Several scales are used to communicate wind speed – metres per second (usually by engineers), kilometres per hour (the general public) and knots (mariners and aviators). The terminology of the Beaufort Scale is also used to describe different levels of wind speed. Appendix B provides a conversion table for the key threshold values in each scale.

Cyclones of Category 3 and above are termed ‘severe cyclones’.

**East Coast Lows**, also known as *east coast cyclones*, *winter cyclones* or *easterly trough lows*, are one of a family of low pressure systems which most often develop during the winter months along the east coast of Australia between 25°S and 40°S. These large-scale storm systems often develop rapidly and can become quite intense, with storm force winds extending over wide areas.

East coast lows typically form after a low or deep trough intensifies in the upper atmosphere over eastern Australia. A low pressure system then develops at sea level near the coast to the east of the upper level system, often intensifying rapidly.

**Thunderstorms**, by comparison, are produced by relatively small-scale convective processes which can occur when the atmosphere is moist and unstable. Many thunderstorms are typically short-lived (up to an hour) and limited in size (up to 10 km in diameter) but can traverse large distances during that time. They are capable of inflicting significant damage. Individual storm impacts can vary significantly both in space and time.

In Australia, a severe thunderstorm is defined as a storm which produces one or more of the following phenomena (BoM, 1995):

- a tornado
- wind gusts of 90 km/h or more at 10 m above the ground
- hail with diameter of 20 mm or more at the ground
- an hourly rainfall intensity in excess of the 10 year ARI (average recurrence interval) for a region (about 70 mm/h or greater, dependent on the location and previous rainfall).

**Storm impacts** - Between 1967 and 1999 tropical cyclones accounted for a national average annual loss of \$266.2 million, of which Queensland incurred an average \$89.8 million loss annually (BTE, 2001). Because of their much more widespread occurrence nationally, the losses produced by severe thunderstorms were greater than those from cyclones. Indeed, they were the cause of the second largest losses (after flood) caused by all natural hazards in Australia.

It has also been estimated that nationally, severe thunderstorms caused on average \$284.4 million damage each year, of which Queensland contributes an average \$37.3 million (BTE, 2001).

## The Severe Storm Threat



It is clear that severe storms pose a risk to the whole of the Lockyer Valley area. The most widespread threat is from destructive winds that have the potential to cause injuries and fatalities, destroy buildings, dislocate infrastructure and do significant environmental damage. The areas that are most exposed to destructive winds are those along the exposed ridges.

There has not been a hazard-specific study for potentially destructive winds undertaken over Lockyer Valley Region, nor are there areas of potential risk identified in the Lockyer Valley Planning Scheme. The former Gatton Shire natural disaster risk management study (QRMC, 2004), however, describes the local threat from severe storms as follows:

*Short duration storms that occur during high activity periods (daylight, end of school day, shopping day etc.) offer the greatest chance of damage to life and property. While accurate records are unavailable, damage as a result of such events may extend to personal injury, roof damage, rainwater penetration, power failure losses, consequential flooding losses, infrastructure damage and damage from flying objects.*

*Damage in rural areas will be localised to the area covered by the storm event and may include personal injury and property damage. Flash flooding again is a consequence and may cause damage to property and Council infrastructure. Fires have been associated with electrical storms in rural and remote areas of the Shire. Severe storms are likely to bring down power and communication lines.*

The equivalent study for Laidley Shire includes the following observations:

*Laidley Shire is subject to severe weather other than that associated with tropical cyclones and which has a similar impact due to associated high winds. In addition, intense rainfall, lightning and hail which can cause structural damage, flooding, disruption to infrastructure and in some cases death can accompany these severe events. These storms occur on a regular basis in summer for the Laidley Shire. As these severe storms have a very localised effect they only impose a minor risk due to the narrow band of the affected area.*

*In the past when storms have passed through the Laidley Shire there has been a loss of house roofs. Other minor problems noticed in the Shire include trees on houses and partial damage to roofs generally to the older building stock. Within the Shire, it is estimated that 75% of the building stock is old stock, (pre 1974) and 25% is new stock, with wind ratings of W32 in the town centre and W44 out of the town centre (in rural areas). Hailstorms have also been a problem, particularly at Gatton.*



## Warnings

The approach of tropical cyclones is well tracked by satellite and radar systems for several days before they are within destructive range of Lockyer Valley. Computer models of cyclone behaviour are also greatly improved. The combined application of these technologies ensures that forecasts of cyclone track and intensity are increasingly more accurate and the warnings provided are both timely and appropriate.

Modern weather radar systems are also proving to be invaluable for detecting and tracking severe thunderstorms. This information is used by the BoM to provide as long a warning time as possible. There are instances, however, when storms form very rapidly and practical warnings are not possible. Lockyer Valley Region is well covered by the Brisbane Doppler radar installed on Mt Stapleton and the original weather radar at Marburg.

## Conclusions

Lockyer Valley Region has a long history of destructive impacts of tropical cyclones, east coast lows and severe thunderstorms. The destructive winds associated with these hazards probably represent the most significant and widespread threat to the Lockyer Valley community.

## Prevention and Preparedness Strategies

- |         |   |
|---------|---|
| Short:  | Maintain an effective SES Unit<br>Public education<br>Periodical clean-up of yards/gardens<br>Public access to local Plan |
| Medium: | Adequate building codes<br>Adequate private insurance   |
| Long:   | Education of residents to be prepared in the event of storms.   |

## Mitigation

The effect of storms may be mitigated by minimising the amount of material that can be picked up and moved by the storm.

It is important that Council staff erect signs once damage is known to have occurred as soon as possible to minimise damage or injury as the result of entering risk areas.

## Road Accidents



With the increasing number of tourist coaches and heavy transport travelling the roads and the growth rate in the region and on the Brisbane-Toowoomba corridor, this threat is present anytime.

### Prevention and Preparedness Strategies

Short: Maintain effective road accident response capability, Driver awareness, Visible police presence on major roadways

Medium: Driver education, Medical and evacuation plan

Long: Reduction of blackspots, regular review of emergency procedure, improvements to the road networks

### Areas Affected

Any road in the region represents a risk, however the high speed, high traffic and heavy vehicle trafficked Warrego Highway represents the main risk area.

### Recurrence

There is no pattern to road accidents.

### Mitigation

The Region actively supports road safety and accident prevention programs. Continuing road improvements in the region is seen to be an active measure to reduce the risk. A 'Safe for Life in the Lockyer' Group has been created.

## Aviation Accidents



Aviation accidents could occur anytime on the flight path into and out of R.A.A.F. Amberley. The advent of civilian airline traffic using the Amberley facility would tend to increase the risk factor.

A number of flights pass over the Valley bound for larger centres such as Brisbane and Toowoomba. There exists a potential for a crash in a remote area of the Region. There are also some private runways within the Region including the airpark estate in Gatton.

### Prevention and Preparedness Strategies

- Short:            Maintain the aerodromes  
                    Maintain the current Aerodrome Emergency Plans  
                    Public awareness
- Medium:        Provision of adequate fire and rescue equipment
- Long:            Long term strategies are the responsibility of other authorities

### Areas Affected

All townships as commercial, military and private aircraft fly the whole of the region at various times.

### Recurrence

Air accident is considered to be a random event.

### Effects

Defence Force aircraft may be carrying live ammunition and low level radioactive sources. Precautions as outlined in the R.A.A.F. public education brochure should be observed. In any event, the aircraft should only be approached by designated authorities.

### Mitigation

Aviation authorities conduct air safety programs.

## Hazchem / Industrial



Hazardous chemicals are carried by road transport, through the Lockyer Valley via the Warrego Highway. The danger exists mainly from road crashes, but there also exists a threat from facilities such as wastewater treatment (chlorine), fuel depots and others. Most chemicals are clearly marked with appropriate warnings and emergency information.

### Prevention and Preparedness Strategies

Short:	Public education Periodical emergency service training Prohibition of parking of hazardous material transports in town areas Provision of containment equipment
Medium:	Knowledge of evacuation plan Up-dated emergency contact lists Knowledge of chemicals and marking
Long:	Designated safe parking areas

### Areas Affected

This risk can be assessed in 3 categories:-

#### HAZCHEM ROAD

As in any populated area, movement of hazardous chemical agents by road occurs. The potential therefore exists for accidents involving large quantities of Hazchem, with resultant explosion, fire and other public safety threats.

#### Areas Affected

Any area within the Region may be affected. The most likely areas are the townships of Gatton, Helidon, Laidley and Forest Hill, and areas abutting the Warrego Highway.

However, the area at greatest risk is the area to the north west of Helidon. This area houses two Explosives factories, an Explosives remediation factory and the Government Explosives Reserve.

#### HAZCHEM RAIL

As the main western rail link runs through the region, movement of large quantities of Hazchem by rail also occurs. However due to the nature of the transport agency, with more isolated storage and decreased risk of vehicular collision, this threat is not as significant as road transport.



## Areas Affected

Areas abutting the western rail link and in particular the townships of Laidley and Forest Hill.

## HAZCHEM OTHER

Hazchem may also be stored in commercial and industrial sites within the Shire. However, due to the absence of major Hazchem storage facilities in the Shire, and the relatively small quantities stored, this threat is not significant.

## Recurrence

There is no pattern to Hazchem accidents, however in the case of road and rail, the accident site is confined to defined areas.

## Effects

The entry of hazardous material into dams, waterways and aquifers could have serious consequences on the community and all effort should be directed towards the prevention of such an occurrence.

Similarly, all measures should be taken to prevent inhalation of the materials in a chemical cloud.

## Mitigation

The transportation of designated chemicals is regulated under State legislation. The responsible Authority conducts training courses in handling hazardous materials. The Region actively supports these activities and provides a Workplace Health and Safety Officer within the Council workforce.



## Rail Accidents



As the main western rail link passes through the region, there is considerable rail movement through the area and the townships of Forest Hill, Gatton, Grantham, Helidon, Laidley and Murphy's Creek. Potential exists for rail collisions, trains or motor vehicles and derailments. However due to the nature of the transport agency and its relative isolation from other transport forms, this threat is not considered significant, although a derailment and spillage of dangerous material in the townships could cause a major problem.

