Review of capability at a district and local level
Mackay disaster district

Report 1: 2016-17

As a combined District, Mackay is well-placed to manage the expected range of hazards. The report's improvement strategy considers how the District could further strengthen its disaster management capability to become a hub of excellence.

Queensland Government

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Contact details

All enquiries regarding this document should be directed to the Office of the Inspector-General Emergency Management:

- Email: info@igem.qld.gov.au   Tel: 07 3227 6588
- Mailing Address: IGEM Mail Cluster 15.7, GPO Box 1425, Brisbane Qld 4001

Queensland Emergency Management Assurance Framework

Assurance Activity Output Descriptors

All papers and reports produced by the Office of the Inspector-General Emergency Management (IGEM) provide independent assurance and advice about the effectiveness of emergency management arrangements in Queensland. The Office of the IGEM bases all publications on the Emergency Management Assurance Framework, which encompasses the Standard for Disaster Management in Queensland.

Briefing paper

A briefing paper provides the decision-maker with a summary of facts about an issue, or an overview of a situation or arrangements. The briefing paper may address opportunities for improvement or highlight exemplary practice. The briefing paper provides the decision-maker next steps for consideration, which may include advice to entities.

Discussion paper

A discussion paper provides greater analysis of an issue, situation or arrangements than a briefing paper, considering trends, other sector or jurisdiction approaches or current best practice research. The discussion paper may address opportunities for improvement or highlight exemplary practice. The IGEM may suggest improvements to entities through advice, or more formally through Professional Practice Considerations.

Review report

A review report provides a comprehensive analysis of the effectiveness of a particular disaster management issue, situation or set of arrangements. The review report is based on evidence, and may include discussion of underlying themes, contributing factors and root causes of issues. The review report includes findings, and bases recommendations for improvement on lessons identified, research and good practice.

Research paper

A research paper may be produced as a result of a review report, or initiated by the IGEM. A research paper explores an issue, generates discussion and seeks best practice solutions.

Contents

Executive Summary
Introduction

This District and local capability review forms a part of the assurance and excellence program conducted by the Office of the Inspector-General Emergency Management (the Office). The review is a Tier 3 Assurance Activity conducted under the *Emergency Management Assurance Framework.* This Framework identifies accountabilities as well as activities that will be used to validate performance. Section 16C of the *Disaster Management Act 2003* (the Act) provides for the Inspector-General Emergency Management (IGEM) to review emergency management arrangements in Queensland.

For this review, the Office has engaged with the Mackay District Disaster Management Group, and the local governments and local disaster management groups of Isaac, Mackay and Whitsunday, to assess their capability to meet legislated obligations against the outcomes of the *Standard for Disaster Management in Queensland* (the Standard). The Standard establishes the performance requirements for all entities involved in disaster management.

The purpose of this review is to:
- assess district and local level capability to deliver legislated disaster management outcomes against the Standard.
- develop an integrated improvement strategy for the Mackay disaster district (District).

Overview of findings

Overall, the disaster district of Mackay's disaster management capability is assessed by the Office of the IGEM as **well placed** to **strong.** The Office considers that this outcome demonstrates a high level of capability with examples of excellent practice apparent. Importantly, all local governments and groups, inherently recognise their capability limits and are actively working towards improving practice or identify when they require assistance to support disaster management and disaster operations.

The Office of the IGEM uses the following classifications to assess an entities performance and capability against all components of the Standard.

Strong – outstanding capability supported by evidence of good practice and capacity to sustain.

Well placed – capability gaps are identified and practical improvements are planned or underway, with capacity to achieve outcomes.

Development area – more action is required to close current capability gaps and deliver improvements over the medium term. Capacity to deliver is not assured.

🟧 **Limited** – not well placed to address weaknesses in the short to medium term and needs additional capacity and support to secure effective delivery.

The Shared Responsibilities represent the key areas that were considered by the Office as part of an effective disaster management program.

Isaac local disaster management group (Isaac Group):

Shared Responsibility	Standard Component	IGEM Rating	
1-2 Hazard & risk	Hazard identification & risk assessment	Well placed	🟩
2 Hazard mitigation & risk reduction	Hazard mitigation & risk reduction	Well placed	🟩
3 Preparedness & planning	Capability integration Planning	Well placed	🟩
4 Emergency communications	Public engagement Communication systems Warnings	Well placed	🟩
5 Response	Control Command Cooperation & coordination Operational intelligence Resource management	Development area	🟨
6 Relief & Recovery	Relief Recovery	Development area	🟨

Mackay local disaster management group (Mackay Group):

Shared Responsibility	Standard Component	IGEM Rating	
1 Hazard identification & risk assessment	Hazard identification & risk assessment	Well placed	🟩
2 Hazard mitigation & risk reduction	Hazard mitigation & risk reduction	Strong	🟦
3 Preparedness & planning	Capability integration Planning	Strong	🟦
4 Emergency communications	Public engagement Communication systems Warnings	Well placed	🟩
5 Response	Control Command Cooperation & coordination Operational intelligence Resource management	Well placed	🟩
6 Relief & Recovery	Relief Recovery	Well placed	🟩

Whitsunday local disaster management group (Whitsunday Group):

Shared Responsibility	Standard Component	IGEM Rating	
1 Hazard Mitigation & risk assessment	Hazard identification & risk assessment	Well placed	🟩
2 Hazard mitigation & risk reduction	Hazard mitigation & risk reduction	Strong	🟦
3 Preparedness & planning	Capability integration Planning	Strong	🟦
4 Emergency communications	Public engagement Communication systems Warnings	Well placed	🟩
5 Response	Control Command Cooperation & coordination Operational intelligence Resource management	Strong	🟦
6 Relief & Recovery	Relief Recovery	Well placed	🟩

Mackay district disaster management group (Mackay District Group):

Shared Responsibility	Standard Component	IGEM Rating	
1- Hazard identification & risk assessment	Hazard identification & risk assessment	Well placed	🟩
2 Hazard mitigation & risk reduction	Hazard mitigation & risk reduction	Development area	🟧
3 Preparedness & planning	Capability integration Planning	Well placed	🟩
4 Emergency communications	Public engagement Communication systems Warnings	Well placed	🟩
5 Response	Control Command Cooperation & coordination Operational intelligence Resource management	Well placed	🟩
6 Relief & Recovery	Relief Recovery	Development area	🟧

This review reveals highly effective disaster management capability across the Mackay Disaster District. Assessment by the Office has found arrangements that meet the requirements of the *Disaster Management Act 2003* (the Act) and the Standard. Shared Responsibilities have been predominantly rated as **well placed** to **strong** by the Office. The achievements of the Mackay Disaster District reflect the leadership, disaster management expertise and commitment of the local governments of Isaac, Mackay, and Whitsunday, their

local disaster management groups and the district disaster management group. Combined with leading innovative disaster management practices, the Mackay Disaster District has demonstrated the practical application of the Emergency Management Assurance Framework principles of Leadership, Public Safety, Partnership and Performance[a]. Basing their disaster management arrangements on these principles has created a culture of interconnectedness across the entire Mackay Disaster District and has increased the likelihood of capable and effective disaster operations.

Disaster events do not 'play by the rules' (Owen and Bremmer)[1]. Disaster management and operations must be dynamic and interdependent. Improvisation, critical thinking and problem-solving are necessary pre-requisites. All entities within the Mackay Disaster District balance their disaster management arrangements with the normal variability of relationships, interests and competing priorities. This balance enables them to be adaptable and interoperable during disaster operations.

The Office saw evidence across the Mackay Disaster District of a disaster management culture built on trust, collaboration, good practice, innovation and a focus on community outcomes and public safety. The leadership provided by the four Chairs[b] of the disaster management groups, the District Executive Officer, Disaster Management Officers and other disaster management practitioners of the District, has enabled an informed culture to thrive. The commitment to disaster management is evident, and it is viewed as normal business and given significant attention. The Mackay Disaster District volunteered to undertake this review and the Office heard from numerous representatives that the review was an opportunity to identify potential gaps and better leverage good practice.

Strong partnerships, evident across the Mackay Disaster District, maximise capacity and capability. The Office found many examples of good practice being shared across the three local governments, for example, attending or evaluating each other's exercises and sharing plan templates or supplier lists. These partnerships have not required formalisation between councils to flourish but have developed through active relationships and the practice of sharing knowledge and expertise. The Disaster Management Officers, the District Executive Officer and the Emergency Management Coordinator informally meet and share information on a regular basis. A palpable spirit of cooperation was evident to the Office. It was also evident that where one group may have had a deficit in skill, they were able to draw knowledge and expertise from the others. This facilitates transparency, capability development, continuous improvement and a higher likelihood that the Standard's key outcomes will be achieved.

Where the Office has identified a component that is a development area, the strong 'defensive' layers in place can counter deficits, ensuring good outcomes are still achieved.[2] For example, where there is an area of weaker doctrine, extensive training or group membership engagement have reduced the likelihood of that deficit having a negative

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[a] Four Principles underpin effective disaster management in Queensland. These Principles are fundamental to the establishment and continuous improvement of effective disaster management programs and recognise the interconnectedness of disaster management across all levels of government, the private sector and the community. Emergency Management Assurance Framework 2014

[b] Chairs of the local disaster management groups are the Mayors; the Chair of the district disaster management group is a senior police officer appointed by the Commissioner, Queensland Police Service (QPS) , the District Executive Officer is a QPS member appointed to support the Chair, Disaster Management Officers are disaster management practitioners employed by local government, the Emergency Management Coordinator is a disaster management practitioner employed by Queensland Fire and Emergency Services to support the agency to deliver its disaster management obligations.

impact. This was particularly evident for the Whitsunday Group and the Mackay Group. The Isaac Group is rapidly developing, with support from its Chair and the other groups. The number of attendees at Mackay District Group meetings and a good reporting structure is also an enabler, supporting interoperability and a comprehensive approach.

There are a few areas for improvement identified across the Mackay Disaster District and these are discussed in the capability assessments that follow. In particular, strategies to engage diverse communities in all phases of disaster management would elevate a number of well-placed arrangements to a strong position. Overall, the cultural maturity evident in committed and high-trust relationships, supported by evidence to achieve key outcomes, enables the Office to provide assurance of the disaster management capability within the Mackay Disaster District.

The Standard defines the Good Practice Attributes of effective disaster management as Scalable, Interoperable, Adaptable, Value for Money and Comprehensive[c]. Where the capability assessment indicates that a group is well placed or strong, further improvements can be considered by applying these Good Practice Attributes.

This report also identifies areas of good practice and outlines where improvements could be made. Delivery of the 'improvement strategy – a catalyst for excellence' will further strengthen outcomes and drive excellence in disaster management across the Mackay Disaster District.

Mackay District improvement strategy – a catalyst for excellence

There is a focus on striving for excellence in the Mackay Disaster District. Good practice comes from the commitment to public safety, leadership, relationships, expertise and supporting Accountabilities. While the Mackay Disaster District has gained an overall rating of well placed to strong, there are Components of the Standard that could be enhanced to deliver better community outcomes. Improvement in Relief and Recovery activities and greater empowerment of the community will strengthen resilience. To facilitate this, an improvement workshop has been planned for mid-February 2017. This time frame enables a collaborative approach between the Office and the Queensland Reconstruction Authority to deliver the workshop, in line with a Cabinet endorsed revised Resilience Strategy and State Recovery Plan. The ability to draw on these documents will drive improvements that are reflective of the most recent state doctrine. The workshop will also provide an opportunity to consider examples of good practice evident across the Mackay Disaster District and how they can be replicated in the broader disaster management sector.

Separate to the Improvement Strategy Workshop, each Local Group has developed and begun implementation of an action plan to address areas for improvement identified within the report.

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[c] Good Practice Attributes are the attributes of an effective disaster management system in Queensland. Emergency Management Assurance Framework 2014.

This improvement strategy is a Shared Responsibility for the disaster management groups and local governments of Mackay Disaster District to further develop and sustain a capability to deliver effective disaster management; and to fulfil their functions under the *Disaster Management Act 2003*. The strategy is based on the *Standard for Disaster Management in Queensland* (the Standard). It is expected that, when implemented, the strategy will drive capability improvements across all components of the Standard and enable effective disaster management.

The Standard defines the Good Practice Attributes of effective disaster management as Scalable, Interoperable, Adaptable, Value for Money and Comprehensive. Due to the well-placed nature of the District's arrangements overall, the deliverables for this District-wide strategy are based on the Good Practice Attributes.

PRINCIPLES	
Leadership	Setting direction, ensuring clarity of roles, motivating people and fostering a culture of communication and collaboration
Public Safety	Recognising the role of stakeholders and the responsibility of disaster management to help communities
Partnership	Sharing a commitment to collaboration and building a common purpose
Performance	Focusing on innovative delivery and continuous improvement

GOAL

Drive capability improvement through shared responsibility incorporating the community

OUTCOMES

1. Treatment plans for human-made risks and a process for dealing with residual risk.
2. Coordinated preparedness and planning and emergency communications across local and District groups, public and private asset owners and functional lead state agencies.
3. Effective resource management that makes the best use of scarce resources, and directly links to community need.
4. Recovery that encapsulates all pillars of recovery and empowers the community to shape their own recovery.
5. An empowered, resilient community.