### Prevention and Preparedness Strategies

- |         |   |
|---------|---|
| Short:  | Line maintenance<br>Public awareness<br>Regular presence of police at level crossings |
| Medium: | Driver training<br>Adequate road signage and lights at crossings                      |
| Long:   | Sleeper replacement<br>Communications link with Queensland Rail                       |

### Areas Affected

Townships of Forest Hill, Gatton, Grantham, Helidon, Laidley and Murphy's Creek and any area abutting the main western rail link or rail crossing.

## Earthquake



### The Phenomenon

Earthquakes occur when stresses in the Earth exceed the crust's strength to resist, thus causing the sudden rupture of rocks and displacement along a fault. The fault may already have existed or may be newly created by the earthquake rupture. Nearly all damaging earthquake effects are caused by the energy from the fault

rupture which is transmitted as seismic waves.

The size of an earthquake is often expressed in terms of the magnitude, which is related to the energy released by the earthquake. This varies enormously so the magnitude scale is logarithmic. An increase in magnitude of one unit is equivalent to an increase in energy released of about 30 times. For example, an earthquake with Richter magnitude 6.0 releases about 30 times the energy of an earthquake with magnitude of 5.0, and about 900 times the energy of an earthquake with magnitude of 4.0.

Descriptions of the severity of an earthquake at any place may be given using intensity scales such as the Modified Mercalli Intensity scale. The Modified Mercalli (MM) scale describes the strength of shaking by categorising the effects of an earthquake through damage to buildings, the disruption of ground conditions, and the reactions of people and animals. A full description of the Modified Mercalli Intensity scale is provided in Appendix C in the Natural Hazard Risk Assessment for Lockyer Valley Regional Council 2012.

Although damaging earthquakes are relatively rare in Australia, the high impact of individual events on the community has made them a costly natural hazard. Earthquakes account for around \$144.5 million of the \$1.14 billion annual average loss caused by natural hazards in Australia (BTE, 2001). This amount was greatly influenced, however, by the 1989 Newcastle earthquake which produced an insurance loss of around \$1 billion and a total loss of around \$4 billion.

Earthquakes are regional hazards, that is, a large but distant earthquake is potentially as dangerous as a smaller local event.

### Harm Producing Elements

Earthquake engineers tend to argue that earthquakes do not kill people – poorly designed and constructed buildings kill people. It is the intense shaking produced by the earthquake that can cause significant damage to susceptible buildings. In extreme cases total collapse can occur, injuring or killing the occupants. People can also be killed or injured by falling debris as they run outside during an earthquake. Building damage can also occur where buildings are sited on soft sandy soils that are prone to liquefaction, thus damaging building foundations.

Damage to in-ground infrastructure such as water pipe networks can also occur as the result of both ground movement, particularly if the pipeline crosses the fault that moved, and liquefaction.

Earthquakes can also generate secondary hazards such as fires, from downed power lines or gas leaks, that may be difficult to control if water supply networks are dislocated and roads blocked by rubble. Damage to hazardous materials storage facilities is also a secondary hazard of concern.

Earthquakes with magnitudes of 4.0 or greater can trigger landslides, in the epicentre area of smaller earthquakes or over a wider area for large or major earthquakes.

### Warnings

It is not possible to predict the occurrence of earthquakes and provide warnings other than broad, regional assessments of the likelihood of occurrence over time somewhere within that region.

### Conclusions

Based on the historical record, Lockyer Valley has a low level of earthquake hazard.

### Prevention and Preparedness Strategies

Long:                Public awareness.





## Dam Burst



Emergency Action Plans have been produced by Seqwater for Clarendon Dam and Bill Gunn Dam. The Emergency Action Plan identifies emergency conditions that could endanger the integrity of the dam and prescribes procedures which should be followed.

### Prevention and Preparedness Strategies

Long: Public awareness.

## Areas Affected

Urban, residential and rural properties are affected, downstream from both impoundments. Inundation maps are shown in the Emergency Action Plan for each dam.

## Epidemics / Pandemics



An influenza pandemic occurs when a new influenza virus subtype to which there is little or no immunity emerges, is easily spread between humans and is capable of causing severe disease.

It is not possible to predict when the next pandemic will occur or how long it will last. If another pandemic does occur, its impact will depend on how easily the particular strain of the virus is transmitted and the severity of illness it generates.

The three pandemics in the 20<sup>th</sup> century demonstrate the variation in severity of a pandemic influenza. The “Spanish Flu” in 1918 caused an estimated 20 million to 40 million deaths around the world, while subsequent pandemics in 1957 and 1968 were milder but still caused widespread illness, over one million deaths worldwide and significant economic and social disruption.

Given the high standards of human health and hygiene and good veterinary and farming practices in Australia, it is not expected that a virus would originate and develop into a pandemic form in Australia. However, governments are preparing for an emerging pandemic overseas and subsequent arrival in Australia by applying a combination of strategies to:

- **alert** – to the risk of a pandemic and preparing for a pandemic by increasing Australia’s readiness and supporting overseas responses;
- **delay** – the entry of the pandemic virus to Australia by applying border measures, supporting the overseas response and increasing surveillance;
- **contain** - or slow the early spread of a pandemic virus once it emerges in Australia, including by strategic deployment of the National Medical Stockpile and strengthening public information campaigns to promote individual hygiene practices and community level measures such as social distancing;
- **sustain** – the response while a customised vaccine is developed, including by supporting maintenance of essential infrastructure and services and strengthening community social distancing measures;
- **control** - the pandemic with a customised pandemic vaccine when it becomes widely available; and recover - providing the necessary support and stimulus to help the Australian community return to normal living as quickly as possible following a pandemic.

### Prevention and Preparedness Strategies

Short: Public awareness.

Medium: Early notification of atmospheric entry and landing sites.

Long: Evacuation plan.

### Areas Affected

Any part or the entire Region may be affected.

## Heatwave



### The Phenomenon

Heatwave is not acknowledged as a 'natural disaster' under the Commonwealth Government's Natural Disaster Relief and Recovery Arrangements (NDRRA) – rather, it is seen as a public health issue. Nevertheless, heatwave is clearly the most lethal of all natural hazards in Australia, probably killing more people than all other natural hazards combined (Coates, 1996). Indeed the greatest loss

of life in a single natural hazard event was the 438 people who died in a heatwave in southern Australia in 1939. A very similar number died in an almost identical event in 1893.

There is no official definition of heatwave in Australia though it is widely acknowledged to be a prolonged episode of both high temperature and high humidity. Measurement of this relationship is generally referred to as 'apparent temperature' or as a 'heat index'.

### The Heatwave Threat

Heat is the deadliest of atmospheric conditions in Australia. The fatality figures cited above represent only those identified specifically by a coronial enquiry or by a doctor as being a 'heat related death'. They do not take into account deaths of people, especially the elderly, which were accelerated by the heatwave conditions. The computation of such 'excess deaths' are typically confined to those over 65 years.

McMichael & others (2003) assess that in Brisbane (probably the SEQ region) in 1999 the number of deaths of people over 65 attributable to heat was 134. Under a range of climate change scenarios and projections of the growth in an aging population they project that by 2020 the number of heat-related excess deaths would range between 337 and 387 a year; and by 2050 the rate would range from 776 to 1368.

### Warnings

Because heatwaves are classified as a public health issue rather than a 'natural hazard' under the Meteorology Act the BoM, is not required to issue an extreme weather warning for heatwave in the way they are required to do for bushfire weather, storms, cyclones and so on. Since November 2004, however, they have been issuing advisory notices of impending episodes of heatwave weather. The community warnings, based on those forecasts, are then issued by Queensland Health and/or the Queensland Ambulance Service.

Under the Heat Weather Warning system established by the BoM for the 2004-5 summer, a heat index threshold of 36 has been adopted as the threshold for a 'heat warning' and a heat index of 40 for an 'extreme heat warning' (QH, 2004).

## Prevention and Preparedness Strategies

Short: Public awareness

Long: Evacuation plan

## Areas Affected

No point within Lockyer Valley Region is immune from heatwave conditions

## Effects

The combined effect of high temperatures and humidity on human health has already been described. Extended periods of high temperature can also have a damaging effect on most infrastructure elements. Railway tracks can buckle causing trains to either derail or to travel at slow speeds. Road surfaces can become damaged by traffic over softened bitumen.

Most significantly, power supplies can be threatened because of high peak demand for air conditioning and other cooling devices. The loss of power supply will greatly exacerbate the health impact. Similarly the demand for water will also be greatly increased and the loss of power supply may also compromise the water supply.





## Animal Diseases



Potential exists within Australia for rapid spread of animal diseases with resultant impact on the rural and national economy. Urgent and stringent control measures would be implemented by the responsible government agencies. Assistance by the Local Government and other statutory agencies may be required to implement the control plan. The regions townships are service centres for surrounding rural industry, therefore has cattle sales facilities. With resultant stock movement to and from the region, an exotic animal disease outbreak would impact heavily.

The Lockyer Valley supports chicken hatcheries and chicken farms, thus exposing the valley to such outbreaks as bird flu.

The Lockyer Valley is home to several flying fox colonies and has a large horse population. Flying-foxes are hosts for Hendra virus. It can be transmitted from flying fox to horse, horse to horse, and horse to human. While there is understandably community concern about Hendra virus outbreak, it is important to remember that such outbreaks are rare and occur in exceptional circumstances only.

### Prevention and Preparedness Strategies

Short:	Early detection and intervention and quarantine Reduce risks where possible Public education and awareness
Medium:	Good knowledge of disease symptoms DPI Plan adopted
Long:	Quarantine area set up

### Areas Affected

Any rural/rural residential areas of the region.

### Recurrence

There is no established pattern the recurrence of these events, but they could happen at any time.

### Effects

The economic effect of a major outbreak could be nationally disastrous, with recovery being a long and difficult process.

## Mitigation

The Department of Primary Industries conducts barrier control on the import and transportation of plants and livestock, mainly at points of entry to the country. These measures are extended as required.

The Department also engages in Public Education Programs and controls QLD VETPLAN. The region actively supports these measures.



## Terrorism



World events in recent times demonstrate that terrorism is a credible and serious threat for Australia. Specifically, the Australian Government's current security context acknowledges the interest and intent of terrorists to target mass gatherings and events.

The 2002 and 2005 Bali bombings and the attack on the Australian embassy in Jakarta in 2004 demonstrated the threat of terrorism in our region. The terrorist attacks in London and Madrid highlighted the possibility of a similar attack in Australia.