IMPLEMENTATION

		Deliverables	**Outcome**
Good practice attributes	Scalable	• Apply learnings from natural disasters to other possible events to build on the all-hazards approach to planning	1

	Comprehensive	• Plans, processes and products across the District that:
		  ▪ identify links and transition points from the Emergency Action plans of private and public asset owners
		  ▪ provide for residual risk.
		• Coordinated public engagement strategy for the District that engages diverse community groups and builds community empowerment and resilience.
			2,5

	Interoperable	• Documented information flow between groups and member agencies, to harness intelligence and inform planning during events.	2
	Value for money	• End-to-end resource management plans and processes that ensure efficient use of resources and value for money while supporting local economies and mitigating risk • Pre-planning of emergency supplies and delivery channels to support immediate relief.	3,4,5
	Adaptable	• Relief and Recovery plans, products and processes that are flexible to the needs of the community and can adapt to a changing environment.	4,5

Action
A Strategy Implementation Coordination Group, comprised of the DDMG Executive Officer (QPS), the Emergency Management Coordinator (QFES),Council Disaster Management Officers and other DDMG and LDMG representatives co-opted as needed, will develop an Action Plan and coordinate whole of group activities to achieve the deliverables.

Recommendation

The chairpersons of disaster management groups within the Mackay Disaster District, supported by the Queensland Police Service and Queensland Fire and Emergency Services, implement the Mackay Disaster District capability improvement strategy.

Accountability
Lead: Chairperson, Mackay District Disaster Management Group Chairperson, Isaac Local Disaster Management Group, Chairperson, Mackay Local Disaster Management Group Chairperson, Whitsunday Local Disaster Management Group **Support:** Queensland Police Service Queensland Fire and Emergency Services

Context

This District and local capability review forms a part of the Assurance and Excellence Development program conducted by the Office of the Inspector-General Emergency Management (the Office). The review is a Tier 3 Assurance Activity conducted under the *Emergency Management Assurance Framework,* and represents an independent enquiry to provide a greater level of assurance about disaster management.

For this review, the Office engaged with the Mackay District Disaster Management Group, and the local governments and local disaster management groups of Isaac, Mackay and Whitsunday, to assess their capability to meet legislated obligations against the outcomes of the *Standard for Disaster Management in Queensland* (the Standard). The review was undertaken in consultation with relevant stakeholders from the Mackay Disaster District and key government agencies. The review report is provided to the Minister for Police, Fire and Emergency Services and Minister for Corrective Services. It incorporates an improvement strategy for the Mackay Disaster District. To ensure continuous improvement, the review methodology and products will be regularly evaluated as future reviews are undertaken.

Purpose

The purpose of this review is to:

- assess district and local level capability to deliver legislated disaster management outcomes against the Standard
- develop an integrated improvement strategy for the Mackay Disaster District.

Authority

The Office has a legislated function under the Act, to work with entities performing emergency services, departments and the community to identify and improve disaster management capabilities.[3]

Functions relevant to this review include:

- regularly review and assess the effectiveness of disaster management by district and local groups - s.16C(b)
- regularly review and assess cooperation between entities, including compatibility and consistency of systems and procedures - s.16C(c)
- review, assess and report on performance by entities responsible for disaster management against the disaster management standards - s.16C(f)
- identify opportunities for cooperative partnerships to improve disaster management outcomes - s.16C(i).

Selection of the Mackay Disaster District

The Mackay Disaster District includes the three local government areas of Isaac, Mackay and Whitsunday. Isaac has the biggest land area of the three ($19,000km^2$) and the smallest population (24,000). Mackay's population of 124,000 is particularly concentrated in the city of Mackay. The Whitsunday's population of 35,500 is, like Isaac, spread across multiple communities and is also notable for its resort islands. The Queensland Police Service (QPS) District office and some state government regional offices are located in Mackay. A larger

number of agencies are also based in Townsville and due to their agency boundaries, will often be present at Local Group Meetings.

The Mackay Disaster District and related local governments and groups volunteered to participate in this capability review. Other factors considered when selecting the Mackay Disaster District included:

- a diverse community and economy including tourism, mining and agriculture
- major floods and cyclones in the Mackay Disaster District in the recent past (2011-13) provide a valuable reference point for the local disaster management practitioners when considering their arrangements
- the variety of potential hazards across the Mackay Disaster District, such as cyclone, flood, fire, dam failure, animal or plant disease, mining or transport accidents.

The map below shows the geographic location of the Mackay Disaster District and includes the Queensland local government areas, major communities, major roads and referable dams.

Referable Dam Name	Nearest_Town
Andrew Deguara Holdings Pty Ltd Property Dam	Mount Ossa
Dalrymple Bay Coal Terminal - Quarry Dam	Sarina
Environmental Dam	Blair Athol
Eungella Dam	Eungella
Gap Creek Dam	Lindeman Island
Kinchant Dam	North Eton
Middle Creek Dam	Sarina
Newlands Coal Mine - Cerito Creek Dam	Glenden
Peter Faust Dam	Proserpine
South Walker Mine - Down Dip Dam	Coppabella
Teemburra Dam	Mirani

Mackay Disaster District

Scale at A3: 1:1,850,000

Scope

The Act outlines the functions of local and district disaster management groups to support public safety. The Standard establishes key outcomes for local and district disaster management groups and local governments to meet these obligations. The plans, arrangements, processes and systems of the Mackay District Group, and the related local governments and Local Groups were considered alongside the functions in the Act and the outcomes of the Standard.

Out of scope

The disaster management arrangements of all other entities unless they directly affected the Mackay Disaster District.

Methodology

The review was conducted between 1 July 2016 and 30 November 2016.

Review activities
Orientation meetings

An orientation meeting was held with Mackay District Group and local group representatives to outline the review process, identify key dates, deliverables and data collection activities.

Data collection survey

Representatives from all of the Groups completed a data collection survey based on the fourteen Components of the Standard. The survey required respondents to identify capability levels for these components. They did so by considering all outcomes and indicators of the Standard, and rating their Group's capability using the following classification:

Strong – outstanding capability supported by evidence of good practice and capacity to sustain (average score 4).

Well placed – capability gaps are identified and practical improvements are planned or underway, with capacity to achieve outcomes (average score 3).

Development area – more action is required to close current capability gaps and deliver improvements over the medium term. Capacity to deliver is not assured (average score 2).

Limited – not well placed to address weaknesses in the short to medium term and needs additional capacity and support to secure effective delivery (average score 1).

As part of this data collection, Group members were asked to provide evidence, such as plans, sub-plans, meeting minutes, public engagement materials, websites, maps and exercise records, to support the assessment.

Desktop analysis

The Office assessed the survey results, analysing specific components of the Standard using the evidence provided, and referring to legislation, state level plans and doctrine. The Office then conducted an internal validation of these assessments and levels of capability for each component. For each Local Group and the Mackay District Group, a series of observations, identifying good practice and areas for improvement, was developed.

Insight summary report

Based on the desktop analyses and observations, an insight summary report was produced for each Local Group and the Mackay District Group. These reports provided a comparison against the components of the Standard, using the same ranging from Strong (4) to Limited (1).

Community feedback

Community feedback is incorporated in the capability review methodology. In some previous reviews, an external market research company was recruited by the Office to facilitate community focus groups. In this review community focus groups were not undertaken as the Local Groups advised they had a range of mechanisms in place to capture community feedback. Direct community feedback was not included as part of this review.

Validation meetings

The Office met with representatives from each Group to discuss their insight report, request clarification and gather further evidence where required. Each Group was provided the opportunity to invite relevant members to take part in these discussions and provide further evidence of capability to augment the Office's initial assessment. The meetings included representatives of the three Councils, Queensland Fire and Emergency Services, Queensland Police Service and members of the Groups. The initial insights were both confirmed and challenged, informing the final assessment of capability and the improvement strategy.

Report and improvement strategy

The Office's observations and insights were used to develop the final report and the Mackay Disaster District improvement strategy. The report illustrates the Office's comparative assessment of each Group's capability against the components of the Standard. Component scores were averaged to provide a capability rating against the Shared Responsibilities of the Standard.

The improvement strategy is based on sharing responsibilities across the Mackay Disaster District and driving excellence through the Good Practice Attributes of the Standard. It provides practical outcomes and deliverables from which the Mackay Disaster District can build action plans to further improve capability and effectiveness.

A draft of this report was provided for comment, to all review participants, the Local Government Association of Queensland, Queensland Fire and Emergency Services, Queensland Police Service, the Queensland Reconstruction Authority and the Disaster Management Inter-Departmental Committee for comment.

Improvement workshop

Following analysis and identification of gaps, the Office facilitates a district-wide workshop to focus on specific and contextualised actions for improvement.

Health check

A health check will be conducted 12-18 months after this review to capture the progress of the groups in implementing the improvement strategy.

Local and District group analysis

This section of the report provides a detailed assessment of the capability of each group. It identifies areas where each Group could further develop and improve its capability over time.

Isaac Local Disaster Management Group

Capability assessment

This section provides an assessment of the Isaac Local Disaster Management Group's (Isaac Group) capability to deliver the Key Outcomes of the Standard and to fulfil its functions under the Act.

Shared Responsibility	Standard Component	IGEM Rating	
1-2 Hazard & risk	Hazard identification & risk assessment	Well placed	🟩
2 Hazard mitigation & risk reduction	Hazard mitigation & risk reduction	Well Placed	🟩
3 Preparedness & planning	Capability integration Planning	Well placed	🟩
4 Emergency communications	Public engagement Communication systems Warnings	Well placed	🟩
5 Response	Control Command Cooperation & coordination Operational intelligence Resource management	Development area	🟧
6 Relief & Recovery	Relief Recovery	Development area	🟧

The Isaac Group is assessed as well placed across all the Shared Responsibilities with the exception of Response and Relief and Recovery which are rated as development areas.

Isaac Regional Council is responsible for a large geographical area which includes exposed coast line, industry including mining, and rural areas. Consequently, there is complexity in the hazards and risks faced by the Council area. As the human and physical resources available within the Council and to the Isaac Group, are less than those available to the other two Councils within the Mackay Disaster District, capability is developing. To fully achieve Key Outcomes, reliance on the broader Mackay Disaster District and other local groups is imperative. The strong disaster management relationships across the Mackay Disaster District have contributed significantly to the developing capability and confidence in Isaac Group's likelihood of achieving Key Outcomes. Developing areas include: mature risk assessments and mitigation strategies that focus on non-natural hazards, community profiling, enhanced functions during response and disaster operations, and relief and recovery activities. Isaac Group's dedication to good practice and its ability to draw on the disaster management expertise present in the Mackay Disaster District facilitates continual improvement.

Hazard identification and risk assessment / Hazard mitigation and risk reduction

The Office assessed Isaac Group's risk management components as well placed.

The Isaac Regional Council engaged a consultant in 2012 to prepare a natural disaster risk management plan. It contains a comprehensive risk register and is a sub-plan of the Local Disaster Management Plan which is available to the public via the Isaac Regional Council website. In 2015, a non-natural disaster risk register was prepared and includes the assessment of risk and treatment strategies.

The Isaac Group's approach to risk is based on recognised and valid methodology and is easy to understand. The natural disaster risk management plan is comprehensive and includes a community context section highlighting facilities, localities, critical risks, mitigation and treatment options.

The Isaac Group's meeting minutes provide evidence of mitigation activities being implemented and reviewed. The dedication to continual improvement has resulted in lessons identified from previous flooding events informing improvements to flood station monitoring. These improvements have been funded by a range of stakeholders including the Queensland Reconstruction Authority, Queensland Fire and Emergency Services, SunWater and BMA Mining demonstrating excellent engagement and collaboration.

Hazard and risk assessment could better inform land use planning and risk modelling. Data could also be utilised to raise community awareness of relevant critical risks. Information about risks, hazards and risk mitigation activities could be placed in a more prominent area of the website, to enable community involvement on mitigation proposals and activities.

The Local Disaster Management Guidelines define residual risk as risk remaining after risk treatment and also unidentified risk.[4] The risk assessment outlines residual risks for the Isaac Regional Council and this is shared with the Mackay District Group, however, this process is not formal or standardised. Residual risks within member agencies are not known, making a comprehensive risk assessment for the Isaac Group difficult.

Preparedness and planning

The Office assessed Isaac Group's Preparedness and Planning as well placed.

The Isaac Group conducts an annual exercise, the most recent being *Exercise Mobilise* conducted in December 2015. The purpose of the exercise was to determine the effectiveness of the process and to activate the Isaac Group for an emergent event.

Exercises to date, while based on identified risk, have used a desktop or discussion based format. Incorporating a functional or field aspect to the annual exercise program would inform the Isaac Group of the capacity and capability of staff within the Local Disaster Coordination Centre. The exercising of leadership and decision making within a functional exercise program will enable these aspects to be tested in-depth.

Activations and exercises have identified a number of lessons which are documented. The Isaac Group would benefit further if these documented lessons were linked to a rolling action plan and managed through to implementation of improvements.

The Isaac Group's training needs analysis provides evidence of members' current and future training requirements. The Emergency Management Coordinator regularly reviews these requirements and conducts training in accordance with the Queensland Disaster Management Training Framework.

The publicly available Local Disaster Management Plan was most recently reviewed in December 2015. The plan is clear about roles and responsibilities and is integrated with the Council's core business and service delivery. The Isaac Regional Council's operational plan and community strategic plan clearly identify disaster management as a priority. As permitted by the *Local Government Act 2009*[5], the Council levies a disaster management charge on ratepayers of $10 per year, to assist in funding annual disaster management activities.

There are some sub-plans, a number of which are currently being reviewed. In accordance with the Local Disaster Management Guidelines, sub-plans for public health and emergency supply would be useful additions.[6] The Office notes that an evacuation sub-plan is under development. To develop the sub- plan, evacuation planning workshops have been conducted to identify the complexities impacting evacuation as a result of the differing of hazards faced by each community in the Local Government Area and the large geographical distances that need to be covered.

It may be feasible to reduce the size of some sub-plans and standard operating procedures, or amalgamate them, and clarify their purpose. Amendment and review dates should be included in these documents. Consideration should also be given to creating a single point of truth to link the range of contact information present in many of the plans, so that the regular changes that occur to contact details can be more easily maintained. Together, these measures will help to avoid unnecessary duplication of information across plans, clarify the circumstance under which each document should be used and highlight the source of truth when managing an event.

Robust disaster management planning provides an understanding of capacity and capability limits and escalation points. Given the significant infrastructure in the Isaac local government area (and indeed across the Mackay Disaster District), the Isaac Group should have greater visibility of any emergency action plans developed by infrastructure owners. In particular, those of the mines and the airport, and the point at which an asset owner will seek support from the Isaac Group. With this information, plans and sub-plans could more effectively highlight functional leads for particular events and agreed priorities for action. The Disaster Management Officer has now commenced engagement with the mine operators.

This review encapsulates the 2016 Disaster Management Plan Assessment process. The specific results of the plan assessment will be reported on in the Disaster Management Plan Assessment 2016-2017 report.

Emergency communications

The Office assessed Isaac Group's Emergency Communications as well placed.

Timely public information and warnings are provided through a number of channels. There is a disaster management page on the Isaac Regional Council website with a range of useful documents and information for the public. The evidence suggests good links between the Isaac Regional Council's disaster management team and Council's corporate communications group to support public engagement campaigns.

Isaac Regional Council provides capable, integrated support to the disaster management arrangements. The corporate communications team organised a successful 2016 SES recruitment campaign that has attracted a number of new volunteers. Council's customer services officers are trained in the use of Guardian and many Council staff are deployed during events.

The Isaac Group has prepared and authorised Emergency Alert templates for cyclone, dam failure, dam spill, storm tide and tsunami. Evacuation zone polygons[d] have been provided to the State Disaster Coordination Centre. Clear and consistent language is evident in the examples provided to the Office.

Notwithstanding this good work, there are still opportunities for the Isaac Group to work more closely with the Isaac community to enhance public engagement and strengthen the community's role in preparing for disasters. The introduction of community profiling would enable more targeted engagement with at-risk or vulnerable populations and offer the potential for closer liaison with community leaders to determine what could be effective campaign topics. Crucially, such liaison would build opportunities to test education material with the community and improve it. There is some evidence that improvements have been made to communication processes following operations. The lessons identified from these events could be shared more widely and action plans would support continuous improvement of communication with the community.

Assurance of the effectiveness of warnings could be improved by regularly testing distribution channels, either separately or as part of a broader exercise. Periodic checks of the community's understanding of message content and the action they would take in response to the messages would provide further assurance. This could be undertaken through either a formal exercise or survey or surveying people during a community education event and asking them to read or listen to a message and provide feedback. As with public education, there are opportunities to more strongly engage community members and leaders in providing advice to the Isaac Group about disaster management communication. It would be particularly useful to target any communities deemed to be more

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[d] For the purpose of disaster management, a polygon is a 2-dimensional shape made up of closed straight lines that is defined as an emergency incident area on a map using a geographic information system, and that defines an area to receive an Emergency Alert, Emergency Management Queensland, *Queensland Emergency Alert Guidelines*, 2012.

at risk, due to their geographic location, language barriers or other identified vulnerability. Over time, these improvements should encourage greater community empowerment to plan and prepare for disasters and strengthen their resilience.

Within the Local Disaster Coordination Centre, a good range of communication systems and redundancies are in place to support disaster operations and provide timely information. For example, the Isaac Regional Council has 22 Flood Warning Stations in place which operates on a push and pull model. The interface has been established to send an email and SMS when water is approaching, imminent and inundates the roads as well as re-alarming as river levels recede. Alternatively, staff can dial one of nine phone numbers and receive an update on the corresponding river or creek height. The stations also collect rainfall data and are connected to the Bureau of Meteorology monitoring systems. Recently installed stations are yet to be integrated with the Bureau of Meteorology.

The Local Disaster Coordination Centre plan has a number of templates to support internal communication. For example, shift handover advice, media coordination log and briefing guidelines. The Guardian Control Centre[7] is the information management system used by the Isaac Group in disaster operations. Guardian has been recently upgraded with more training under way and plans for it to be the sole information source for Council during events. Once these improvements are in place it would be useful to undertake an assessment of how the Local Disaster Coordination Centre communication system links to other groups and agencies to build system interoperability. Such an assessment would provide an opportunity for Isaac Group members to work together on building a common understanding of their communication needs. A simple process for capturing information about system performance should also be developed so that improvements can be made over time.

Response
The Office assessed Isaac Group's Response components as a development area.

The Isaac Group's control system is well governed and documented. Roles, responsibilities and arrangements for communicating decisions through agency liaison officers are included within the Local Disaster Coordination Centre Standing Operating Procedures' and the Local Disaster Coordination Centre Management Plan. The exercising of decision-making processes would strengthen any gaps in existing doctrine.

While some sub-plans remain incomplete, response activities may be sub-optimal. Current activities to support evacuation planning and exercising will greatly assist urgent response activities related to evacuation. It is critical that the Isaac Group better understand potential evacuation requirements of community and mine employees.

Trained staff for the Local Disaster Coordination Centre have been identified, however, the review team was advised that after two days of a protracted event, these resources would be exhausted. Isaac Regional Council advised they would request additional staff for the Local Disaster Coordination Centre through the Council to Council arrangements already in place. There is a process for member agencies to nominate a representative to the Isaac Group, however the Office understands this process proved ineffective before and during response activities. More direct engagement with the leadership of the member agency via the Isaac Group Chair could help to ensure nominations are up to date and the nominated member to the Isaac Group possesses the authority to perform that role.

Isaac's Local Disaster Coordination Centre is sustained through the outlining of roles and responsibilities in the Local Disaster Coordination Centre sub-plan. This sub-plan is supported by Standard Operating Procedures which are widely distributed to supporting agencies. There is no guidance on event planning. A robust process for event planning should be developed that considers what activities might be required to meet community needs. Guidance should also ensure that there is mutual understanding of the responsibilities, operational goals and associated actions agreed to by member agencies. Capability across the Local Disaster Coordination Centre could be developed by running exercises, identifying lessons, and then acting on them.

The doctrine supporting the Isaac Group's Centre identifies intelligence as a function of the planning cell. There is no specific detail on the role of intelligence, the development of its products or related information sharing processes. It is suggested that the Isaac Group consider intelligence as a standalone function within the Centre, informing event planning. This will provide a specific focus for those with roles in intelligence and capability would be enhanced through specific training and exercises. An Intelligence module exists within the Queensland Disaster Management Training Framework. Functionality of the Centre would be increased by ensuring there are clear processes for information sharing and management.

The Isaac Group is moving towards being well-placed in Resource Management. There is a financial management sub-plan that uses existing standard council or agency authorisations, the existing council preferred supplier process, includes information about the Natural Disaster Relief and Recovery Arrangements and provides a checklist for responsible officers. The Isaac Group also has a draft logistics sub-plan in place. A comprehensive list of community resources is held by all disaster groups in the Mackay Disaster District, and potential storage and distribution depots across the local government area have been identified. Pre-planning about how needs should be prioritised when distributing resources during an event, would provide greater assurance that distribution is effective and represents value for money. This planning should be based on risk assessments and community profiles. For example, one improvement would be to draw on the Offers of Assistance Guidelines[8] and develop a process to coordinate offers of assistance, and align them with expected community relief needs when an event occurs. Roles and responsibilities for acquisition, storage, delivery, maintenance and distribution of resources should be clearly defined and supported by formal agreements with suppliers.

This approach could align with training in resource management and logistics that the Isaac Group has identified as a need. The Office notes that the Queensland Disaster Management Training Framework provides a Disaster Coordination Centre functions training package which includes an elective module on logistics functions and managing requests for assistance.

Relief and recovery
The Office assessed Isaac Group's Relief and Recovery as a development area.

For example, relief and recovery plans are in various stages of review and drafting. The current impact assessment documentation focuses on infrastructure and lacks guidance on roles and responsibilities on who will complete the impact assessment and what is done with the information once the impact assessment is complete. Relief could be enhanced by considering community need in impact assessment material, for example the status of

services and community support agencies. It is important to ensure the links between community need and operational decisions and activities are reflected.

To ensure relief activities can be undertaken, clear understanding of the capability required to manage evacuation centres is necessary. At this stage, specific requirements to manage evacuation centres and places of refuge e.g. water requirements, are not identified well. Memoranda of Understanding with relief suppliers would increase confidence in supply and clarify roles and responsibilities.

A local recovery coordinator was appointed in 2015. However the recovery plan is in draft. This plan should be streamlined, implemented and published. The plan would be supported by the creation of sub-groups reflective of the pillars of recovery. Community capability to support recovery, and play an active role in their own recovery, should also be considered. The Isaac Group may be able to draw on the plans held by the Mackay and Whitsunday councils to inform and finalise their recovery planning. Training and exercising should also be considered for the group.

The clear identification of triggers for transition between relief and recovery and the stages of recovery should also be documented and adopted by partner agencies. For example, identifying when community outreach could occur based on a certain percentage of people returning home. Documentation supports a shared understanding of priorities for both response and recovery.

The review team note that the management and maintenance of formal volunteering groups such as the State Emergency Services (SES) and Rural Fire Service Queensland (RFQ) is challenging in many rural areas. Isaac Regional Council has undertaken a targeted and innovative recruitment drive to enhance capacity and the Office was advised that this has found some success in increasing volunteer numbers by 12% at the end of September 2016. The production company responsible for the advertisement received the Queensland Multi Media Award for Best commercial under $2000 for the Isaac Regional Council SES campaign. The campaign is available online at http://www.isaac.qld.gov.au/ses-volunteering.

Mackay Local Disaster Management Group
Capability assessment

This section provides an assessment of the Mackay Local Disaster Management Group (the Mackay Group) capability to deliver the Key Outcomes of the Standard and to fulfil its functions under the Act.

Shared Responsibility	Standard Component	IGEM Rating	
1 Hazard identification & risk assessment	Hazard identification & risk assessment	Well placed	🟩
2 Hazard mitigation & risk reduction	Hazard mitigation & risk reduction	Strong	🟦
3 Preparedness & planning	Capability integration Planning	Strong	🟦
4 Emergency communications	Public engagement Communication systems Warnings	Well placed	🟩
5 Response	Control Command Cooperation & coordination Operational intelligence Resource management	Well placed	🟩
6 Relief & Recovery	Relief Recovery	Well placed	🟩

The Mackay Group is assessed as well placed across all the Shared Responsibilities with the exception of Hazard Mitigation and Risk Reduction and Preparedness and Planning which are rated as strong.

Mackay local government area has a large coastal frontage, ports and rural areas and has the largest population across the Mackay Disaster District. There is significant experience and disaster management expertise in Mackay's Group, including the Disaster Management Officers and agency representatives. As a result, Shared Responsibilities rated as Well Placed may in fact be Strong if evidenced assessed included 'real time' operational activity.

The Mackay Group could focus on empowering the community to contribute to disaster management and enhance resilience. The Mackay Group should also focus on enhancing their doctrine and governance across all the Shared Responsibilities as this will improve the good practice already displayed by the Mackay Group. The Office notes there is a forward work plan to update risk assessments.

The Office strongly encourages the Mackay Group to continue providing support to Isaac's Group to enhance capability across the broader Mackay Disaster District.

Hazard identification and risk assessment / Hazard mitigation and risk reduction
The Office assessed Mackay Group's Hazard and Risk management components as a well placed to strong.

The current Mackay Regional Council risk assessment plans are from the three former Councils prior to amalgamation. The Mackay City Council risk assessment was conducted

and completed in-house by Council staff in 2006. The Mirani Shire Council risk assessment was conducted by a consultant and completed in August 2003. The Sarina Shire Council risk assessment was also conducted by a consultant as a joint report with the former Broadsound Shire Council. The review team is advised that the three existing reports will be reviewed, updated and combined into the Mackay Regional Council risk assessment plan in 2017.

The plans contain a comprehensive risk register which is available to the public via the Mackay Regional Council website. Major infrastructure such as dams, ports and the airport, may create additional risks to the community or local environment if an event was to occur. Consideration of these non-natural hazards and linkages with the owners' emergency action plans would strengthen this component.

The approach to risk is based on a recognised and validated methodology and is easy to understand. The plan includes a community context section highlighting facilities, localities, critical risks, and mitigation and treatment options. The Mackay Regional Council's Emergency Management & SES Strategic Plan 2015 – 2021, outlines activities and allocates resources for mitigation work in response to identified risks. The Mackay Group's minutes provide evidence of tracking and reviewing these projects. Lessons identified from events, exercises and official reports (e.g. Callide Creek Flood Review)[9] are the basis for the risk review process, however the risk review process is not formally documented.

Information about risks, hazards and risk mitigation activities, could be placed in a more prominent area of the website, to enable better feedback to be obtained on existing activities and greater involvement in ones proposed. There is a documented process for Mackay Group members to highlight risks for their respective agencies. The Office was advised that these risks and residual risks, outlined in the risk assessment for the Mackay Regional Council, are shared with the Mackay District Group however the process is not formal or standardised.