### Prevention and Preparedness Strategies

#### Preparedness

- Intelligence (via network police)
- Community awareness (State government program)
- Identification of Risks
- QPS (& other Agency) Training
- Liaison with Federal Government for protection arrangements
- Disaster Management Communication Plan

#### Prevention

- Individual Agency procedures
- Review & Practice of Emergency Response Plans
- CPTED including, CCTV network, building design, design of public areas, lighting
- Physical security measures including, protective security measures, access controls, security plans
- Provision of threat information & protection by QPS
- Regular Review of the CT Plans

#### Response

- Emergency Services Response
- Scientific – QFES
- QPS – specialists bomb squad
- QAS multi-casualty plan
- Queensland Health multi-casualty plan
- Preservation of Evidence
- Provision of information to the public (in accordance with Government policy)

#### Recovery

- Welfare response
- Assist with Business Continuity
- CBR Contamination to be managed by restrictions / quarantine of the immediate vicinity & Investigation

#### Areas Affected

- Government facilities
- Places of Mass Gathering
- Transport sector

## Explosive Reserve Incident



Lockyer Valley Regional Council has located in Helidon an Explosive Precinct. The Explosives Precinct is comprised of a large Government Explosives Reserve, two Explosives manufacturing facilities, one Explosives remediation facility and two Explosives transport companies. These stakeholders have formed a Helidon Explosives Precinct User Group and developed response plans for the area.

## Prevention and Preparedness Strategies

### Preparedness

- Regular meetings and exercises
- Development of current precinct plans
- Disaster Management Communication Plan

### Prevention

- Individual Agency procedures
- Review & Practice of Emergency Response Plans
- Physical security measures; including, protective security measures, access controls, security plans
- Well designed Communications plans & the provision of information

### Response

- Emergency Services Response
- QAS multi-casualty plan
- Queensland Health multi-casualty plan

### Recovery

- Welfare response
- Assist with Business Continuity

## Areas Affected

- Helidon and surrounds



## Disaster Management Capacity

The LDMG will coordinate and support the response capability of individual agencies. Agencies are responsible to ensure that they have appropriate resources to deliver their agreed roles and responsibilities. Where an agency's local capacity is exceeded, they can request support through the LDMG.

Where the LDMG is unable to provide the required support for an agency, the established processes to seek assistance from the Toowoomba DDMG will be utilised.

During disaster events the LDMG has a response and recovery capacity, which includes the following;

Entity	Organisation
Local Government	Lockyer Valley Regional Council employs approximately 300 personnel, including two (2) full-time disaster management staff
Emergency Services	Queensland Police Service Queensland Ambulance Service Queensland Fire and Emergency Services
Emergency Services Volunteers	Rural Fire Service brigades State Emergency Service
Queensland Government Departments	Department of Transport and Main Roads Department of Communities, Child Safety and Disability Services Queensland Parks & Wildlife Service
Other Agencies	Queensland Urban Utilities Energex Optus Telstra Queensland Rail University of Queensland Ergon SEQWater Red Cross
Community Service Organisations	Lifeline ADRA – Adventist Disaster and Relief Agency Salvation Army St Vincent de Paul Society Service clubs Culturally and linguistically diverse community organisations

## Training

The provision of and attendance at education and training for those involved in disaster and emergency management work is a key preparedness and capability building activity.

QFES-EM has a responsibility to ensure that persons performing functions under the Disaster Management Act in relation to disaster operations are appropriately trained. QFES-EM has developed a DM Training Framework identifying courses that are to be undertaken by those persons.

Each member agency is responsible for ensuring that staff undertaking disaster and emergency management work have or plan to have received appropriate training for their roles, in particular those courses identified in the Training Framework.

The Disaster Management Coordinator is responsible for identifying and supporting attendance at relevant training for Local Group members and the Local Disaster Coordination Centre Team.

## Accredited Training

This Plan identifies a preference for vocational education and training that is accredited or is a qualification or individual units of competency under the Australian Qualifications Framework (AQF). The AQF is the system that identifies the various levels of educational qualifications in Australia. Disaster and emergency management specific training is contained within the “Public Safety Training Package”.

Training available for members of the Lockyer Valley Local Disaster Management System includes:

- QFES-EM provided courses from the Queensland Disaster Management Training Framework.
- Courses from the Public Safety Training Package provided for example by QFES or SES Trainers or other training providers.
- Accredited programs such as courses from the Public Safety Training Package can involve assessment which will include a Desktop Discussion or Coordination Centre exercise. The assessment task involves an emergency situation scenarios enacted to train and test staff on their ability to apply their knowledge to procedures, processes and systems.

## Training for work in Disaster Coordination Centres

Each Lead Agency is to have an appropriate number of staff trained or planned to be trained at the appropriate skill and competency level to work in a Disaster Coordination Centre. This will greatly assist with the effective coordination of disaster operations.

Appropriate courses for working in a disaster coordination centre include:

- Australasian Inter-service Incident Management System (AIIMS) System course.
- Coordinate Resources within a Multi-Agency Emergency Response (formerly provided by Australian Emergency Management Institute). This course examines a range of issues that impact emergency coordination, culminating in a major coordination centre exercise where participants will have a chance to experience the management of a major emergency in a realistic, simulated environment.
- QFES-EM Disaster Coordination Centre Courses from the DM Training Framework. Four Modules have been developed.

## Exercises

The purpose of the LDMG conducting exercises is to practice/ test the knowledge and ability of the agencies of the DM system to coordinate disaster operations for a potential disaster or emergency scenario. Exercises can enhance capacity and confidence of the people that participate in them. The conduct of an exercise is one way in which the local group can undertake a review of the local plan.

Prior to participating in disaster and emergency exercises it is preferred that participants have received training as outlined in this Plan so that participants have a basic understanding of the policies and procedures that apply to working in a disaster management environment and that the experience and learning's from the exercise can be maximised.

## Exercise Program and Type

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

- An exercise determined by the Lead Agency designed to test the Lead Agency's response coordination capability.
- A table top discussion exercise, with the focus of the exercise to be determined by the District or Local Group.
- An LDCC exercise with the focus of the exercise to be determined by the LDC or Local Group.
- A small scale exercise involving the testing of a single element of the capacity of the LDCC.
- A small scale exercise involving the testing of the Evacuation Centre Support Operational Plan
- A joint LDCC / DDCC Lockyer Valley Disaster Management System Exercise with the focus of the exercise to be determined by the LDMG and DDMG.

Exercises can be small scale one - two hour activities through to a three day event. More frequent smaller exercises can be an effective alternative to a single large scale activity.

## Exercise Evaluation

An exercise is to be followed by a debrief process. A hot debrief is to be conducted immediately following the conclusion of the exercise and a cold debrief conducted not longer than a month following the exercise. The cold debrief allows participants time to provide a more considered view of the exercise outcomes.

The learnings from the exercise are to be consolidated into a plan for action.

## Post-Disaster Assessment

The review of operational activities undertaken during a disaster is a key component of developing capacity and the improvement of disaster management arrangements.

Post-disaster assessments (also known as After Action Reviews) are conducted to:

- Assess disaster operations undertaken for a given disaster including actions, decisions or processes;
- Document those processes that worked well and identify a course of action to ensure that they are captured and updated in relevant plans for use in the next operation; and

- Assess capability and consider where additional planning, training and/or exercises may enhance capability.

The review of operations is conducted through two forms of debrief:

1. Hot debrief – debrief undertaken immediately after operations are complete, giving participants the opportunity to share learning points while the experience is still very fresh in their minds. Multiple hot debriefs during protracted operations may be appropriate to identify significant issues and provide prompt solutions for immediate implementation.
2. Post event debrief – held days or weeks after an operation, when participants have had an opportunity to take a considered view of the effectiveness of the operation. A Post Disaster Assessment Report is to be completed in partnership with QFES-EM to provide an overview of the lesson identified following an event and importantly recommendations for improving disaster management.

Following a Post Disaster Assessment the Local Group may need to consider issues for resolution or may need to refer an issue to the District Group for advice or resolution.



## Critical Infrastructure

### Road Network

There are approximately 2632km of constructed public roads within Lockyer Valley Region of which 302 km are State Controlled Roads.

The State Controlled Roads in the Region include:

- Warrego Highway
- Gatton-Esk Road
- Gatton-Helidon Road
- Gatton-Clifton Road
- Gatton-Laidley Road
- Forest Hill-Fernvale Road
- Laidley-Plainland Road
- Rosewood-Laidley Road
- Mulgowie Road Mount Sylvia Road
- Murphys Creek Road

These are all sealed roads designed to take heavy vehicles. The remaining public roads, for which Council is responsible, range from sealed urban streets and rural roads to minor dirt tracks. Most of the Council-controlled rural roads have been constructed to take light to medium vehicles – few are constructed to take heavy vehicles.

The density of the road network provides a useful measure of the degree of connectivity of the network. This is significant in disaster management terms because the more dense the network, the more alternative routes there tend to be should one segment be interrupted by flood, landslide, fire or any other reason. Clearly the urban zones have the greatest network density. The following table provides the road statistics for each risk assessment zone.

*Lockyer Valley Region road network by risk assessment zone*

RISK ZONE	LENGTH (km)	DENSITY (km/sq km)
Central Valley	273.57	2.02
Dividing Range	430.57	0.75
Flagstone	369.90	1.25
Forest Hill	15.93	4.50
Gatton	51.58	7.78
Helidon-Withcott	133.19	2.00
Laidley	50.38	6.11
Lower Lockyer	147.30	2.71
Mulgowie	342.36	0.98
Murphy's Creek	182.93	1.26
Plainland	246.61	1.72
Redbank Creek	259.32	0.76
Spring Creek	186.90	1.31
UQ	4.21	1.21
<b>REGION</b>	<b>2694.75</b>	

## Railways

There are 70.7 km of main-line rail crossing the Lockyer Valley Region. The main rail link between Brisbane and Charleville runs more-or-less from south-east to north-west along the northern side of the region. This line mainly carries coal from mines on the Darling Downs to the Port of Brisbane. It is not electrified.

There are no passenger rail services within the region though stations are maintained at locations at Laidley and Spring Bluff.

## Water Storage

The urban areas and some peri-urban residential areas of the region are served by 503 km of reticulation mains operated by Queensland Urban Utilities (QUU). Pipes range in size from 450 mm trunk mains to 20 mm reticulation polyethylene pipe. The most common materials used are PVC (approximately 220 km), asbestos cement (AC) (approximately 75 km) and concrete-lined iron.