The Mackay Group has identified mass evacuation as a result of storm surge combined with a category 4 cyclone as their largest risk. An evacuation of those residences potentially impacted would add significant time to the evacuation process, therefore planning relies on the community being aware and listening to warnings provided.
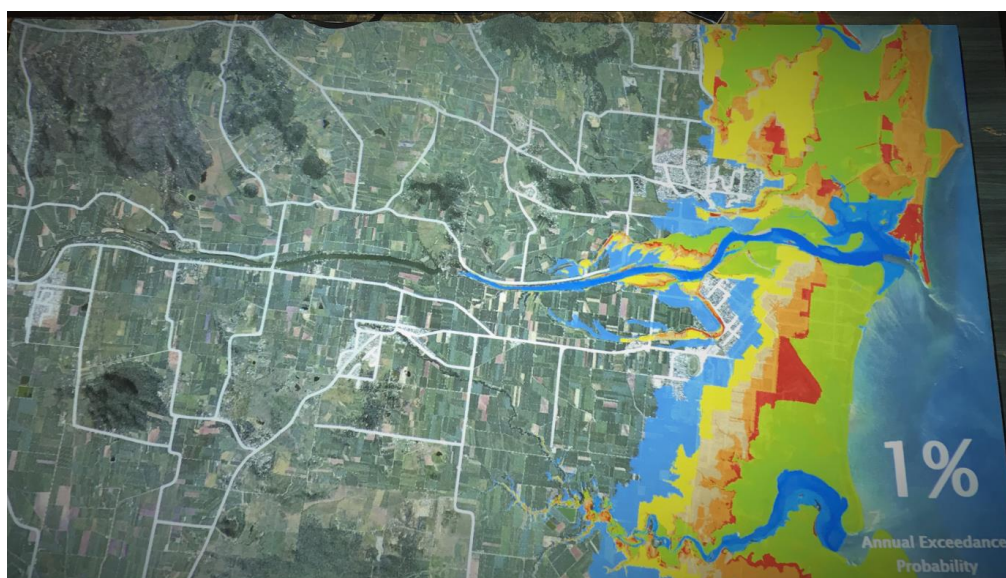
The Mackay Group's two dimensional Inundation Simulation Model. The model highlights storm surge and riverine flooding. The model will be on display with explanatory notes in the Mackay Library.

Preparedness and planning

The Office assessed Mackay Group's Preparedness and Planning as strong.

The Mackay Group conducts exercises, with the most recent being exercise *Black Wave* in August 2016. The exercise was facilitated by Queensland Fire and Emergency Services and Maritime Safety Queensland and was designed to determine the effectiveness of the response to a water pollution event.

Exercises, based on identified risk, to date have used a desktop or discussion-based format. Incorporating a functional or field aspect to an annual exercise program would help inform the Mackay Group of the capacity and capability of staff, especially within the Local Disaster Coordination Centre. The exercising of leadership and decision-making within a functional exercise program enables these aspects to be tested in-depth.

Activations and exercises have identified lessons for improvement which are documented, but implementation is not necessarily tracked. Greater benefit would occur if there is linkage to an action plan that is monitored.

The training needs analysis provides evidence of members' current and future training requirements. The Emergency Management Coordinator regularly reviews these requirements and conducts training under the Queensland Disaster Management Training Framework. From the selection of trained staff, the local group and council has identified individuals who will work in the Local Disaster Coordination Centre and manage the cyclone shelter.
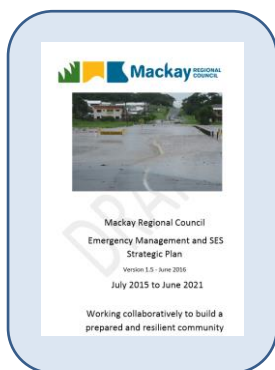
Planning is strong and well integrated with the Council's core business and service delivery. There is clear commitment to disaster management activities, with objectives identified in the Council corporate plan. Floodplain management, and drainage work is included in the Council operational plan and its links to disaster management are recognised reinforcing the integration of disaster management as 'business as usual'. There is an annual disaster response levy of $12.50 attached to Council rates.

> The Mackay Group demonstrated good practice and adaptability in being responsive to the emergent hazard of earthquakes, focusing on preparedness, following the 18 August 2016 earthquake off Bowen.

There is a comprehensive range of sub-plans which provide excellent guidance and could be shared with other disaster management groups as examples of good practice. Importantly, there is a comprehensive evacuation sub-plan, supported by published community guides for areas most likely to be affected by storm surge or reside in buildings not designed to withstand a category 4 cyclone.

The plan and sub-plans are regularly updated to reflect good practice and lessons learned. Consultation and feedback from the Mackay Group's members ensure a comprehensive approach to planning, as well as shared understanding of responsibilities. To strengthen this practice review dates should be identified in the documents so that users know they have access to the latest information. The disaster management web page could also be

refreshed more regularly with the latest documents, importantly, the most recently endorsed Local Disaster Management Plan.

This review encapsulates the 2016 Disaster Management Plan Assessment process. The specific results of the plan assessment will be reported on in the Disaster Management Plan Assessment 2016-2017 report.

Emergency communications
The Office assessed the Mackay Group's Emergency Communications as well placed.

The Mackay Group works collaboratively with Mackay Regional Council's Emergency Management, Corporate Communications & Marketing, Community Development and Community Engagement teams that provide continual support for disaster management activities. There is a public information and warnings sub-plan citing a variety of communications channels. There is evidence of attendance by Council disaster management staff at a wide range of community events and presentations to local groups. The Council's website provides detailed disaster information for the community. Eight volunteer Community Liaison Officers are engaged by the Council to work within three identified at-risk communities to provide a conduit through which the community can advise council of issues and priorities after an event.

While there is good knowledge within the Mackay Group about which community groups are vulnerable to natural hazards such as flood or storm surge, public engagement would be further strengthened by targeting other sectors of the community identified through risk assessments and community profiling. The introduction of community profiling will permit more targeted engagement with at-risk or vulnerable groups and create the opportunity for community leaders to have a direct voice in disaster management arrangements. Crucially, this liaison would build opportunities to test education and warnings material with the community and document improvements. Over time, these improvements should trigger greater community empowerment to plan and prepare for disasters and strengthen their resilience. To support these improvements, the existing Public Information and Warnings sub-plan could be extended from its current focus on preparing for imminent events. An emergency communications strategy that considers mechanisms for improving community engagement and empowerment and incorporates themes for future public education campaigns would support a comprehensive approach to public engagement.

Communication systems during events are supported by the Local Disaster Coordination Centre operational plan. This plan contains information on notification processes for each stage of an event, information flow, roles for communication positions and processes for communicating with the Mackay Disaster District. Guardian Control Centre is used to manage operations and redundancy measures appear to be fully considered. There is limited interoperability between Guardian and the State Emergency Service's Task and Management System (TAMS) which results in manual workarounds to avoid duplication of tasking when dealing with requests for assistance. Future improvements to communications systems would be supported by capturing information about system performance during exercises or events and incorporating that information into after action reviews and lessons identified.

A range of comprehensive preformatted warning messages are available for cyclone, river flood, tsunami and dam evacuation. Evacuation zone polygons[10] have been provided to the State Disaster Coordination Centre. The public information and warnings sub-plan outlines the responsibilities for issuing warnings and associated media releases. There are 24 rain and river warning gauges in the Mackay local government area which provide data to ensure accurate information that can be disseminated.

The public can also access interactive maps on the Mackay council website highlighting flood and evacuation zones. Completing regular community testing of warnings would assist to drive improvements over time to ensure the use of simple, community-focussed language, and clarity about the action to be taken. The 2017 risk assessment review may point to areas where pre-formatted warnings could be improved.

Response
The Office assessed the Mackay Group's Response components as well placed.

The Mackay Group's control system is well governed and documented. Roles, responsibilities and arrangements for communicating decisions through agency liaison officers is addressed by the Local Disaster Management Plan, activation sub-plans and disaster coordination operational sub-plan. The strong networks between members ensures information sharing protocols between the Mackay Group or the Local Disaster Coordination Centre and member agencies. A documented process outlining how member agencies will advise the Mackay Group of any emerging incidents, or requests for assistance from other agencies, is needed to ensure redundancies are in place. This would strengthen the communication and operational intelligence functions.

Member agencies have nominated core representatives for the Mackay Group and the Local Disaster Coordination Centre. On occasion, agency staff who have not completed the relevant components of the Queensland Disaster Management Training Framework training and do not have the knowledge and skill to represent their respective agency, attend as proxies both at normal meetings and during events. This limits the capacity for decision making, planning activities and efficiency of response activities. It is crucial that members have the authority within their command structure to make decisions and commit resources. A formal reaffirmation of the Mackay Group's requirements for liaison officers by the Mackay Group's Chair could assist to overcome this challenge.

The Mackay Local Disaster Coordination Centre is supported by the disaster coordination operational plan which is distributed to member agencies. The plan provides clarity on operational goals, and considers a variety of hazards. The discussion on hazards includes the trigger points for different levels of activation by the Local Disaster Coordination Centre. The plan identifies roles and responsibilities for positions in the coordination centre. This facilitates shared expectations and understanding for those with a role in the coordination centre and effective response.   The cooperation and coordination element of response could be enhanced by the Mackay Group clearly identifying processes for event planning and ensuring they are documented. Governance to ensure consideration of community need in an event and the consequent links to event planning should also be developed.

The Mackay Group has strong doctrine and governance supporting the intelligence function within the coordination centre. Capability could be further enhanced by exercises and training with a focus on the intelligence function. There is a clear information flow to support

the intelligence function and the operation of the Local Disaster Coordination Centre. Information flow is supported the Guardian Control Centre,[11] the information management system used by the local group in disaster operations. The council is enhancing the use of Guardian by utilising it for 'business as usual' activities which enables greater understanding of the system. There are good systems in place to manage resources and align expenditure with relevant funding arrangements. There is a financial management sub-plan, recently reviewed, that contains a Natural Disaster Relief and Recovery Arrangements submission checklist and cost centre codes for assigning expenditure.

The logistics sub-plan includes lists of local private contractors for equipment and emergency supplies, council assets and field contacts to ensure the use of local community operators. There is extensive local knowledge of suppliers and this list is shared at district level. Local offers of assistance are managed by the council call centre and distribution of resources by the SES. The group is also linked into the not-for-profit organisation of GIVIT[e], a free system for matching requests for resources to donations. Doctrine outlining how the two channels for offers of assistance are coordinated during an event would provide greater clarity for resource management. The effectiveness and efficiency of this aspect of resource management governance would benefit from the community profiling of vulnerable groups mentioned previously. Inclusion of resource management into a response focused exercise would enable identification of improvements.

Relief and recovery

The Office assessed Mackay Group's Relief and Recovery components as well placed.

The Mackay Group's relief and recovery activities are supported by a number of plans including the evacuation sub-plan, public cyclone shelter sub-plan, community support operational plan, logistics sub-plan and the local disaster recovery plan. There is a special needs register for residents in the Mackay local government area to help support relief activities. This register identifies those who may require assistance during an event for planning purposes, but does not guarantee assistance due to capacity limitations. These limitation prevents a resource being assigned to each individual on the register. The Mackay Regional Council, as a result of work undertaken in conjunction with the Department of Communities, Child Safety and Disability Services, is transitioning their special needs register to an Alert model, where those on list will receive an Alert to activate their own person emergency plans. Consideration of community need could be enhanced in the relief phase by ensuring impact assessments specifically ask for information which highlights community concerns, similar to those used by the Whitsunday Group.

The fundamentals of relief and recovery are present in the doctrine and governance for the Mackay Group. The doctrine also demonstrates the involvement of internal and external stakeholders in its creation. Strong leadership is demonstrated through the four recovery sub-groups have been established and are chaired by a Mackay regional councillor. The sub-groups have strong internal and external stakeholder membership. Roles and responsibilities for recovery are clearly outlined.

Capability for recovery could be enhanced by considering the role of community members in recovery activities and ensuring the group has an understanding of the community's ability.

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[e] www.givit.org.au

Recovery capability could be further improved through regular exercises across all pillars of recovery and could draw on the Mackay Group's recovery implementation plan as a basis for the exercises.

Mackay Regional Council has a SES base of about 250 volunteers and a number of Rural Fire Service Queensland Volunteers. In the Calen area there is a Memorandum of Understanding in place to establish collaborative working relationship with Mackay Regional Council staff, SES and RFSQ volunteers operating in and around the Council depot. This ensures interoperability and the availability of staff for relief and recovery activities.

Whitsunday Local Disaster Management Group

Capability assessment

This section provides an assessment of the Whitsunday Local Disaster Management Group (Whitsunday Group) capability to deliver the Key Outcomes of the Standard and to fulfil its functions under the Act.

Shared Responsibility	Standard Component	IGEM Rating	
1 Hazard Mitigation & risk assessment	Hazard identification & risk assessment	Well placed	🟩
2 Hazard mitigation & risk reduction	Hazard mitigation & risk reduction	Strong	🟦
3 Preparedness & planning	Capability integration Planning	Strong	🟦
4 Emergency communications	Public engagement Communication systems Warnings	Well placed	🟩
5 Response	Control Command Cooperation & coordination Operational intelligence Resource management	Strong	🟦
6 Relief & Recovery	Relief Recovery	Well placed	🟩

The Whitsunday Group is predominately assessed by the Office as strong across the Shared Responsibilities. Relief and Recovery has been recognised as weaker and the Whitsunday Group is proactive in its activities to enhance these components. The Whitsunday Regional Council has numerous coastal and rural communities and acts as the gateway to the Whitsunday Islands. The economy of the area is driven by tourism, agriculture, construction and mining. The diversity across the area results in the requirement for the economic pillar of recovery to be fully functioning. The Whitsunday Group utilises strong partnerships and collaboration for disaster management, and drawing on these partnerships will assist with enhancing the Relief and Recovery Shared Responsibilities. Enhancing community engagement with a focus on community empowerment will ensure the group continues to model good practice through the Mackay Disaster District.

The Office strongly encourages the Whitsunday Group to continue providing support to the Isaac Group to enhance capability across the Mackay Disaster District.

Hazard identification and risk assessment / Hazard mitigation and risk reduction

The Office assessed the Whitsunday Group Hazard and Risk management components as well placed to strong.

The Whitsunday Regional Council engaged a consultant in 2010 to prepare a natural disaster risk management plan. It contains a comprehensive risk register and associated treatment plans within the Local Disaster Management Plan which is available to the public via the Whitsunday Regional Council website. Non-natural risks are noted within the Local Disaster Management Plan, however there are no corresponding treatment options.

The Whitsunday Group's approach to risk is based on a recognised methodology and is easy to understand and operationalise. The plan includes a community context section highlighting facilities, localities, critical risks, and mitigation and treatment options.

Lessons identified from previous events have informed planning and mitigation activities. For example, Ex-Tropical Cyclone Marcia resulted in the development of activation triggers for cyclone, Ex-Tropical Cyclone Dylan resulted in new evacuation maps for vulnerable communities and Ex-Tropical Cyclone Ita resulted in a rainfall and river station network being developed. Activities are documented and key stakeholders are engaged ensuring good practice is occurring. Using key hazards and risks to inform land use planning occurs through the council's planning department.

The Whitsunday Regional Council Annual Report outlines key mitigation activities, completed and proposed, and is available online and at the Whitsunday Regional Council office. The Whitsunday Regional Council website displays a variety of information on disaster management encouraging the community to make informed choices about their personal disaster management arrangements.

Residual risks for the Whitsunday Group member agencies are unknown. As state agency borders do not necessarily reflect district disaster management group borders, agency representatives may come from either Mackay or Townsville. At times this results in ad-hoc representation at meetings and reduced understanding of agency specific risks. The risk assessment outlines residual risks for the Whitsunday Regional Council, and those risks have been advised to the Mackay Disaster District via email. A formal or standardised process would strengthen this.

Preparedness and planning
The Office assessed Whitsunday Group's Preparedness and Planning components as strong.

The Whitsunday Group has conducted exercises, the most recent being exercise *Leaving Home* in November 2014. The purpose of the exercise was to determine the capability of the Whitsunday Local Disaster Coordination Centre to function effectively during an evacuation event.

Activations and exercises have produced a number of lessons identified which are documented. These lessons have been linked to a rolling action plan and actioned through to outcomes. The exercise program could be strengthened by ensuring the involvement of decision makers and leaders.

The Whitsunday Group's training needs analysis provides evidence of members' current and future training requirements. The Emergency Management Coordinator regularly reviews these requirements and conducts training under the Queensland Disaster Management Training Framework.

Planning arrangements are strongly integrated with the Council's core business and service delivery, including the Council's Operational Plan and Annual Report. A number of mitigation projects were being conducted during the review period, including the *Weather Stations River and Rainfall Alert Gauges in Proserpine and Southern Whitsunday Region.* This project involves the installation of real time ALERT river and rainfall gauges. There is a comprehensive range of sub-plans and evidence of substantial stakeholder involvement in

planning. This stakeholder engagement extends to other areas of council and to council's involvement in planning with other entities such as owners of dams and resorts. Tourism Whitsunday acts as the conduit between the Whitsunday Group and the resorts. The resorts all have substantial disaster management plans including evacuation plans. The Whitsunday Group holds a profile of all resorts. The links to tourism extend to caravan parks.

> Detailed evacuation planning processes and resulting plans for the Whitsunday Group is leading disaster management practice. Plans are supported by published community guides for areas most likely to be affected by storm surge or cyclone.

The documentation of triggers and escalation points could be improved to support greater transparency and broader knowledge across agencies and the community of entity roles, responsibilities and capability. Capability limits of the local group during an event are also unclear from the documentation. However, the review team was advised that Local Disaster Coordination Centre staffing would likely be exhausted after three days if there was a significant and extended event, and while not documented, the Mackay District Group shares this understanding

The Whitsunday Group meets every month during cyclone season, and every two months otherwise, serving to further strengthen relationships across member agencies. Meetings are well attended due to proactive management by the Chair and Disaster Management Officer and once a year the Whitsunday Group meets in Bowen rather than at the main council hub of Proserpine.

This review has encapsulated the 2016 Disaster Management Plan Assessment process. The specific results of the plan assessment will be reported in the Disaster Management Plan Assessments 2016-2017 report.

The Whitsunday Regional Council cyclone shelter, in the grounds of Proserpine State High School, Proserpine. A finalised Cyclone Shelter sub-plan is anticipated in February 2016 to replace the interim plans currently in existence.

Emergency communications

The Office assessed Whitsunday Group's Emergency Communications components as well placed.

Members of the public are encouraged to consider their emergency preparedness. The extensive range of material and wide variety of communication channels used to distribute

information are particular strengths. Examples include: the disaster management Facebook page with 4000 "likes" and regular posts; radio scripts and ads; cyclone shelter and evacuation videos; a cyclone preparedness guide for caravan owners. Public education material also attempts to manage community expectations by outlining the limits to emergency support and the role of community members. There is evidence that a significant number of people living in the local government area have emergency kits and possess a high awareness of the major natural hazards in the area.
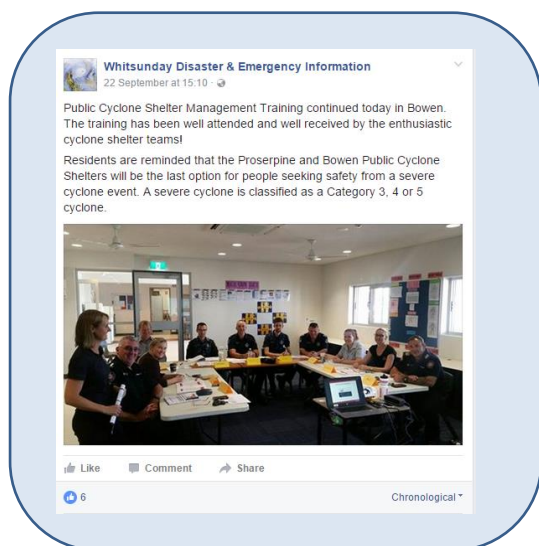
While there is already strong local knowledge within the Whitsunday Group about which community groups are vulnerable to natural hazards such as flood or storm surge, public engagement would be further strengthened by targeting other sectors of the community identified through risk assessments and community profiling. Island resorts have been profiled and the Office notes the Disaster Management Officer intends to commence development of community profiles for mainland communities. Community profiles will permit more targeted engagement with at-risk or vulnerable groups and create the opportunity for closer liaison with community leaders. Crucially, such liaison would build opportunities to test education and warnings material with the community and document improvements. Over time, these improvements should trigger greater community empowerment to plan and prepare for disasters and strengthen their resilience. To support these improvements, the existing public information and warnings sub-plan could be extended from its current focus on preparing for imminent events. An emergency communications strategy that considers mechanisms for improving community engagement and empowerment and incorporates themes for future public education would support a comprehensive approach to public engagement.

Communication systems support the continuity of disaster operations. The Local Disaster Coordination Centre Activation sub-plan contains a substantial communications component. Roles and responsibilities are detailed for a communications officer, media liaison officer and phone/Guardian logger. There are strong governance processes in place for the use of the Guardian Control Centre information system. There are also instructions for resetting the Guardian Control Centre should the server need to be moved and a procedure for information technology staff to set up the Local Disaster Coordination Centre. Whitsunday Regional Council has a strong relationship with the developers of the Guardian Control Centre as they are based in the Whitsunday Local Government Area and the Whitsunday Regional Council hosts the Guardian Control Centre server. This relationship enables the Whitsunday Regional Council to receive ongoing support and provide input into the ongoing development of the program.

Future improvements to communications systems would be supported by capturing information about communication system performance during exercises or events and incorporating that information into after action reviews and lessons identified.

As with public engagement, there is a comprehensive suite of warning messages, including media releases and Emergency Alert requests, pre-prepared to respond to the major natural hazards of the area. Evacuation zone polygons have been provided to the State Disaster Coordination Centre. Sections of the community at risk of flood or storm tide are identified and the Whitsunday Group will soon complete a revision of local storm tide maps in response to community feedback received after recent events. There are excellent instructions for recording voice warnings about floods. Council's "notify me" email register includes an option for receiving warning notifications.

The Whitsunday Group has recently released their *Emergency Action Guide* which was
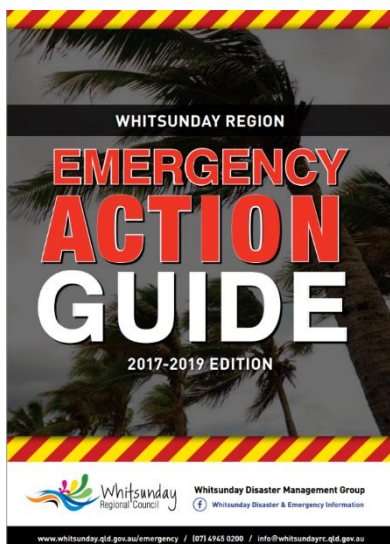
produced to provide education and public awareness for residents and visitors to the area in preparation for, response to and recovery from a disaster events likely to impact the Whitsunday region.[12]

The system of warnings could be improved by developing messages for groups who are vulnerable for reasons other than their location. Regular community testing of warnings and the associated community responses could drive improvements to the warnings delivered. Over time, this could act as a springboard to build greater community empowerment to plan and prepare for disasters and strengthen resilience.

> The Whitsunday Regional Council uses newspaper advertising and a letterbox drop to make annual contact with the Don River community (residents at risk of dam flooding) to ask community members to send in their contact details. This information is held in a register that can be used in the event that targeted alerts and warnings need to be disseminated.

Response

The Office assessed Whitsunday Group's Response components as strong.

The Whitsunday Group's control system is well governed and documented. Roles, responsibilities and arrangements for communicating decisions through agency Liaison officers is articulated within the Local Disaster Management Plan and activation sub-plans. The communication process between members relies heavily on the formed relationships, however is well supported by doctrine.

Staff for the Local Disaster Coordination Centre have been identified and are trained. Member agencies have nominated core representatives for the Whitsunday Group and Local Disaster Coordination Centre. However, members do not always have the authority within their command structure to make decisions and commit resources. Developing a process to confirm the member's suitability may provide additional safeguards for the group.

There is good governance supporting the setting of operational goals and operational missions within the Coordination Centre. There is comprehensive doctrine developed for the use of the Whitsunday Group's response activities. In particular, Operational sub-plan two -

Roles and Responsibilities of Participating Agencies in the Whitsunday Disaster Management Group - clearly outlines the roles and responsibilities of the state agencies within the Local Disaster Coordination Centre.

The hazard specific approach of the sub-plan also promotes understanding of specific roles and responsibilities and ensures linkages between hazard specific plans. The lack of specific governance in relation to these procedures is compensated for as the Whitsunday Group's meetings are well attended by agency representatives. Representatives can differ depending on the location of the meetings.

Doctrine supports the intelligence function within the coordination centre. There is a position description for the intelligence role and clear doctrine relating to the position's responsibilities, training and exercising. The Whitsunday Group has a variety sources for intelligence and information collection, such as council staff, emergency services, island resorts and shops. Utilisation of this information would be enhanced by doctrine which outlines the processes for sharing information and the subsequent creation of intelligence products. This doctrine would also ensure relevant input and timely consideration of liaison information. Enhancing the doctrine would also link to improvements in event planning as information would be readily available. The Whitsunday Group should consider how community need is identified, recorded, shared and then influences event planning.

Cameras on Shute Harbour Rd at the Hamilton plains (a known local flood zone) send visual updates to the Whitsunday Council webpage every 15 minutes.

Financial management and resupply sub-plans are in place, as are role descriptions for finance and logistics officers. The arrangements to access Natural Disaster Relief and Recovery Arrangements funding are clearly explained and it is noted that Natural Disaster Relief and Recovery Arrangements training provided by the Queensland Reconstruction Authority took place in September 2016. There are processes documented to manage resources and align expenditure with relevant funding arrangements. A Memorandum of Understanding is in place between the council and GIVIT. While there are several lists of local assets, equipment and suppliers, roles, responsibilities and processes for storing, delivering and distributing resources are not defined. Nor is it documented how community members most in need would be identified and prioritised to receive resources during an event. As previously mentioned, the effectiveness and efficiency of this aspect of governance would benefit from stronger planning and exercising of logistics capability. The community profiling of vulnerable groups would also enable improvement to this outcome.

Relief and recovery

The Office assessed Whitsunday Group's Relief and Recovery components as well placed but not mature.

The evacuation sub-plan, maps and resupply operations plan support relief activities. The Evacuation sub-plan considers relief requirements for those who are evacuated such as ensuring language support, potential special needs are provided for and religious requirements are addressed. The role of the resupply coordinator is outlined and is supported by a role check list. It is noted that the Whitsunday Group is working on methods to ensure local suppliers can continue to provide supplies during an event.
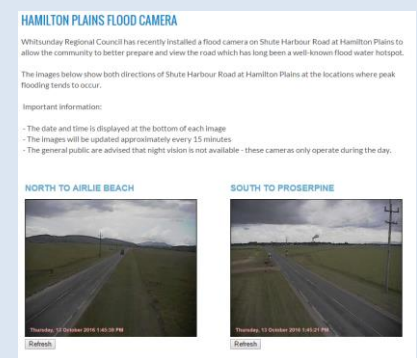
The Whitsunday Group's approach to impact assessment is equally focused on community wellbeing, the status of key services and infrastructure. This provides a clear understanding of community needs resulting in informed operational decision-making during events. This good practice could be adopted by the Mackay Disaster Group.

To improve the relief practices for the Whitsunday Group it is suggested specific roles and responsibilities for relief activities are captured in doctrine. Governance for agency acceptance of these roles could also be strengthened and would assist with the transition from relief to recovery.