QUU owns and operates the following above ground water supply infrastructure including 16 reservoirs, four chlorination stations, nine pumping stations and six booster stations across the Region. These are confined to the valley settlements. Reservoirs are located at Laidley, Gatton and Forest Hill, Helidon, Postman's Ridge, Withcott, Table Top, Murphy's Creek and Grantham.

Seqwater (south east Queensland's Bulk Water Authority) sources the majority of water from Lake Wivenhoe prior to treating and supplying the potable water to QUU. QUU distributes the potable water to the wider community through the above network.

Lake Dyer is a major source of bulk water for agriculture while other sources are mainly from groundwater aquifers.

## Controlled Dams

Two Seqwater controlled dams exist in the Lockyer Valley;

- Bill Gunn Dam (also referred to as Lake Dyer), Gatton-Laidley Road, Laidley
- Clarendon Dam, Main Greenswamp Road, Lake Clarendon

One privately controlled dam exists in the Lockyer Valley;

- Reck Property Dam, Tenthill Creek Road, Lower Tenthill

These dams have separate emergency response plans maintained by Seqwater or Property Owner

- Bill Gunn Dam Emergency Action Plan
- Clarendon Dam Emergency Action Plan
- Reck Property Dam Emergency Action Plan

## Fuel Storage

Gatton

- BP Gatton (Ziebarth) – 277 Eastern Drive, Gatton
- Carpenter Ford Gatton – Crescent St, Gatton
- Shell Service Station Gatton – Railway St, Gatton
- Lockyer Valley Regional Council Gatton Depot - Tenthill Road, Gatton
- Pa & Ma Gray (Ziebarth) - 149 Eastern Drive, Gatton

- Ziebarth's – 98 Railway Street, Gatton

#### Laidley

- Laidley Fuel Supplies – 32 Vaux St, Laidley
- Laidley North Service Station – 211 Patrick St, Laidley
- Lockyer Valley Regional Council Laidley Depot – Laidley-Rosewood Road, Laidley

#### Forest Hill

- BP, Forest Hill (Van Ansem Garage) – Gatton Laidley Rd, Forest Hill

#### Grantham

- Marnell Fuels Grantham – 28 Anzac Ave, Grantham

#### Withcott

- Freedom Fuels Withcott – Warrego Highway, Withcott
- Headys Fuels Withcott – Warrego Highway, Withcott
- Neumann Fuels Withcott – Warrego Highway, Withcott

#### Hatton Vale

- Zischke Fuel Supplies, Hatton Vale – Warrego Highway, Hatton Vale
- Rustys Oz Fuel, Hatton Vale – Warrego Highway, Hatton Vale
- Freedom Fuels, Hatton Vale – Warrego Highway, Hatton Vale

#### Plainland

- Plainland Travel Centre – Warrego Highway, Plainland.

#### College View

- BP Roadhouse College View – Warrego Highway, College View

#### Spring Creek

- Southern Queensland Correctional Centre – Millers Road, Spring Creek

## Medical Services

### Hospitals

Gatton has a 22 bed hospital which provides inpatient, outpatient, community and outreach services. The hospital is located such that it has not experienced threat from bushfire or flood.

Laidley has a 15 bed capacity hospital which provides inpatient, outpatient, community and outreach services. The hospital is located such that it has not experienced threat from bushfire or flood.

### Queensland Ambulance Service

The QAS has bases in Gatton and Laidley.

### Blue Nursing Service

Blue Nursing Service operates from Gatton servicing the Lockyer Valley.

### Medical Centres

Gatton accommodates 4 medical clinics and approximately 13 doctors

Laidley accommodates 3 medical clinics and approximately 8 doctors

Withcott accommodates 1 medical practice with approximately 5 doctors  
Plainland accommodates 2 medical clinics with approximately 7 doctors

Note: Some doctors practice out of more than 1 medical centre in the region.

### Pharmacies

Gatton has 3 pharmacies

Laidley has 1 pharmacy

Plainland has 1 pharmacy

Withcott has 1 pharmacy

### Airfields

There is no commercial airport within the Region.

Another small airstrip is located at Gatton Airpark residential estate, off Tenthill Creek Road, Gatton

### Helicopter Landing Fields

Suburb	Street Address	Latitude	Longitude
Gatton	Showgrounds – Spencer Street, Gatton (Contact SES to open gates)	-27.559649	152.282116
Laidley	Laidley Hospital – 75 William Street, Laidley For medical emergencies only – not for general landing (contact Laidley Hospital) 07 5466 8100	-27.632593	152.399222
Withcott	Warrego Highway, Withcott	-27.556003	152.017479
Lake Clarendon	Main Greenswamp Road, Lake Clarendon	-27.503188	152.362357

Other sites can be utilities around the area at pilot discretion

### Hazardous Sites - addresses

The Lockyer Valley Region houses:

- Two explosive factories, a fireworks factory and storage in Helidon. These facilities have their own emergency plans.
- Sandstone Quarries in Helidon
- Gravel Quarries in Helidon, Gatton and Laidley.
- The Centre for Advanced Animal Diseases at the University of Queensland which is a biological hazardous site.



## Essential Services

### Water Supply

Full Pressure town water supply is available at Forest Hill, Laidley, Gatton, Helidon and Grantham and Withcott.

Constant flow town water supply is available at Hattonvale, Plainland, Glenore Grove, Regency Downs, Kensington Grove and Murphy's Creek.

Coin operated filling stations are available across the region and are located at Hatton Vale, Forest Hill and Glenore Grove.

Tanker filling stations are listed below:

Suburb	Street Address	Latitude	Longitude
Gatton	East Street, (Cnr of East St & Cochrane St, 70-72 East Street)	-27.56096	152.27288
Postmans Ridge	Murphy's Creek Road	-27.53710	152.05485
Helidon	Warrego Highway	-27.55191	152.12349
Forest Hill	Forest Hill-Fernvale Road (Corner Gatton-Laidley Rd & Forest Hill-Fernvale Rd Opposite Service Station )	-27.58383	152.36390
Hatton Vale	Fairway Drive (Corner of Fairway Drive & Scott Place)	-27.54506	152.48308
Glenore Grove	Brightview Road (Opposite Glenore Grove School in Glenore Park )	-27.53088	152.42068
Laidley	Frome Street	-27.65014	152.39640
Grantham	William Street	-27.57671	152.20096

### Sewerage

Sewerage reticulation is confined to the urban areas of Gatton, Laidley, Forest Hill and Helidon. Each centre has its own treatment plant and pumping system. The total reticulation system consists of 25 Sewage Pump Stations across the region and 147 km of mains predominantly of PVC but with a significant amount of older earthenware and AC pipes.

### Gas

Underground gas lines/pipes running east west throughout the valley. These currently do not service the Valley.

### Power

There is no base-load power station in Lockyer Valley.

There are 275 kV power transmission lines operated by Powerlink crossing the Region. This infrastructure forms part of the State and National grid and is all carried on steel towers. They are located within cleared and well maintained easements.

Reticulation of the power supply is operated by Energex; the great majority of this network is above ground. Major substations (110/33kV) are located at Postman's Ridge, Gatton and Lockrose. Smaller substations (33kV/11kV) are located at Postmans Ridge, Carpendale, Helidon, Grantham, Gatton, Tenthill, Mt Sylvia, Spring Creek, Laidley and Glenore Grove. Some small sections in the western part of the region are managed by Ergon Energy.

## Communications

In urban areas the telephone network infrastructure, both copper wire and optical fibre, is underground; however, in some rural areas it is carried above ground. Telstra operates 16 telephone exchanges within the Region. These are key nodes and carry all traffic regardless of provider and mode (i.e. landline or mobile). Apart from the Gatton and Laidley exchanges most are simply rural automatic exchanges housed in metal cabins. Details of the infrastructure operated by other carriers, such as Optus, have not been provided.

The widespread use of the internet in rural areas probably relies on satellite services rather than the telephone network because the rural exchanges are unlikely to have the capacity to support broadband access.

Broadcast TV and radio services also cover the Region with the main transmitter sites located on Mt Coot-tha (Brisbane) or Mt Lofty (Toowoomba).

All broadcasters - commercial, public and the Australian Broadcasting Corporation (ABC) broadcast natural disaster warnings to the public via radio and television, as and when requested by the LDCC.

Areas within the region receive radio coverage by

- ABC 612 AM Brisbane
- ABC 747 AM Toowoomba
- River 94.9 FM Ipswich
- 100.7 C FM Toowoomba
- 4GR 864 AM Toowoomba
- 4AK 1242 AM Toowoomba
- 4WK 963 AM Toowoomba
- 1359 AM Toowoomba

## Food Supplies

There are a number of shops and supermarkets which carry quantities of fresh, frozen and tinned food to provide for the community within the Lockyer Valley region including:

- Aldi - Gatton
- Coles - Gatton
- IGA – Gatton, Laidley and Withcott
- Foodworks - Laidley
- Woolworths – Plainland

# Capacity and Resilience Building

## Community Awareness

The Disaster Management Act 2003 requires the Local Disaster Management Group “to ensure the community is aware of ways of mitigating the adverse effects of an event, and preparing for, responding to, and recovering from a disaster”.

The members and organisations that make up the Local Group currently provide public information and education programs to improve community awareness. These include:

- The Council’s website and Facebook pages
- Disaster and emergency community awareness brochures displayed and available in Council Offices and Libraries
- Preparedness articles in local papers and council newsletters
- Qld State Government advertising, presentations, and website material
- QFES-EM advertising, presentations and website material
- Engagement with various organisations e.g. by Council Disaster Management and SES group leaders
- QFES Fire and Bushfire Awareness Program
- BOM Weather Warnings and website material.

The Local Group recognises that providing information on how to look after yourself, your family, your home, business and community in the event of a natural or a man-made disaster is an effective way to build community resilience and help communities recover in the aftermath of an event. One of the key long term objectives of the local group is to provide this information in a timely, coordinated and accessible fashion.

Through the life of this plan the local group in association with QFES-EM, and its media, business and community partners will undertake to develop and promote the following key educational and awareness tools for distribution across the Lockyer Valley:

- Household Emergency Plans and Emergency Checklists
- Business Emergency Plans and Emergency Checklists

The aim of these plans will be to:

- Encourage people and businesses to prepare themselves, their properties and their clients for disasters such as flooding, severe storm and high wind events.
- Improve target audiences’ safety awareness levels and safety behaviours during a disaster or emergency.
- Encourage people to be aware of, and care for their neighbours in the immediate aftermath of a disaster.