Whitsunday Regional Council appointed a dedicated part time recovery coordinator in August 2016. However, if an activation were to occur the position would be made full time. The Whitsunday Group has drawn on experiences from previous events to develop its approach to recovery. The Human and Social pillar of recovery has a specific sub-group and is strongly positioned with governance, doctrine and stakeholder engagement. The Economic pillar's sub-group meets and there is a clear understanding of member roles and responsibilities.

Recovery could be strengthened by providing greater governance and doctrine for the pillars of Environment and Infrastructure. When developing the supporting doctrine it is important to consider the phases of recovery and transition processes between them. Recovery could also be enhanced by improving capability through exercises and developing strategies to involve the community in its own recovery.

Mackay District Disaster Management Group
Capability assessment

This section provides an assessment of the Mackay Disaster Management Group (Mackay District Group) capability to deliver the Key Outcomes of the Standard and to fulfil its functions under the Act.

Shared Responsibility	Standard Component	IGEM Rating	
1- Hazard identification & risk assessment	Hazard identification & risk assessment	Well placed	🟩
2 Hazard mitigation & risk reduction	Hazard mitigation & risk reduction	Development area	🟧
3 Preparedness & planning	Capability integration Planning	Well placed	🟩
4 Emergency communications	Public engagement Communication systems Warnings	Well placed	🟩
5 Response	Control Command Cooperation & coordination Operational intelligence Resource management	Well placed	🟩
6 Relief & Recovery	Relief Recovery	Development area	🟧

The Mackay District Group is assessed by the Office as well placed, with the exception of two of the Shared Responsibilities. Hazard Mitigation and Risk Reduction and Relief and Recovery have been identified as development areas. It is acknowledged that the Mackay District Group utilises various informal mechanisms, possess high level disaster management expertise in membership and facilitates the strengthening of relationships which negate potential gaps. Good practice is apparent in many of the activities of the Mackay District Group, for example the *Cyclones-Tropical Low triggers and action document.* The document enables the Mackay District Group to clearly identify when to stand up and capacity considerations. The Mackay District Group can then provide that information to state to assist with overall planning. The Mackay District Group would benefit from enhanced documentation, including governance processes that fully demonstrate fulfilment of legislative functions.

Hazard identification and risk assessment / Hazard mitigation and risk reduction
The Office assessed the Mackay District Group's Hazard and Risk Reduction components as a development area to well placed.

The Mackay District Group's approach to risk is based on recognised and validated methodology and is easy to understand and apply. The Mackay District Disaster Management Plan includes risk analysis, evaluation and treatment plans reflective of the entire District. The risk register is comprehensive and contextualised for the Mackay Disaster District by including a community section highlighting facilities, localities and critical risks.

The Office is advised that risks and hazards are reviewed annually by the District Executive Officer. As part of this process, the Executive Officer consults with local group representatives, to ensure continued alignment, accuracy and relevance. Documenting the risk review process would clarify its purpose and assist in escalation of residual risk where gaps in capability and capacity are identified. The Office acknowledges that QFES is currently developing a state wide risk register and a pilot risk management model and the District Executive Officer has provided input into this. Until this pilot model is tested, validated, and more broadly applied, the Mackay Disaster District is unable to effectively manage escalated residual risks. In saying this, the review team notes that the Mackay District Group Chair and Executive Officer have a good understanding of the Local Groups' capacity and capability, based on residual risk, developed through operational experience. The work being undertaken by the Mackay Disaster District to review the Mackay Disaster District risk management plan is acknowledged.

Member agencies' risks are unknown or unclear and there is no apparent mechanism for making these risks known, apart from relationships within the group. Developing a process would clarify what these risks are which would assist in the planning process.

Mitigation activities of the Local Groups are monitored by the Mackay District Group.

Preparedness and planning
The Office assessed Mackay Disaster District Group's Preparedness and Planning Shared Responsibility as well placed.

Exercises are conducted with the most recent being Exercise *Contact* in December 2015. The purpose of the exercise was to determine the effectiveness of the Mackay District Group warning and notification strategy. Outcomes form the exercise contributed to a refined strategy.

Exercises, while based on identified risk, to date have used a desktop or discussion-based format. Incorporating a functional or field aspect to an annual exercise program would inform the Mackay District Group of its capacity and capability, especially of staff who operate the Mackay District Disaster Coordination Centre. A functional exercise would also enhance decision making and state agency integration. A Mackay Disaster District wide exercise and lessons program, developed and documented at the Mackay District Group level would integrate whole of Mackay Disaster District improvement and inform effective risk escalation.

The training needs analysis provides evidence of members' current and future training requirements. The Emergency Management Coordinator regularly reviews these requirements and conducts training under the Queensland Disaster Management Training Framework.
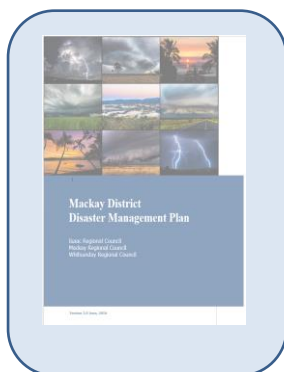
The current Mackay District Disaster Management Plan, revised and approved in July 2016, effectively addresses the Mackay Disaster District context. The Office recognises that the Mackay Disaster District is currently testing and implementing a new planning template, developed by the Queensland Police Service that aligns with the Standard.

Relevant hazard-specific or agency plans are cross-referenced in the Mackay District Disaster Management Plan and are available to the Mackay District Disaster Group via the Executive Officer. Examples include Maritime Safety Queensland plans for response to port oil spills, Mackay Airport Emergency Action plan and the Department of Housing and Public Works regional plan. These plans support functions articulated in the State Disaster Management Plan. There is an expectation set by the Chair and Executive Officer that lead agencies review their plans to ensure they align with the Mackay Disaster District Plan. In addition, the strong relationships maintained across the Mackay Disaster District result in shared knowledge of the activities of other key agencies.

As with local plans, a further improvement would be for capability and capacity limits for entities responding to an event within the Mackay District Group to be more transparent. This would help to clarify roles, responsibilities and the levels of authority required of members on the Mackay District Group and in the Mackay District Disaster Coordination Centre. The Office acknowledges the constant communication that occurs between key staff from Isaac Group, Whitsunday Group, the Mackay Group and Mackay District Group during an activation and the very high level of local knowledge about capacity and resourcing. Documenting this existing knowledge would be beneficial for event planning during an activation and for orienting new personnel.

> The Transport and Main Roads department hold an annual preparedness day in the region attended by representatives from councils and other agencies. Lessons learned from previous events are also discussed.

This review encapsulates the 2016 Disaster Management Plan Assessment process. The specific results of the plan assessment is reported on in the Disaster Management Plan Assessments 2016-2017 report.

Emergency communications
The Office assessed Mackay District Group's Emergency Communications components as well placed.

District Groups are to ensure communities are aware of ways to mitigate, prepare for, respond to and recover from disaster events.[13] Regular meetings between Council Disaster Management Officers and the District Executive Officer facilitate the sharing of community education resources and program models across the Mackay District Group. The Office was also advised that information about public education activities is regularly reported to Mackay District Group meetings to ensure agency awareness of public education programs operating in the Mackay Disaster District. To further improve role clarity and to create opportunities for sharing ideas and innovations, a strategy for public engagement should be

outlined in the Mackay District Disaster Management Plan. There are opportunities for the Mackay District Group to add further value to public engagement, for example, ensuring that community education programs across agencies and local groups meet the needs of vulnerable people and particular community groups.[14]

District groups are responsible for establishing and reviewing communications systems in the group, and for ensuring that they work for local groups when a disaster happens.[15] The Mackay District Disaster Coordination Centre Operational plan provides an excellent explanation of information flows during an activation. It includes notification requirements for all stages of the activation, the SITREP[f] process, incident logging, a process for communicating with the State Disaster Coordination Centre, and role descriptions for a Media Liaison Officer and Communications and Phone operators. The Mackay District Disaster Coordination Centre uses the Disaster Incident and Event Management System a web-based system that can be accessed externally. The system is interoperable with the Guardian Control Centre, the system used by the three Local Disaster Coordination Centres. To support business continuity, there is a backup Mackay District Disaster Coordination Centre site and both sites are fully equipped with appropriate communications systems, including phone, radio and internet. The Mackay District Group contact lists are regularly reviewed and are current.

The Mackay District Group could further improve its communication systems by documenting the information flow between the Mackay District Disaster Coordination Centre, member agencies and the Whitsunday Group, Mackay Group and the Isaac Group during an event and by exercising these processes and the related systems. Regular analysis of system performance after exercises and events should be undertaken to identify and implement system improvements. Pre-prepared event communications reflecting the most likely hazards faced by the Mackay District Group would improve governance and performance in this area.

The Mackay District Disaster Management Plan has a thorough overview of responsibilities for disseminating warnings. Mackay District Group members are obligated to feed warning messages from their agency to the Mackay District Group and the Isaac Group, the Whitsunday Group and the Mackay Group, however, this can be ad hoc depending on the hazard. Tests of the system should be done to assess the time it takes to pass on warnings and find any impediments to rapid and efficient receipt of messages. Pre-prepared warning message content should also be evaluated periodically for consistency across the multiple agencies that may be involved in a significant event.

Response

The Office assessed the Mackay District Group's Response components as well placed.

The Mackay District Group's control system is well governed and documented. Roles and responsibilities are outlined in the Mackay District Disaster Management Plan and Mackay District Disaster Coordination Centre instructions. They are comprehensive and

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[f] a brief report that is published and updated periodically during an emergency which outlines the details of the emergency, the needs generated, and the responses undertaken as they become known

contextualised to the region. Roles of functional lead agencies in hazard specific events are clear and information about functional plans is included.

Trained staff for the Mackay District Disaster Coordination Centre have been identified. Member agencies have nominated core representatives for the Mackay District Group and District Disaster Coordination Centre. There is a documented process implemented for reviewing Mackay District Group membership annually. This process is intended to ensure that members have the authority within their command structure to make decisions and commit resources. Agencies are asked to complete a template for their member that includes position, level of authority and training.

The Mackay District Disaster Management Plan addresses cooperation and coordination in Annexure I – Mackay Disaster Coordination Centre Instructions. This doctrine clearly highlights the operating environment for the Mackay District Group across all hazards and outlines processes for operational goal setting. The Mackay District Group's expectations of agencies are clearly detailed. This ensures agencies know the capability they are expected to provide to adequately staff the centre.
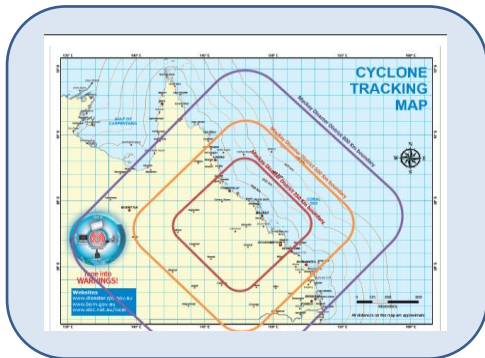
The Mackay District Group's *Cyclones-Tropical Low triggers and action* document provides a good example of supporting material for effective event planning. Replicating this document across a variety of hazards would improve triggers for operational activities. Increased linkages between community needs, event planning and intelligence would also improve the Mackay District Group's performance.

The creation of common situational awareness is likely to be achieved during response activities. The annexure J to the District Disaster Management Plan – Suggested Information Flow - provides guidance on the Mackay District Disaster Coordination Centre's information flow protocols. The suggested information flow approach to incoming information from key agencies, the handling of the information and the subsequent use of the information enables consistency and continual updating and potentially mitigates the loss of information. For example, any information received is duplicated and provided to the Intelligence Officer as well as being entered into the Disaster Incident Emergency Management System.

The Mackay District Group's intelligence capability is well placed. The doctrine provides examples of potential tasking, and the intelligence function is undertaken by trained police. The Mackay District Group could further develop their capability through exercising their intelligence function. The strength of the intelligence function could also be shared with the Local Groups to enhance overall capability.

The Mackay District Group's functions include the identification of resources within the District Disaster Management Plan to allocate and coordinate the use of these resources, and coordinate the provision of state resources and services.[16] This plan provides useful guidance for sourcing resources and information about Natural Disaster Relief and Recovery Arrangements and State Disaster Relief Arrangements. There are processes documented to deal with resupply requests and to record expenditure, and a role description for an administration and logistics officer. A brief logistics sub-plan includes useful registers for

plant, equipment, removal and storage services across the Mackay District Group. Registers of suppliers from within the three local government areas are available to the Mackay District Disaster Coordination Centre and have been circulated to all groups.

Development of doctrine on the roles, responsibilities and processes associated with storage, distribution and delivery of resources would improve governance. While Offers of Assistance and Requests for Assistance can be recorded by Local Disaster Coordination Centres in Guardian, a process for managing and aligning the two should be developed as this would benefit the Local Groups. As suggested in the local group assessments, pre-identification of vulnerable groups who may need priority access to resources during an event would strengthen the capability and performance of this component.

Relief and recovery

The Office assessed the Mackay District Group's Relief and Recovery components as a development area.

Discussion of relief is currently absent from the Mackay District Disaster Management Plan apart from some operational detail located in the annexures. Better understanding of local and district relief capability would ensure improved outcomes.

Human Social recovery processes are the focus of recovery at the Mackay District Group level. There is a dedicated Human Social Recovery Plan developed by the Department of Communities, Child Safety and Disability Services and recovery as a concept is addressed in the Mackay District Disaster Plan. The remaining pillars of recovery (Economic, Environment, Roads and Transport and Buildings) have no supporting doctrine. Greater engagement with the State agencies, exercising and enhanced governance processes between the Isaac Group, Whitsunday Group and Mackay Group and Mackay District Group for recovery activities will improve capability and understanding across the Mackay Disaster District. This would also assist with ensuring Local Groups are adequately supported during and after events.

Mackay Disaster District analysis

This section of the report builds on the Office's observations from the four disaster management group assessments, considers common themes, and proposes shared capability improvements for the Mackay Disaster District. The analysis is based on what the Office expected to find (legislated functions and capability required to achieve outcomes), and what was found (observations and findings). The analysis challenges the Mackay Disaster District that is rated as well placed to strong, to further extend and share its good practice and build greater resilience for community members.

Hazard identification and risk assessment / Hazard mitigation and risk reduction

What the Office expected to find

The legislated functions of the three Local Groups and the Mackay District Group include ensuring communities are aware of ways of mitigating the potential adverse effects of an event.[17] It would be expected that hazard identification and risk assessment processes form the basis for comprehensive disaster management planning. Hazard mitigation and risk reduction plans and activities emerge from risk assessments and reduce the likelihood and consequence of a hazard affecting communities.

What the Office found

The Office found the Mackay Disaster District varies between well placed and strong in these Shared Responsibilities. A variety of methods are used to identify hazards and risks, including formal risk assessments, previous events and exercises. The Office saw excellent examples of assessment, treatment and risk registers for natural hazards. Due to the large amount of infrastructure (e.g. mines, ports) risk assessment of man-made hazards could be better addressed. Increased engagement and partnership with private enterprise and infrastructure owners is suggested to better inform risk management activities. A strong focus on mitigation is likely to enhance community resilience and infrastructure and this was apparent across the Mackay Disaster District with a range of mitigation activities being undertaken by the Councils.

Defining and communicating residual risk is pivotal to effective planning and resource management at all levels. Currently there are informal practices in place to notify the Mackay District Group of residual risks affecting all three local groups. More formalised processes, based on standardised methodology would benefit the Mackay Disaster District and support the escalation of key risks to the state. Further engagement with QFES may support more comprehensive risk management.

Preparedness and planning

What the Office expected to find

District disaster management groups and local governments (supported by LDMGs) are responsible for developing a disaster management plan.[18] It would be expected that plans, and more importantly the planning processes, involve a range of stakeholders who understand and accept their roles and responsibilities for achieving the functions of the disaster management group. It would also be expected that plans and the planning process would consider all phases of disaster management, and be based on identified risk and priorities.

The Act requires disaster management groups to regularly review and assess the effectiveness of their disaster management and plans.[19] Desktop plan assessments are conducted annually through a structured state-wide process based on the Standard. The 2015 results were considered as part of this review. The 2016 desktop plan assessments for the Mackay Disaster District were generated as a result of this review. It would also be expected that the Mackay District Group would be fulfilling its responsibilities to ensure effective disaster management across the Mackay Disaster District, including reviewing and assessing the disaster management plans of local governments in the Mackay Disaster District.[20]

Demonstration of the effectiveness of plans and arrangements would be expected. This is achieved through training and exercise programs that consider local risks and priorities and are coordinated across the Mackay Disaster District. To promote capability improvement, processes to identify and manage lessons following exercises and events is expected.

What the Office found

It was found that the leadership and partnerships in the Mackay Disaster District is directly linked to capability. These partnerships are supported by a vast array of operational experience, sharing of information, supporting each other and ensuring redundancies are in place for practitioners. The underpinning culture of the Mackay Disaster District leverages the various skills of its core group. Working relationships operate effectively because the professional approach, knowledge and capability (and passion) of the group of Disaster Management Officers, Emergency Management Coordinator, Executive Officer, and Chairs builds trust and respect.

Exercises within the Mackay Disaster District were conducted to varying levels, from desktop discussion through to functional stand-ups. Lessons identified during these exercises are managed disparately. Where lessons were documented and actioned, significant improvement in disaster management was apparent. There was evidence of continuous improvement where practice is amended in 'real time.' The review team suggest that the Mackay District Group could play a stronger role in ensuring that lessons and associated improvement strategies are shared across the Mackay Disaster District.

It is evident that individuals undertaking disaster management responsibilities are highly trained with redundancies in place. Capability is enhanced by having "layers" of disaster management practitioners who have the pertinent expertise across the Mackay Disaster District. The Mackay District Group should consider developing a coordinated program of exercises for those components where all groups could benefit, for example Resource Management and Intelligence.

Planning is sound across the Mackay Disaster District. The strong disaster management culture extends to committed and proactive group Chairs providing authority and governance over plans. The local groups and the Mackay District Group meet regularly and meetings are well attended, especially in Mackay. Disaster management priorities and projects are clearly integrated in the work of the related councils and is perceived as normal business.

Doctrine and templates are shared across the Mackay Disaster District and relevant stakeholders engaged when plans are being reviewed or refreshed. The dedication to good practice and the sharing of documents between Disaster Management Officers is fully supported by the Mayors and Chairs. Where gaps in governance or doctrine exist, there are

other enablers through strong local networks and extensive local knowledge, ensuring good performance of the disaster arrangements and support for public safety.

The need for greater commitment by state agencies to disaster management, has been identified in past reviews by the Office. To a lesser degree than other Districts, Mackay Disaster District is no exception. However, the issue is being proactively managed by Chairs and supporting staff. The Whitsunday Group Chair and Disaster Management Officer are explicit in their expectations of attendance and participation. Consequently they have excellent attendance at meetings. The Isaac Group Chair is testing ways to improve attendance at the Isaac Group, where travel time from larger centres appears to present a barrier to attendance. The Disaster Management Officers are proactive in providing advice and input to state agency plans, for example, Emergency Action plans for dams and a cyclone shelter Memorandum of Understanding. However, the Office also heard that local groups field many requests from state agencies for advice and consultation, sometimes with short timeframes. These requests are at times perceived as burdensome when the future benefit to local groups is not clear.

Emergency communications

What the Office expected to find

Emergency communications is a Shared Responsibility that covers the components of Public Engagement, Communication Systems and Warnings. It would be expected that there would be communication capability within and between the local and District groups and local governments in the Mackay Disaster District;[21] and between the groups, councils and the community. It would also be expected that local and district groups have ensured communities are aware of ways to mitigate, prepare for, respond to and recover from disasters or emergency situations.[22]The office expects communication systems, technology and processes would be interoperable and regularly reviewed.

What the Office found

The Local Groups have excellent public education and warnings information and regular campaigns to enhance community awareness. Multiple channels are used to distribute information. The Mackay Group and the Whitsunday Group target property owners or communities in particular localities or high risk groups such as transient workers and tourists who have been identified as particularly at risk. The Mackay and Whitsunday Councils and Groups have very advanced education and engagement programs. Isaac's Council and Group is continually developing its education and engagement programs. The Councils have an holistic and collaborative approach to disaster management messages with evidence of excellent support from all the Councils' communications and community education teams. Community opinion surveys are conducted by all councils and they rate the disaster management arrangements as good to excellent.

Communications systems are robust and operate reasonably well between the local groups (Guardian Control Centre) and the District (DIEMS) with the aid of an information exchange platform developed by the State Disaster Coordination Centre. The issues regarding the interoperability between Guardian and the State Emergency Service's Task and Management System (TAMS) results in significant manual workarounds to avoid duplication of tasking when dealing with requests for assistance during an event. The Office is aware

that this is an issue for many councils and priority needs to be given to improving interoperability between the systems to improve disaster management holistically.

The Whitsunday Group, Isaac Group and Mackay Group and Mackay District Groups' current community profiling is limited to geographical considerations and focuses on those exposed to the natural hazards of cyclone, storm surge or flood. The Council's need to build a greater understanding of vulnerable groups within their communities and ensure this information is accessible to each group. The Department of Communities, Child Safety and Disability Services, "*Vulnerable Persons in Disasters Framework*" is the suggested basis for a discussion on vulnerable groups. Undertaking broad community profiling would enhance not only Emergency Communications but also the Components of Resource Management, Relief and Recovery, through enabling better targeting of education, warnings and resource use and distribution. Improved links with local agencies who provide direct support to vulnerable groups would build opportunities for collaboration, joint leadership and management of public education and resources, increase community resilience and drive community empowerment. Two groups have already identified the need for a more strategic approach to emergency communications.

From this robust platform there is an opportunity to further build community engagement and focus on community empowerment. Testing messages and information with the public to ensure understanding remains a development area for the Mackay Disaster District. There is an opportunity when improving this aspect to use it as an avenue to increase engagement with local community groups and leaders to build stronger partnerships over time. The operations of Community Coordination Committees in the Fraser Coast and Lockyer Valley[23] local government areas may provide learnings from which the Whitsunday Group, Isaac Group and Mackay Group and Mackay District Group could develop an approach.

Focusing on the Mackay Disaster District's dedication to good practice and collaboration, models such as IAP2 ideal of shared leadership and action with the community (depicted in Appendix B or similar) might also considered. Under this model, those supporting disaster management communications and the communities they serve would jointly participate and contribute to decisions, and also jointly lead and take responsibility for action.

Response

What the Office expected to find

Local government is primarily responsible for managing events in their local government area.[24] It is expected that there would be evidence of a disaster response capability in line with the local government functions under the Act.[25] It would also be expected that local and District groups, in supporting local government, would ensure effective disaster management and disaster management plans.[26]

It would be expected that local groups have pre-identified, and could coordinate, local resources during disaster operations.[27] Where capability limits are reached, or shared responsibility is needed, it is expected that there is evidence of the Whitsunday Group, Isaac Group and Mackay Group advising the Mackay District Group about any support services required to facilitate disaster operations and disaster management.[28]

For the Mackay District Group, it is expected the Mackay District Group had identified and planned for the allocation and coordination of Mackay Disaster District resources, and the

provision of state resources to the Whitsunday Group, the Isaac Group and the Mackay Group.[29] This should be based on identified risk and known capability limits.

What the Office found

The Office found, across the Mackay Disaster District, Control and Command is well established and is a strength. Roles and responsibilities are documented and significant consultation and sharing occurs across the Mackay Disaster District. It was reported state agency integration with the Whitsunday Group, the Isaac Group, the Mackay Group and Mackay District Group appears to be an ongoing issue, as some member agencies do not prioritise the liaison role resulting in reduced agency representation. However there are mechanisms in place to overcome this, for example, group nominee records include position, authority and skill sets.

Cooperation and Coordination across the Mackay Disaster District is well placed and could be further enhanced by the development of doctrine and governance related to event planning. Current processes for event planning appear ad hoc as there is limited documentation outlining how information and intelligence can be used during the event. Ensuring information collected about the community is used during event planning, will drive community engagement activities and identify opportunities for community empowerment activities such as community lead recovery.

Each group in the Mackay Disaster District identifies the need for and uses an intelligence function within their coordination centre. The intelligence capability across the Mackay Disaster District could be improved through joint training and exercising. It would also be beneficial to create consistent templates for the creation of all intelligence products used in the day-to-day operations of the coordination centre, especially those used for planning.

The Guardian Control Centre is used by the Whitsunday Group, the Isaac Group and the Mackay Group for information management and controlling their information flow. Incorporating Guardian into the council's 'business as usual practices' as undertaken by Mackay Regional Council, will assist with event use as it creates familiarisation with the software. Further interoperability between the Councils and the local groups, and increases staffing capacity will occur. Staffing capacity is an important consideration for each group in the Mackay Disaster District as all have identified that after a serious and protracted event local capacity will be depleted and council to council arrangements would come into effect. Depending on the event and its impact (entire Mackay Disaster District or not) would dictate where support for the council to council arrangements would be sought. If the entire Mackay Disaster District was impacted, the support would be external to the Mackay Disaster District. If only one group was impacted support would come from within the Mackay Disaster District.

Knowledge about locally available plant, equipment and supplies is extensive and shared across all groups in the Mackay Disaster District. There is an opportunity for groups to work together to build more comprehensive logistics management to ensure allocation of resources consistent with community need. A Mackay District Group plan for the deployment of state resources to the Whitsunday Group, the Isaac Group and the Mackay Group, based on known risks and local capability limits, should be integrated with local plans. Advice on resource priorities could be sought by all groups from non-government organisations and community leaders working with vulnerable groups in the community.

Such improvements will ensure the best use of scarce resources, provide greater value for money and mitigate risk to vulnerable groups.

Relief and recovery

What the Office expected to find

It is expected that there is targeted and coordinated relief arrangements that ensure the provision of basic services to communities in need. Locally coordinated planning, with delivery integrated across the Mackay Disaster District, which considers the pillars of recovery, would be found. For each pillar there would be a lead agency and supporting organisations to implement recovery for the short, medium and long term. Furthermore, there would be a documented system to assess impact and need for both relief and recovery.

It is expected that a District-wide recovery strategy exists that outlines effective recovery operations, recognises potential constraints in local government areas, identifies lead and supporting agencies across all hazards, guides adaptive and scalable recovery operations, and identifies mechanisms for coordinating and managing offers of assistance and resources.

What the Office found

Effectiveness of relief and recovery across the Whitsunday Group, the Isaac Group, the Mackay Group and the Mackay District Group varies. However, all Whitsunday Group, the Isaac Group, the Mackay Group and the Mackay District Group will improve Relief and Recovery by focusing on community outcomes. Specifically, utilising a partnership model to ensure community involvement in relief and recovery planning will assist with meeting community expectations. Considering community capability when undertaking relief and recovery activities may also generate less work for the Whitsunday Group, the Isaac Group, the Mackay Group and the Mackay District Group. The Whitsunday Group, the Isaac Group, the Mackay Group and the Mackay District Group should consider the options for community-led recovery activities to enhance community resilience and provide opportunities for empowerment.