## Risk Assessment

In 2012 a Natural Hazard Risk Assessment for Lockyer Valley Regional Council was conducted and was followed by an update in 2016. Refer to this document for complete details on the identification and analysis of Risks in the Lockyer Valley Regional Council area.

The approach adopted for this study follows the risk management process established in AS/NZS ISO 31000-2009 Risk management - principles and guideline (SA/SNZ, 2009). The process is illustrated in Figure (i) taken from IEC (2009). Application of the risk assessment process facilitates:

- identification of the range of natural hazards that have the potential to impact on the Lockyer Valley Region and the analysis of the potential consequences of such impacts;
- analysis of the complex nature of the Lockyer Valley Region built environment and the infrastructures that support the community together with their susceptibility to hazard impacts;
- analysis of the potential exposure of the Lockyer Valley Region population to the range of hazard impacts and their susceptibility to such exposure; and, analysis of the complex (and at times competing) jurisdictional relationships that exist in the administration of emergency/disaster management in Lockyer Valley Region.

To provide a consistent and systematic assessment of the risks, which serves as a guide to what risk reduction strategies need to be considered, the 'five Rs' approach suggested in the COAG review of national bushfire risks (Ellis, Kanowski and Whelan, 2004) is followed. That approach is seen as an advance on the familiar PPRR approach that has been in use by emergency services in Australia since 1984.

The COAG report states:

*A structured risk management process, consistent with the Australian Risk Management Standard, offers the best framework for making strategic and operational decisions about bushfire mitigation and management. Emergency management in Australia has adopted one form of this framework; its elements are Prevention, Preparedness, Response and Recovery, or PPRR.*

*The Inquiry further developed and adapted the PPRR framework to a 5Rs framework—**Research, information and analysis; Risk modification; Readiness; Response; and Recovery**—which is a better basis for understanding the integrated elements of bushfire mitigation and management.*

*Application of the 5Rs framework should be informed by a thorough understanding of the full range of assets that are threatened by bushfire—life and property, infrastructure and production systems, and environmental values.*

Like PPRR, this approach can be followed for any hazard.

A sub plan, Hazard Analysis, Risk Assessment and Risk Treatment Sub Plan has been developed and forms part of the suite of supporting plans to the LDMG. More details on the Lockyer Valley Regional Council's risks and risk treatment options can be found in that sub plan.



## Climate Change

There is broad consensus that global mean temperatures have risen over the past century and that they will continue to rise as the result of greenhouse-influenced climate change. The UN-sponsored Intergovernmental Panel on Climate Change (IPCC) produced its most recent scientific basis forecasts and assessment of climate change in February 2007 in the Fourth Assessment Report (AR4) (IPCC, 2007). Amongst their key conclusions is the following:

*Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global mean sea level.*

In scoping the existing natural hazards faced by the community, consideration is also given to how climate change will impact on the local climate over time.

According to LGAQ (2012) the change in climate described above will manifest itself as exacerbated natural hazards and extreme weather events in the region including:

- Increased intensity of rainfall events and associated flooding
- Increased intensity of tropical cyclones and increased average wind speed in coastal areas
- Greater fire risk in forested areas from increased temperatures, evaporation rates and decreased rainfall
- Increased inundation as a result of storm tides due to higher mean sea level and an increased intensity of weather systems.

The major impacts of these changes for the South East Queensland region are likely to include:

- Declining pasture quality and quantity due to increased CO<sub>2</sub> concentration, evaporation and decreased rainfall
- Difficulty supplying water to meet demand for both urban and rural consumption
- More favourable conditions for plant diseases, weeds and pests (e.g. fruit fly)
- Flooding, erosion and damage to infrastructure associated with inundation hazards including sea level rise and increased storm tide
- Increased risk of tropical cyclone impact due to southward shift in genesis region
- Increased risk of heat-related illness
- Increase in peak energy demand; and
- Increase risk and intensity of fires in forested areas due to an increase in temperature, evaporation, number dry days and slight decrease in humidity (i.e. higher grassland fire danger indices).

While there is still debate about the validity of some climate change forecasts and the degree to which human activity is responsible, it is prudent to adopt the 'precautionary principle' and take them into account in planning for future disaster risks.

## Risk Treatment

Refer to the 2012 Natural Hazards Risk Assessment and the 2016 Update for the strategies that would help to reduce or eliminate emergency risks across the study area. It is focused primarily, but not exclusively, on those strategies that might be adopted by LVRC. Where they address issues that are the responsibility of either State or Commonwealth agencies, or individual property owners, they are expressed in terms of what Council might do to influence the adoption of treatment strategies by those who have the primary responsibility.

The current level of risk posed by the hazards and the effectiveness of the risk reduction strategies suggested, have been measured against the following criteria, in priority order, for all but the most extreme events. Those strategies are:

- reduce, to an acceptable level, the risk of death or injury to emergency workers engaged in responding to any hazard impact;
- reduce, to an acceptable level, the risk of death or injury to the general population;
- reduce, to an acceptable level, the risk of destruction or damage to public infrastructure and facilities;
- reduce, to an acceptable level, the risk of destruction or damage to private property;
- minimise the long-term impact on the local economy; and,
- manage the impact of natural hazards on cultural heritage and the natural environment to the extent that loss of heritage is minimised and the biodiversity of flora and fauna is maintained.

There is broad agreement that the protection of life and property will take precedence over environmental protection. This is consistent with the objective of all emergency risk management, namely **to provide safe and sustainable communities**. Whilst this objective is widely accepted, it is not often explicitly stated in such documents as the corporate plans of local governments or State agencies.

There is no single point of responsibility for emergency risk mitigation – **it is a total community responsibility**. Acceptance of that fact, however, is far from universal, especially after a tragic event such as the 2011 floods. It is an unfortunate, but understandable, feature of disasters such as floods and bushfires that after the event, victims feel the need to allocate blame. Typically, that blame is directed towards the public sector – ‘why did Council permit that development on the floodplain in the first place?’; ‘if the National Parks people had managed their fuel, the fire would not have been so bad’; ‘why didn’t the SES get a tarpaulin on my damaged roof quicker?’, and so on. The media reporting of the January 2003 fires in Canberra, the January 2005 Eyre Peninsula fires and the impact of TC *Larry* and *Yasi* in north Queensland in 2006 and 2011, for example, are full of such expressions.

The risk management standard AS/NZS 4360-2004 identifies four broad options for risk treatment:

- **eliminate the risk** – whilst this is the theoretical ideal, this option is very difficult to achieve in practice because it would require one or more of the risk elements (hazard, exposure, vulnerability) to be reduced to zero;

- **reduce the risk** – this is typically the most practical option, however, it inevitably involves setting thresholds beyond which risk reduction is deemed to be either impractical or uneconomic. This involves the difficult and often contentious task of establishing what the community considers to be a level of ‘acceptable’ or ‘tolerable’ risk;
- **transfer the risk** – administratively, this is frequently done by a higher level of government passing responsibility to the next level down the line, or governments passing responsibility to individual property owners. When available, insurance is the most common strategy employed to transfer financial risk;
- **accept the risk** – where it is not possible to eliminate, reduce further, or fully transfer the risk, the residual risk is simply accepted or tolerated. Acceptance typically relates to those risks that are either relatively common, but their impact is more of an inconvenience than a significant threat (i.e. not worth worrying about); or those that may have a devastating impact but their occurrence is extremely rare (i.e. impossible to control or manage).

It is usual in most hazard-specific studies to suggest a wide range of (mostly) structural treatment strategies be adopted. While some of those suggested risk reduction strategies may have already have been adopted there are more general strategies that are applicable to all hazards. These generic strategies are dealt with first and are followed by strategies that relate to the specific hazards. Regardless of which strategy is adopted, it is important for risk managers to see disaster risk reduction activity as being **an investment rather than a cost**.

# Prevention Strategy

## Disaster Mitigation

The Lockyer Valley Regional Council conducts prevention and disaster mitigation activities to reduce risk and vulnerability through initiatives to enhance community resilience and sustainability. The Natural Hazard Risk Assessment has identified risk reduction measures and the Hazard Analysis, Risk Assessment and Risk Treatment Sub Plan details these measures and the activities that Council is undertaking as prevention strategies.

Prevention and disaster mitigation can be, in part, achieved through application of, building codes and planning policies and legislation.

## Building Codes, Building Use Regulations and Planning Policies

Codes and regulations that are relevant and apply include:

Building Code Australia:

- *Building Act 1975*
- *Building Standards Regulation 2006*
- *Building Regulations 1991*
- *Queensland Development Code*
- *Building Fire Safety Regulation*
- *Body Corporate and Community Management Act*
- *Building Units and Group Titles Act*
- *Building and Other Legislation Amendment Act*
- *Building Services Authority Act*
- *Local Government Finance Standard 2005*
- *Queensland Coastal Plan*
- *State Planning Policy 1/03 guideline: mitigating the adverse impacts of flood, bushfire and landslide*

## Legislation

In addition to the *Disaster Management Act 2003* legislation relevant to disaster management includes:

- *Agricultural Chemicals Distribution Control Act 1966*
- *Ambulance Service Act 1991*
- *Local and Subordinate Local Laws*
- *Chemical Usage (Agricultural and Veterinary) Control Act 1988*
- *Dangerous Goods Safety Management Act 2001*
- *Environmental Protection Act 1994*
- *Exotic Diseases in Animals Act 1981*
- *Explosives Act 1999*
- *Fire and Rescue Services Act 1990*
- *Gas Supply Act 2003*



- *Land Act 1994*
- *Liquid Fuel Supply Act 1984*
- *Local Government Act 2009*
- *Major Sports Facilities Act 2001*
- *Native Title (Queensland) Act 1993*
- *Nature Conservation Act 1992*
- *Queensland Reconstruction Authority Act 2011*
- *Petroleum Act 1923*
- *Public Health Act 2005*
- *Public Safety Preservation Act 1986*
- *Sustainable Planning Act 2009*
- *Terrorism (Commonwealth Powers) Act 2002*
- *Water Act 2000*
- *Water Supply (Safety and Reliability) Act 2008*
- *Work Health and Safety Act 2011*

## 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 Local Group through its members.

## Land Use Management Initiatives

Lockyer Valley Regional Council is in the process of developing a new Planning Scheme to replace the scheme currently in use.

## Counter Terrorism Risk Management

A counter-terrorism risk assessment has been carried out with the Qld Police Service (QPS). The results of this assessment are held by the QPS.

# Response Strategy

## Warning Notification and Dissemination

### Standard Emergency Warning Signal (SEWS):

In 1999, an agreement was reached between all States and Territories on the need for a Standard Emergency Warning Signal (SEWS) to be used in assisting the delivery of public warnings and messages for major emergency events. The signal used for the SEWS is the existing Bureau of Meteorology Tropical Cyclone warning signal.

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

Responsibility for the management of the SEWS in Queensland rests with the Commissioner Queensland Fire and Emergency Services in conjunction with the Queensland Regional Director of the Bureau of Meteorology (BoM) for meteorological purposes.

### The National Emergency Alert system

This system will also be in operation but only instigated in the local area after consultation with the Local Disaster Coordinator and the District Disaster Coordinator and authorised by the Chairperson of the LDMG where it is the Principle Control Authority and in accordance with the Emergency Alert Guidelines.

A Public Information and Warnings (including Emergency Alert) Sub Plan exists for the LVRC LDMG.

### Local warnings / information

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

- The DDC will receive notification directly from the State Disaster Coordination Centre (SDCC) and internally through Queensland Police Service Communication Centres and will ensure the dissemination of warnings to vulnerable LDMGs within the district.
- The Lockyer Valley LDMG will be notified by email and may also receive notification from internal agency central offices.
- A number of agencies will also receive warnings directly from the Bureau of Meteorology.

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

The release of information to the community regarding the emergency, and associated threats, is the responsibility of the Chairperson of the Lockyer Valley Local Disaster Management Group or his delegate upon recommendation of the Principle Control Authority for the particular event.

Warnings of naturally occurring events are forwarded to the LDC who in turn collates all necessary warnings, advice and information for distribution to the community through radio, television and social media networks.

Should a mandatory evacuation be ordered, along with media broadcasts, the SES, Police and other authorised emergency agencies may do street by street broadcasting using hailers.

The process for the notification and dissemination of warning products is not a function dependant on the activation of the LDMG, rather should be an automatic responsibility of LDMG Executives and members regardless of the status of activation of the LDMG.

### **Role of the Lockyer Valley Regional Council Corporate Communication Staff**

Lockyer Valley Regional Council Corporate Communications staff are responsible for issuing all media releases, public information bulletins and warnings on behalf of the Local Disaster Management Group. Its role is to:

- prepare and monitor public information with advice from the Chair or Local Disaster Coordinator or their delegates
- draft media releases and public information bulletins
- liaise with media and communications units of other lead agencies to ensure that a coordinated approach to media releases, information and warnings is circulated to the community
- provide appropriate customer contact outlets with appropriate scripts
- obtain approval from Chair of the Lockyer Valley LDMG or delegate for release of information to the community through the public
- liaise with media outlets

### **Types of warnings**

- Media warnings – internet sites, radio, television and local newspapers
- Early Warning Network
- Telephone warnings via Emergency Alert system (when activated)
- Door-knocking by police and other emergency service agencies
- Warning devices – horns; sirens; loud-hailers

### **The Early Warning Network system**

The Australian Early Warning Network (EWN) provides emergency alerts covering everything from tsunamis through to severe weather. EWN monitors and tracks potentially dangerous weather systems and uses the network to alert people directly in the path of an event such as a thunderstorm with the potential for hail, flash flooding or damaging winds.

Residents within Lockyer Valley can subscribe to this free service on Council's Website.

Residents who do not have internet access and/or an email address can register by contacting Council on 1300 005 872.

## Activation

The LDC is responsible for activating the LDMG. This would generally occur following consultation with the Chair of the LDMG and the DDC.

The four levels of activation are:

- |                     |  |
|---------------------|--|
| <b>Alert</b>        | 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.   |
| <b>Lean forward</b> | 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 stand by; prepared but not activated. |
| <b>Stand up</b>     | The operational state following 'lean forward' whereby resources are mobilised, personnel are activated and operational activities commenced. Disaster coordination centres are activated.   |
| <b>Stand down</b>   | 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.  |

## Local Disaster Coordination Centre

Lockyer Valley Local Disaster Coordination Centre is located in Demountable 2, 26 Railway Street, Gatton outside the Gatton Council Building.

A Sub Plan has been developed with full details of the LDCC and operation.

## Concept of Operations for Response

### Operational Reporting

For the Queensland Disaster Management system to function effectively, reporting lines must be strictly adhered to.

The demand for information increases substantially during times of activation, and this can be driven by political or media demands. Whilst the LDMG accepts these demands and will facilitate requests for information it must not allow the reporting system to be circumvented.



The LDMG reports to the District Disaster Group. In turn the District Group will report to the State Group. The local group should not report directly to the State group and all requests for information must go through the district group. Individual agencies have two reporting obligations:

1. Each agency must report all activities to the Chair and LDC of the group. Without this information full situational awareness cannot be achieved. Reporting must be in writing surmising the activities of the agency.
2. Each supporting agency has a responsibility to keep their normal command structure informed of their actions and activities. The structure and nature of this reporting is by individual arrangement.

In turn the LDCC has a responsibility to keep all the members of the LDMG informed of the situation. It is unusual that all agencies will be required to support activation. The LDC is responsible to ensure that all members of the LDMG receive situation reports and up to date information.

## Financial Management

Disaster related finances are not normally included in the budgetary processes of the Councils or other responding agencies.

Disaster events happen, however, and may require the allocation of substantial funds as a consequence.

Due to the nature of many disaster situations, finance operations will often be carried out within compressed time frames and other pressures, necessitating the use of non-routine procedures; this in no way lessens the requirement for sound financial management and accountability.

It is important to remember that a Declaration of a Disaster Situation is **not** a pre-requisite for the reimbursement of expended funding.

Lockyer Valley Regional Council must maintain proper financial records during a disaster. In the event of a disaster situation the Council's normal procedure for expenditure should be followed. A Work Order job number is raised and all expenses captured in that Work Order.

Expenses should be recorded in the following three categories; Labour, Plant Hire, Materials and Services.

## Support Agencies

Each support agency is responsible for providing its own financial services and support to its response operations in the field.

## Authority/Delegation to Expend Funds

The LDC is able to authorise financial expenditure if required. The LDC undertakes consultation with the relevant Council's senior management, the DDC and QFES-EM before any major outlay.

### Authorised Expenditure

Individual authorised limits shall be generally as per normal delegation. The determination of the limit of expenditure permitted without further reference to senior management by the LDC shall be decided by the CEO.

### Recording of Expenses

When an event occurs, Council should immediately begin accounting for labour, plant hire, materials and services relating to the disaster response. All disaster-related expenditure should be recorded in a **Work Order** specifically raised to deal with the event/disaster. The **Work Order** should have separate provision for capturing expenses incurred on Council land and those on private land. Provided all expenditure is directed through Councils existing financial program and uses current work practices any claim for reimbursement can be supported.

Whilst innovative and expeditious means of procurement are called for during times of disaster events, it is still mandatory that all expenses are directed to the **Work Order** to safeguard the use of public funds from the potential of fraud, waste or abuse.

### Recouping of Funds

Provided the Minister for Emergency Services has approved the activation of the Commonwealth/State Natural Disaster Relief and Recovery Arrangements (NDRRA) the Local Governments can submit a claim for costs incurred to recover from a disaster event. Where costs have been incurred on Council land the local government can claim 75% of the cost incurred to remove, dispose and restore public assets provided those assets are not covered by insurance. For instance the removal and disposal of damaged vegetation from roads, parks, foreshores and reserves is covered under this area. Claims are sent to the Department of Local Government, Planning, Sport and Recreation and directed to the Local Government Collaboration Division Funding & Infrastructure for assessment.

Where costs have been incurred on private land the local government can either undertake the work or reimburse the property owner for the costs incurred to remove and dispose of vegetation blocking driveway access or posing an ongoing hazard to buildings or people on the property. The local government can claim 100% of the cost incurred in this

Reimbursement of costs incurred as a result of a disaster requires evidence supporting disaster-related expenditure. Claims for reimbursement of funds relating to disaster operational expenses are addressed to the Area Director, Emergency Management Queensland.

### Natural Disaster Relief and Recovery Arrangements

The NDRRA Trigger Point for Lockyer Valley Regional Council is determined annually by the relevant State Government Department (usually the one responsible for Local Government) and is published in the NDRRA Booklet "Queensland Disaster Relief and Recovery Arrangements Guidelines". Refer to this booklet for information regarding claimable expenditure.

## Media Management

The Public Information and Warnings Sub Plan has been developed to manage media in Disaster Events.

The Public Information and Warnings Sub Plan has been developed to align with and be incorporated into the Lockyer Valley Local Disaster Management Plan.

The activation of the Public Information Team (PIT) aligns with activation of the LDMG. The LDMG Chair or his/her delegate has authority to activate the LDMG on receipt of:

- a warning or an impending threat, which in the opinion of the Chairperson or their delegate, requires a coordinated community response
- a request from a Control Authority for assistance under the Local Disaster Management Plan
- a direction or request by the District Disaster Coordinator (DDC)

## Accessing Support and Allocation of Resources

Incidents, events, emergencies and disasters of local or regional scope which can be managed using regional resources are to be coordinated & managed by ICC's and the LDCC.

### Requests from the Lead Agency ICC to the LDCC

Upon the activation of the Lead Agency's ICC the Local Disaster Coordinator (LDC) shall determine the requirement for the activation of the LDCC. If the LDCC is activated then the LDC will deploy a LDCC Liaison Officer to the ICC. The Incident Controller at the ICC is to contact the LDCC when additional resources are required for the response, resources which are not available from the Lead or support agencies in attendance at the ICC for the response.

The ICC is able to make such requests through the LDCC Liaison Officer or that Agencies Liaison Officer at the LDCC. The LDCC is to be proactive in its planning for requests for additional resources for the region.