A greater understanding of relief activities is required across Whitsunday Group, the Isaac Group, the Mackay Group and the Mackay District Group in the Mackay Disaster District. Clear identification of what constitutes a relief activity is required to ensure consistency in planning and approaches. Impact assessments would benefit from a consistent approach as the information currently sought differs from group to group, and in some areas limits the amount of information available on the status of the community. This presents challenges when attempting to report information, maintain interoperability and undertake planning through the event.

Key elements of relief, including the use of evacuation centres and cyclone shelters, funding arrangements, roles and responsibilities, supply and resupply need to be more explicitly planned for across the Whitsunday Group, the Isaac Group, the Mackay Group and the Mackay District Group. In particular, agreements for supply provision need to be documented. Further, as external agencies may be utilised to undertake these tasks it is important they are aware of their obligations and can work collaboratively with each group. Further, due to the geographical size of the Mackay Disaster District and the Whitsunday

Group, the Isaac Group and the Mackay Group, assistance would be required with resupply after a period of three days.

As the dominate area of recovery focused on by the groups in the Mackay Disaster District, there is a strong understanding of the functions of Human Social Recovery. Recovery is divided into functional areas known as pillars. The groups in the Mackay Disaster District work on a four pillar model of recovery which combines roads, transport and buildings into an Infrastructure pillar. The other three pillars are human social, economic and environment. This approach does not match the State model for Recovery. The groups should consider moving to the State's five pillars of recovery model which are:

1. Human and Social
2. Economic
3. Environment
4. Roads and Transport
5. Buildings.

Utilising this model would ensure smooth communication between local recovery, Mackay Disaster District recovery and state recovery. Adopting the five pillar model would also reflect the state-based recovery plan creating opportunities to build partnerships and good practice. Recovery planning, doctrine and governance would be improved by considering all pillars of recovery as greater state agency integration could occur at all levels of the arrangements driving positive community outcomes.

Conclusion

The principles of strong leadership and partnerships, as described in the Standard, are the cornerstones of true integration. (Inspector-General Emergency Management, SAI Report, 2015)

The principles of the *Emergency Management Assurance Framework* provide strategic guidance for the implementation of the Mackay District improvement strategy. The principle of public safety is central to all disaster management and recognises the engagement of multiple stakeholders. Leadership and partnership underpin the actions needed for stakeholders to work together to achieve a common purpose: effective integration across the Mackay Disaster District. Performance is focused on innovative delivery and continuous improvement of capability to help communities mitigate the effects of, prepare for, respond to and recover from disasters.

The Mackay District is strong in all these aspects. In a district comprised of three local government areas facing a range of hazards and risks, the investment in partnerships and cooperation outside of a disaster operation in order to ensure public safety appears highly effective. The extension of partnerships to empower diverse community groups and individuals will, over time, build the resilience of the entire community and its capability to respond to and recover from unexpected events. The leadership and professionalism demonstrated by the Whitsunday Group, the Isaac Group, the Mackay Group and the Mackay District Group Chairs and key disaster management practitioners puts the Mackay Disaster District in an excellent position to respond to future events and to share its expertise and knowledge with disaster practitioners across Queensland.

Recommendation

Recommendation 1

The Chairpersons of disaster management groups within the Mackay Disaster District, supported by the Queensland Police Service and Queensland Fire and Emergency Services, implement the District capability improvement strategy.

Accountability
Lead: Chairperson, Mackay District Disaster Management Group Chairperson, Isaac Local Disaster Management Group Chairperson, Mackay Local Disaster Management Group Chairperson, Whitsunday Local Disaster Management Group **Support:** Queensland Police Service Queensland Fire and Emergency Services

Mackay District improvement strategy – a catalyst for excellence

This improvement strategy is a Shared Responsibility for the disaster management groups and local governments of Mackay District to further develop and sustain a capability to deliver effective disaster management; and to fulfil their functions under the *Disaster Management Act 2003*. The strategy is based on the *Standard for Disaster Management in Queensland* (the Standard). It is expected that, when implemented, the strategy will drive capability improvements across all components of the Standard and enable effective disaster management.

The Standard defines the Good Practice Attributes of effective disaster management as Scalable, Interoperable, Adaptable, Value for Money and Comprehensive. Due to the well-placed nature of the District's arrangements overall, the deliverables for this District-wide strategy are based on the Good Practice Attributes.

PRINCIPLES	
Leadership	Setting direction, ensuring clarity of roles, motivating people and fostering a culture of communication and collaboration
Public Safety	Recognising the role of stakeholders and the responsibility of disaster management to help communities
Partnership	Sharing a commitment to collaboration and building a common purpose
Performance	Focusing on innovative delivery and continuous improvement

GOAL
Drive capability improvement through shared responsibility incorporating the community

OUTCOMES

1. Treatment plans for human-made risks and a process for dealing with residual risk.
2. Coordinated preparedness and planning and emergency communications across local and District groups, public and private asset owners and functional lead state agencies.
3. Effective resource management that makes the best use of scarce resources, and directly links to community need.
4. Recovery that encapsulates all pillars of recovery and empowers the community to shape their own recovery.
5. An empowered, resilient community.

IMPLEMENTATION			
		Deliverables	**Outcome**
Good practice attributes	Scalable	• Apply learnings from natural disasters to other possible events to build on the all-hazards approach to planning	1

	Comprehensive	• Plans, processes and products across the District that:
		  ▪ identify links and transition points from the Emergency Action plans of private and public asset owners
		  ▪ provide for residual risk.
		• Coordinated public engagement strategy for the District that engages diverse community groups and builds community empowerment and resilience.
			2,5

	Interoperable	• Documented information flow between groups and member agencies, to harness intelligence and inform planning during events.	2
	Value for money	• End-to-end resource management plans and processes that ensure efficient use of resources and value for money while supporting local economies and mitigating risk • Pre-planning of emergency supplies and delivery channels to support immediate relief.	3,5
	Adaptable	• Relief and Recovery plans, products and processes that are flexible to the needs of the community and can adapt to a changing environment.	4,5

Action
A Strategy Implementation Coordination Group, comprised of the DDMG Executive Officer (QPS), the Emergency Management Coordinator (QFES),Council Disaster Management Officers and other DDMG and LDMG representatives co-opted as needed, will develop an Action Plan and coordinate whole of group activities to achieve the deliverables.

Appendix A: Relevant recommendations from previous reviews

IGEM Review	Rec No.	Responsible entity	Recommendation
Review of state agency integration at a local and District level	1	**Lead:** Department of the Premier and Cabinet **Support:** Queensland Police Service; Queensland Fire and Emergency Services; Public Safety Business Agency; Office of the Inspector-General Emergency Management **Further consultation:** Lead and support agencies should consult with IGEM to enable alignment with the EMAF	That Queensland's disaster management arrangements are reviewed to enhance integration. Specifically: - to address the disparity between functions and structure of local government and disaster groups - to integrate hazard specific agency planning at all levels of the arrangements (this may include legislative, policy and procedural considerations).
Review of state agency integration at a local and District level	2	**Lead:** Queensland Fire and Emergency Services	The Local and District Disaster Management Guidelines are reviewed to align with the *Standard for Disaster Management in Queensland*.
Review of state agency integration at a local and District level	3	**Lead:** Queensland Fire and Emergency Services **Support:** Department of the Premier and Cabinet; Queensland Police Service; Department of Infrastructure, Local Government and Planning; Public Safety Business Agency	An integrated risk-based approach to disaster management planning for Queensland is developed that is consistent with the *Standard for Disaster Management in Queensland* and applicable at all levels of the arrangements.
Review of cyclone and storm tide sheltering arrangements	1		
Review of state agency integration at a local and District level	4	**Lead:** Queensland Police Service **Support:** Queensland Fire and Emergency Services	Responsibilities of functional lead agencies and hazard-specific primary agencies are clearly articulated in state level doctrine, including the *Queensland State Disaster Management Plan.*
Review of cyclone and storm tide sheltering arrangements	5	**Lead:** Public Safety Business Agency, Queensland Fire and Emergency Services **Support:** Department of Premier and Cabinet	A state-wide engagement strategy is coordinated to ensure community messaging is consistent across all levels of Queensland's disaster management arrangements.
Review of Local Government's Emergency Warning Capability	4	**Lead:** Queensland Fire and Emergency Services	The Public Information and Warnings Sub-plan Guide is reviewed to include: • good practice examples • a broader range of considerations for barriers to effective communication • guidance to ensure warnings and public information is linked with state agency arrangements, when the event is led by a hazard-specific primary agency.
Review of Local Government's Emergency Warning Capability	9	**Lead:** Queensland Fire and Emergency Services **Support:** Queensland Police Service, Public Safety Business Agency	Formal research is commissioned or meta-analysis is undertaken to provide a better understanding of the effectiveness of warnings and other relevant message testing. The outcomes are disseminated to all disaster management entities and learnings used to inform practice.

Review of Seqwater and SunWater warnings communications	5	**Lead:** Queensland Police Service and Queensland Fire and Emergency Services **Support:** Department of Energy and Water Supply	Responsibilities of referable dam owners under the Water Supply (Safety and Reliability) Act 2008 are clearly articulated in the State Disaster Management Plan. The District and local disaster management guidelines are updated to include responsibilities for referable dam owners and operators, councils and disaster management groups for notifying and warning the public; and require referable dam owners to be advisors to local disaster management groups where there are referable dams. We note the considerable variance in the capability of referable dam owners and operators and this should be taken into consideration when developing plans.
2015 Callide Creek Flood Review	10	**Lead:** Banana Shire Local Disaster Management Group	Local Disaster Coordination Centre capability and capacity should be reviewed to ensure adequate staffing arrangements are in place to fill key positions and that operational protocols are known and practiced across all functions to provide redundancy. Assistance for review and necessary training should be sought from key Local Disaster Management Group member agencies.

Appendix B: Community engagement model

Community Engagement Model[30]

Organisation Leads / Organisation Acts	Organisations lead engagement and seek input to shape the policies, projects and services for which they are responsible. This is a familiar and traditional approach to policy development, project management and service delivery. Engagement is used to both inform the community about the proposed policy, project or propositions and to provide some input to the shape or execution of the policy, project or proposition. Final decision making sits with the organisation and its governors and the organisation is responsible for its action.
Organisation Leads / Community Acts	Organisations can lead the conversation with communities and individuals taking responsibility for action.
Community Leads / Organisation Acts	A community leads in this profile to identify, highlight and propose the action required to solve a problem or take an opportunity. To achieve the desired action requires the response of a focal organisation. The community alone cannot achieve the desired result and therefore advocates to motivate the organisation to act.
Community Leads / Community Acts	Communities can lead the conversation and have responsibility for the action. Communities in a range of areas, from sport and recreation to community well-being, environmental action and education, are able to support, design, resource and deliver their own programs, services and activities. Community organisations and NGOs need to engage with community members to gather support, build understanding and commitment and to deliver the session.
Shared Leadership And Action	Leadership and actions can be shared, where communities and organisations participate and contribute to the decisions, and also lead and take responsibility for action towards the outcomes. This collaborative arrangement of shared decision making, management and responsibility for delivery is required to meet shared outcomes.

End notes

[1] Owen, C. and Bremmer, P.A. *Human Factors Challenges in Emergency Management Enhancing Individual and Team Performance in Fire and Emergency Services*, Ashgate, Farnham, 2014.

[2] 'Defences, barriers, and safeguards occupy a key position in an effective system. High reliability systems have many defensive layers: some are engineered (warnings, physical barriers, automatic shutdowns), others rely on people (surgeons, anaesthetists, pilots, control room operators), and yet others depend on procedures and administrative controls. Their function is to protect potential weaknesses anywhere within the system, in Reason J. *Human error: models and management* BMJ, 320(7237):768-770, 2000 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1117770/ accessed 11 October 2016.

[3] DM Act 2003, s. 16C(g).

[4] Queensland Local Disaster Management Guidelines, Appendix 2: Glossary

[5] Local Government Act (2009), s.94(1)(b)(iii)

[6] Local Disaster Management Guidelines, s.8

[7] QiT+ Guardian Control Centre http://www.qitplus.com/

[8] Offers of Assistance Guidelines 2.1.3, 2.2.3, 2.3.1.

[9] Office of the IGEM, *Callide Flood Review report*, 2015

[10] For the purpose of disaster management, a polygon is a 2-dimensional shape made up of closed straight lines that is defined as an emergency incident area on a map using a geographic information system, and that defines an area to receive an Emergency Alert, Emergency Management Queensland, *Queensland Emergency Alert Guidelines*, 2012.

[11] QiT+ Guardian Control Centre http://www.qitplus.com/

[12] Whitsunday Regional Council, *Emergency Guides https://www.whitsunday.qld.gov.au/178/Emergency-Guides*

[13] DM Act s. 23(f)

[14] Queensland District Disaster Management Guidelines, s.9.9.1

[15] DM Act 2003, s. 23(g),(h),(i).

[16] DM Act 2003, s. 23(j),

[17] DM Act 2003, s. 23(f), s. 30(e).

[18] DM Act 2003, s. 23(b), s. 57(1), s. 30(c).

[19] DM Act 2003, s. 23(b) (d), s. 30(b).

[20] DM Act 2003, s. 23(b) (d).

[21] DM Act 2003, s. 23(j), s. 30(i).

[22] DM Act 2003, s. 23(f), s. 30(e).

[23] Mazzaferri, D (2016), The local government perspective: the balancing act of mitigation, preparation, recovery and resilience, Conference paper, AFAC, 2016.

[24] DM Act 2003, s. 4A(c).

[25] DM Act 2003, s. 80(1)(a).

[26] DM Act 2003, s. 23(b) (d), s. 30(b) (c).

[27] DM Act 2003, s. 30(h).

[28] DM Act 2003, s. 30(d).

[29] DM Act 2003, s. 23(g) (h) (i).

[30] IAP2 Australasia (2014), Community Engagement Model