### Requests to DDC for Assistance / Support

When Lockyer Valley Regional Council resources under the management or availability of the Local Group member agencies are exhausted or overwhelmed or a specific technical resource or capability is not able to be located or available, the LDC is to contact the DDC so that resources can be accessed or made available, by the District Disaster Coordination Centre using the process that has been advised by the DDC to the LDC. All requests for assistance to the DDC shall go through the LDC or delegate. The LDCC will be proactive in informing the DDCC if it is likely that requests for additional resources are to be so that in turn the DDCC can also be proactive in its planning for requests for additional resources for the region.

### Requests to State Disaster Coordination Centre for Assistance / Support

When the DDCC is not able to action or fulfil requests for assistance the DDC will request assistance from the Operations Officer, State Disaster Coordination Centre.

## Support from External Agencies (Public & Private)

Support may be sourced from:

- Member agencies preferred suppliers as per the list of suppliers held by that agencies' Procurement Unit.
- All emergency service providers both Government and Non-Government agencies.
- Support is requested through the agency Liaison Officers or via the usual member agency procedures.
- The State Disaster Coordination Centre or the DDC may allocate and push resources forward to the Region during an event even though resources have not been requested by the LDCC. The staging and reception of these resources will require planning and coordination by the LDCC.

Should support, as described above, be withdrawn for whatever reason, all agencies affected will receive advice from the LDCC.

## Disaster Declaration

The DDC may, with the approval of the Minister of the State, declare a disaster situation for the district or one or more local government areas within the district in whole or in part, or by the Premier and the Minister for the State or a part of the State. As outlined in Section 75 and Section 77 of the Act, the declaration confers extra powers on particular groups to perform actions, give directions and control movements within the declared area.

A declaration may be made if the person/s responsible for making it are satisfied that a disaster has happened, is happening or is likely to happen and it will be necessary, or reasonably likely to be necessary, to exercise declared disaster powers to prevent or minimise the loss of human life, illness or injury to humans, property loss or damage, or damage to the environment.

Before declaring a disaster situation the person/s responsible for the declaration is to take reasonable steps to consult with local government in the proposed declared area.

In accordance with the Act, a declaration must be in the approved form, or can be made orally if necessary to exercise declared disaster powers before an approved form can be obtained and completed. An oral declaration cannot be made if the DDC is satisfied only that it is reasonably likely to be necessary to exercise declared disaster powers. If the declaration is made orally, it must be recorded in the approved form as soon as is reasonably practicable.

The provisions for declarations and disaster powers. Disaster management forms, including forms for disaster declaration, extension, request to end and for the authorisation of persons to exercise declared disaster powers etc. are available at:

<http://www.disaster.qld.gov.au/publications/>

A Declaration of a Disaster Situation may be requested, for example, where there is an identified need to undertake a managed evacuation, from the Chairperson or Local Disaster Coordinator to the District Disaster Coordinator, using the agreed forms as referenced above that are available within the Local Disaster Coordination Centre.

When a Declaration of a Disaster Situation is enacted, the Chairperson and Local Disaster Coordinator will continue to align local strategies and arrangements with the District Disaster Coordinator to ensure the appropriate utilisation of the powers within the local disaster



management arrangements. The declaration of a disaster situation does not impact the requirements of a local government under the Act to manage disaster operations in their area.

## Resupply

Lockyer Valley LDMG has developed a Resupply Sub Plan. The aim of this sub plan is to provide the LDMG conditions and procedures that will be applied by QFES-EM when planning and conducting resupply operations.

## Hazard Specific Arrangements

State departments or agencies have primary responsibility to address certain hazards as detailed in the State Disaster Management Plan.

Hazard specific planning is required across all aspects of Disaster Management (PPRR). Coordination and operational procedures for specific hazards may be different to those for disaster management.

Agency specific coordination centres may be established in addition to local, district and State coordination centres and internal structures, including the passage of information and resources may be managed using different processes. Primary Agencies also have a role to ensure hazard specific plans link to corresponding national hazard specific plans and arrangements and that appropriate communication and relationships with their counterparts at the national level are maintained.

The following table outlines the Primary Agencies responsible for each specific hazard and the respective State and national level plans, where appropriate.

### Specific Hazard Primary Agency, State and National Plans – Page 15-16 of the State Disaster Management Plan

Hazard	Primary Agency	State and National Plans
Animal and Plant Disease	Department of Agriculture and Fisheries	Australian Veterinary Emergency Plan (AUSVETPLAN) Australian Aquatic Veterinary Emergency Plan (AQUAVETPLAN) Australian Emergency Plant Pest Response Plan (PLANTPLAN) Biosecurity Emergency Operations Manual (BEOM)
Biological (human related)	Queensland Health	State of Queensland Multi-agency Response to Chemical, Biological, Radiological Incidents
Bushfire	Queensland Fire and Emergency Services	Wildfire Mitigation and Readiness Plans (Regional)
Chemical	Queensland Fire and Emergency Services	State of Queensland Multi-agency Response to Chemical, Biological, Radiological Incidents
Heatwave	Queensland Health	Heatwave Response Plan
Pandemic	Queensland Health	Queensland Pandemic Influenza Plan

		National Action Plan for Human Influenza Pandemic
Ship-Sourced Pollution	Department of Transport and Main Roads	Queensland Coastal Contingency Action Plan National Plan for Maritime Environmental Emergencies
Radiological	Queensland Health	State of Queensland Multi-agency Response to Chemical, Biological, Radiological Incidents
Terrorism	Queensland Police Service	Queensland Counter-Terrorism Plan National Counter-Terrorism Plan

## Recovery Strategy

Disaster recovery is the coordinated process of supporting affected individuals and communities in the reconstruction of the physical infrastructure, restoration of the economy and of the environment, and support for the emotional, social, and physical wellbeing of those affected. Recovering from an event includes the following:

- providing relief measures to assist persons affected by the event who do not have resources to provide for their own personal wellbeing
- restoring essential infrastructure in the area or areas affected by the event
- restoring the environment in areas affected by the event
- providing personal support to individuals affected by the event, including temporary hospital accommodation, emergency medical supplies, material assistance and counselling services, and/or
- supporting community development activities to restore capacity and resilience

### Recovery Sub Plan

Lockyer Valley Recovery Sub Plan involves the following five key elements of recovery.

- **Recovery Coordination and Monitoring** – Recovery will need to be properly organised, resourced and funded. Some of the ordinary business of Council will need to be re-prioritised. Life in the community and Council goes on and will need to be resourced. Council has an expectation that the lion's share of resourcing community recovery will come from Federal and State Government resources.
- **Human-Social Recovery** – includes personal support, psychological services, temporary accommodation (not evacuation centres), financial assistance and repairs to dwellings. The Department of Communities, Child Safety and Disability Services is the functional lead agency for community recovery in a disaster event.
- **Economic Recovery** – includes recovery as it relates to business impact, industry impact and worker impact. The Department of State Development, Infrastructure and Planning is the functional lead agency for economic recovery.
- **Building Recovery** - includes government structures, essential services and communications. A number of separate State Government departments and non-government organisations will have key functional responsibilities for their respective element of infrastructure recovery in a disaster event.
- **Roads and Transport Recovery** – includes the response, recovery and reconstruction of the State's road and transport assets. Department of Transport and Main Roads will respond to the disaster by providing safe access and re-connecting communities.
- **Environmental Recovery** – includes recovery as it relates to parks, waterways and wildlife. A number of State Government departments and non-government organisations will have key functional responsibilities for elements of environmental recovery in a disaster event.

The Recovery Sub Plan provides the strategic framework for recovery planning, outlining roles and responsibilities of government and non-government partners for the coordinated delivery of recovery services following a disaster.



## Local Disaster Management Sub Plans

Sub Plans have been developed for specific hazards with some or all of the sub plans being implemented depending on the event.

The following sub plans have been developed:

- Bushfire
- Public Information and Warnings
- Donated Goods
- Operation Coordination
- Evacuation
- Evacuation Centre Management
- Pandemic
- Impact Assessment
- Recovery
- Resupply
- Hazard Analysis, Risk Assessment and Risk Treatment

## Annexure List

**Annexure A:** Abbreviations

**Annexure B:** Glossary of Terms

**Annexure C:** LDMG Membership List

**Annexure D:** Local Disaster Management Group Forms

## Annexure A: Abbreviations

The following abbreviations are used throughout this Local Disaster Management Plan:

AEM	Australian Emergency Management
AEMI	Australian Emergency Management Institute
AIIMS	Australian Inter-service Incident Management System
AHD	Australian Height Datum
BoM	Bureau of Meteorology
CEO	Chief Executive Officer of Lockyer Valley Regional Council
DACC	Defence Aid to Civil Community
DDC	District Disaster Coordinator
DDMG	District Disaster Management Group
DDMP	District Disaster Management Plan
DM	Disaster Management
DMA	Disaster Management Act 2003
DMG	Disaster Management Group
DECC	Department of Environment and Climate Change
DERM	Department of Environment & Resource Management
DNRM	Department of Natural Resources and Mines
DCCSDS	Department of Communities, Child Safety and Disability Services
DTMR	Department Transport & Main Roads
EMA	Emergency Management Australia
ICC	Incident Control Centre
IGEM	Inspector General Emergency Management
IMT	Incident Management Team
GIS	Geographical Information System
LDC	Local Disaster Coordinator
LDCC	Local Disaster Coordination Centre
LDMG	Local Disaster Management Group

LDMP	Local Disaster Management Plan
LVRC	Lockyer Valley Regional Council
MSQ	Maritime Safety Queensland
NDRRA	Natural Disaster Relief and Recovery Arrangements
NPRSR	National Parks Recreation Sport and Racing
PPRR	Preparation, Preparedness, Response and Recovery
PSPA	Public Safety Preservation Act 1986
QAS	Queensland Ambulance Service
QDMA	Queensland Disaster Management Arrangements
QDMC	Queensland Disaster Management Committee
QFES	Queensland Fire and Emergency Services
QPS	Queensland Police Service
QPI&F	Queensland Primary Industries and Fisheries
QPWS	Queensland Parks and Wildlife Service
QR	Queensland Rail
RFB	Rural Fire Brigade
SDCC	State Disaster Coordination Centre
SDMP	State Disaster Management Plan
SDRA	State Disaster Relief Arrangements
SES	State Emergency Service



## Annexure B: Glossary of Terms

<b>All Hazards Approach</b>	<p>The all hazards approach concerns arrangements for managing the large range of possible effects of risks and emergencies. This concept is useful to the extent that a large range of risks can cause similar problems and such measures as warning; evacuation; medical services and community recovery will be required during and following emergencies.</p> <p>(Source EMA, 2009)</p>
<b>All Agencies Approach</b>	<p>All agencies should be involved to some extent in emergency management. The context of emergency management for specific agencies varies and may include:</p> <ul style="list-style-type: none"> <li>• ensuring the continuity of their business or service</li> <li>• protecting their own interests and personnel</li> <li>• protecting the community and environment from risks arising from the activities of the organisation</li> <li>• protecting the community and environment from credible risks.</li> </ul> <p>(Source EMA, 2009)</p>
<b>Community</b>	<p>A group of people with a commonality of association and generally defined by location, shared experience, or function.</p> <p>(Australian Emergency Management Glossary, 1998)</p>
<b>Consequence</b>	<p>The outcome of an event or situation expressed qualitatively or quantitatively, being a loss, injury, disadvantage, or gain.</p> <p>(Australian Emergency Management Glossary, 1998)</p>
<b>Coordination</b>	<p>Coordination refers to the bringing together of organisations to ensure effective disaster management before, during and after an event. It is primarily concerned with the 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.</p> <p>(State Disaster Management Plan)</p>
<b>Coordination Centre</b>	<p>A centre established as a centre of communication and coordination during disaster operations.</p>
<b>Council</b>	<p>In this plan Council means the Lockyer Valley Regional Council.</p>
<b>Declaration of Disaster Situation</b>	<p>A District Disaster Coordinator for a Disaster District may, with the approval of the Minister, declare a Disaster Situation for the District or part of it, if satisfied of a number of conditions as set out in Part 4 – Provisions for Declaration of a Disaster Situation</p> <p>(Disaster Management Act 2003, Section 6)</p>
<b>Disaster</b>	<p>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.</p> <p>(Disaster Management Act 2003, Section 13(1))</p>

<b>Disaster Management</b>	<p>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.</p> <p>(Disaster Management Act 2003, Section 14)</p>
<b>Disaster Management Act 2003</b>	<p>Queensland Government legislation to provide for matters relating to disaster management in the State, and for other purposes. The main objectives of the Act are to help communities mitigate the potential adverse effects of an event, prepare for managing the effects of an event and effectively respond to and recover from a disaster or an emergency situation.</p>
<b>Disaster Management (DM) Portal</b>	<p>The Queensland Disaster Management Portal provides a mechanism to allow the sharing of information on disaster management and is an information service for the disaster management community.</p>
<b>Disaster Management Regulation 2014</b>	<p>Disaster Management Regulation 2014 was enacted by the Disaster Management and Another Act Amendment Act 2014 No. 55 s 22 sch 1 on 27 October 2014. It provides information about membership business, and meetings of disaster management groups and a list of disaster districts.</p>
<b>Disaster Operations</b>	<p>Activities undertaken before, during or after an event happens to help reduce loss of human life, illness or injury to humans, property loss or damage, or damage to the environment, including, for example, activities to mitigate the adverse effects of the event.</p> <p>(Disaster Management Act 2003, Section 15)</p>
<b>Disaster Response Capability (Local Government)</b>	<p>The ability to use Local Government resources, to effectively deal with, or help another entity to deal with, within the capacity of the Local Government an emergency situation or a disaster in the local government's area.</p> <p>(Disaster Management Act 2003, Section 80(2))</p>
<b>District Disaster Coordinator (DDC)</b>	<p>The role of the District Disaster Coordinator, in addition to other duties, is the responsibility for co-ordinating support in the Disaster District for the Disaster Management Group. The role of the DDC is specified in the Disaster Management Act 2003, Section 26.</p>
<b>Emergency Management Assurance Framework</b>	<p>Developed by the Office of the Inspector-General Emergency Management in accordance with Section 16C of the Disaster Management Act 2003 to provide the foundation for guiding and supporting the continuous improvement of entities disaster management programs. It also provides the structure and mechanism for reviewing and assessing the effectiveness of Queensland's disaster management arrangements.</p>
<b>Emergency Situation</b>	<p>Under Public Safety Preservation Act Section 5, if at any time a commissioned officer of the Queensland Police Service (the emergency commander) is satisfied on reasonable grounds that an emergency situation has arisen or is likely to arise, the commissioned officer may declare that an emergency situation exists in respect of an area specified by the commissioned officer.</p>

<b>Event</b>	<p>An event means any of the following:</p> <ul style="list-style-type: none"> <li>• A cyclone, earthquake, flood, storm, storm tide, tornado, tsunami, volcanic eruption or other natural happening</li> <li>• Bushfire, an explosion or fire, a chemical, fuel or oil spill, or a gas leak</li> <li>• An infestation, plague, or epidemic</li> <li>• An attack against the State</li> <li>• Another event similar to the above events</li> </ul> <p>An event may be natural or caused by human acts or omissions (Disaster Management Act 2003, Section 16 (1) &amp; (2))</p>
<b>Flooding</b>	<p>Local flooding: an intense burst of rainfall over a short period of time may cause excessive run-off that builds up in a relatively small area and causes localised flooding. Inundation is expected to last only for a limited period of time, around one to two hours.</p> <p>Regional flooding: continuous heavy rainfall across a number of large catchments within the region's flood plains. It may take between one and two days for these floodwaters to subside.</p> <p>Riverine flooding: similar to regional flooding but on a larger scale.</p>
<b>Hazard</b>	<p>A source of potential harm, or a situation with a potential to cause loss. (Emergency Management Australia 2004)</p>
<b>Incident</b>	<p>Day to day occurrences, being an emergency or sudden event accidentally or deliberately caused which requires a response from one or more emergency response agencies by itself or in cooperation with other response agencies.</p>
<b>Incident Coordination Centre / Field Coordination Centre</b>	<p>Location or room from which response operations are managed for emergency incidents or situations.</p>
<b>Mitigation</b>	<p>Measures taken in advance of a disaster aimed at decreasing or eliminating its impact on society and environment. (Australian Emergency Management Glossary, 1998)</p>
<b>Natural Disaster Relief &amp; Recovery Arrangements (NDRRA)</b>	<p>NDRRA provide a cost sharing formula between the State and Commonwealth Governments as well as a package of pre-agreed relief and recovery measures that may be activated by the Queensland Government on a needs basis.</p>
<b>NDRRA Activation</b>	<p>An activation is made by the Minister Community Safety when NDRRA Funding applies, this declaration is different to and not dependant on a Declaration of a Disaster Situation and is not a declaration of a disaster or emergency.</p>
<b>Planning</b>	<p>Development of systems for co-ordinating disaster response and establishing priorities, duties, roles and responsibilities of different individuals and organisations, including actual state of preparedness.</p>

<b>Preparedness</b>	Measures to ensure that, should an emergency occur, communities, resources, and services are capable of coping with the effects. (Australian Emergency Management Glossary, 1998)
<b>Prevention</b>	Measures to eliminate or reduce the incidence or severity of emergencies. (Australian Emergency Management Glossary, 1998)
<b>Public Safety Preservation Act 1986</b>	An Act to provide protection for members of the public in terrorist, chemical, biological, radiological or other emergencies that create or may create danger of death, injury or distress to any person, loss of or damage to any property or pollution of the environment and for related purposes.
<b>Reconstruction</b>	Actions taken to re-establish a community after a period of rehabilitation subsequent to a disaster. Actions would include construction of permanent housing, restoration of all services, and complete resumption of the pre-disaster state. (Australian Emergency Management Glossary, 1998)
<b>Recovery</b>	The co-ordinated process of supporting emergency affected communities in reconstruction of the physical infrastructure and restoration of emotional, social, economic, and physical wellbeing. (Australian Emergency Management Glossary, 1998)
<b>Rehabilitation</b>	The operations and decisions taken after a disaster with a view to restoring a stricken community to its former living conditions, whilst encouraging and facilitating the necessary adjustments to the changes caused by the disaster. (Australian Emergency Management Glossary, 1998)
<b>Relief</b>	The provision of immediate shelter, life support and human needs of persons affected by, or responding to, an emergency. It includes the establishment, management and provision of services to emergency relief centres. (Australian Emergency Management Glossary, 1998)
<b>Residual Risk</b>	The level of risk remaining after implementation of a risk treatment. (AS/NZS 4360:2004)
<b>Resilience</b>	A measure of how quickly a system recovers from failures. (EMA Thesaurus accessed August 2009)
<b>Response</b>	Measures taken in anticipation of, during and immediately after an emergency to ensure its effects are minimised. (Australian Emergency Management Glossary, 1998)
<b>Resources</b>	Includes people, personnel or staffing, food, any horse or animal, vehicle, vessel, aircraft, plant apparatus, implement, earthmoving equipment, construction equipment, or other equipment of any kind or any means of supplying want or need.



<b>Risk</b>	<p>The chance of something happening that may have an impact on the safety and wellbeing of your community. It includes risk as an opportunity as well as a threat and is measured in terms of consequences and likelihood.</p> <p>(Adapted from AS/NZS 4360:2004)</p>
<b>Risk Identification</b>	<p>The process of identifying what can happen, why, and how.</p> <p>(Australian Emergency Management Glossary, 1998)</p>
<b>Risk Management</b>	<p>The culture, processes, and structures that are directed towards realising potential opportunities whilst managing adverse effects.</p> <p>(AS/NZS 4360:2004)</p>
<b>Risk Reduction</b>	<p>Actions taken to lessen the likelihood, negative consequences, or both, associated with a risk.</p> <p>(AS/NZS 4360:2004)</p>
<b>Risk Treatment</b>	<p>Process of selection and implementation of measures to modify risk.</p> <p>(AS/NZS 4360:2004)</p>
<b>Serious Disruption</b>	<p>Serious disruption means:</p> <ul style="list-style-type: none"> <li>• Loss of human life, or injury or illness.</li> <li>• Widespread or severe property loss or damage.</li> <li>• Widespread or severe damage to the environment.</li> </ul> <p>(Disaster Management Act 2003, Section 13 (2)).</p>
<b>Vulnerability</b>	<p>Degree of loss which could result from a potentially damaging phenomenon, or the extent to which a country, area, community, or structure risks being damaged by a disaster. The susceptibility and resilience of the community and environment to hazards.</p>

## **Annexure C: Local Disaster Management Group Member List**

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## Annexure D: Local Disaster Management Group Forms

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