

# Regional flood response management plan

Prepared by:  
Adam Munro, Team Leader Regional Hazards, Waikato Regional Council  
Angus McKenzie, Director, Place Group Limited

For:  
Waikato Regional Council  
Private Bag 3038  
Waikato Mail Centre  
HAMILTON 3240

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Peer reviewed by:  
Mohammed Hassan  
Team Leader Technical  
Services

Date 8 April 2016

Approved for release by:  
Clare Crickett  
Director Integrated  
Catchment Management  
Directorate

Date 3 August 2016

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# Acknowledgement

This Regional Flood Response Management Plan has been produced with the kind assistance and valuable input of the following key senior staff involved in flood event response and remediation planning and operations, all of whom formed the Project Steering Group;

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Zone Managers, Operations team members, duty Emergency Management Officers and Civil Defence Emergency Management staff have also provided valuable feedback to shape the development of the Plan.

Adam Munro and Angus McKenzie coordinated and led the internal and external stakeholder engagement on the document and drafted the final plan.

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# Ownership and document control

## Record of amendments

Date	Version	Author	Summary of Changes

## Related documents

Doc Number	Version	Document Name	Description

# Glossary of terms

**Response:**

The actions taken immediately before, during, or directly after a flood event emergency to save lives, protect infrastructure and property and to support communities in the transition to recovery. Response starts prior to a flood emergency being declared and lasts until the immediate threats to lives, safety and property are over, and systems and processes are in place to manage the recovery process.

**Remediation:**

The actions required to remedy the damage caused by a flood event to save lives and protect significant infrastructure and property.

# Executive summary

The Waikato Regional Council (the council) has a strong legislative and community driven mandate to manage (and monitor) flood risk and the impacts of flood events within the Region. It is critical that the organisation is able to effectively respond to events to minimise risks to people, livestock, property and significant infrastructure.

This Regional Flood Response Management Plan guides the effective coordination and deployment of all council staff involved in flood event response and remediation activities.

The Regional Flood Response Management Plan is a strategic level document that formalises the management structure for response and remediation and sets out;

- Council's key roles and responsibilities in responding to flood event/s.
- The stages of flood event response and remediation and the formal transition points between each stage.
- Thresholds and triggers used to determine flood response scale.
- Consistent management structures for each stage that are modular, scalable and flexible so they can be tailored to any scale of flood response.
- Individual roles, responsibilities and delegations within each structure.
- Key lines of communication during response and remediation.
- The flood debrief process and responsibilities.

The revised Regional Flood Response Management Plan structure establishes a framework for consistent response at any level and will enable the council to conduct response and remediation activities in a consistent manner, without being prescriptive.

However, the Regional Flood Response Management Plan will not guarantee effective response and remediation management by itself. Successful and effective response rests in the understanding and application of the concepts within the document by council staff.

To support this, a range of further improvements are recommended to assist the council in preparing for and responding to flood events. A key priority area for the organisation is maintaining and building response and remediation capability through effective training and appropriate succession planning.

To support the above, the Regional Flood Response Management Plan has been conceived as a living document that is proposed for review every two years to ensure it remains fit for purpose.

# PART 1: Overview

# 1 Purpose

The purpose of this Regional Flood Response Management Plan is to guide the overall response framework and the associated deployment of Waikato Regional Council (the council) staff involved in both flood event response and remediation activities.

To this end the Regional Flood Response Management Plan sets out;

- The council's key roles and responsibilities in responding to flood event/s.
- Thresholds for determining flood response scale.
- The stages of flood event response and remediation and the transition points between each stage.
- Consistent management structures for each stage that are modular, scalable and flexible so they can be tailored to any scale of flood response.
- Individual roles, responsibilities and delegations within each structure.
- The flood debrief process and responsibilities.

The Regional Flood Response Management Plan proposes structural changes to the way the council currently responds to flood events. For this reason, the plan has been conceived as a living document for further testing and ongoing review.

The Regional Flood Response Management Plan also includes a range of recommendations on further projects and actions required to support the flood response and remediation activities undertaken by the council. The Regional Flood Response Management Plan includes a high level implementation programme to December 2017 to support the implementation of the recommendations.

## 2 Key strategic drivers

The council has a strong legislative and community driven mandate to manage, mitigate and monitor flood risk and the impacts of flood events within the region. A core component of this role is ensuring that the organisation is able to effectively respond to flood events so that risks to people, property, livestock and significant infrastructure are minimised before, during and after an event.

Recent flood events within the region, including the most recent northern Coromandel event, have highlighted an organisational need to improve communication and co-ordination of resources between central and local area offices, to improve the efficiency and effectiveness of planning and operations during flood response and remediation.

The need for improvement was also identified in the Integrated Catchment Management (ICM) Fit for Purpose Review (2014/2015) where a gap in the escalation process for handling flood events and the absence of a formal response structure was noted.

The potential consequences of not addressing the problems were assessed to be:

- Uncoordinated flood response, recovery and remediation times.
- Slow decision making (including indecision).
- Inefficient use of time and resources and increased costs.
- Community and stakeholder dissatisfaction.
- Inconsistent level of service delivery across zones.
- Potential liability issues.
- Delays in confirming funding arrangements for response and remediation.
- Health and safety issues.

The issues and organisational risks identified have been key drivers for the development of the Regional Flood Response Management Plan.

### 3 Plan scope

The Regional Flood Response Management Plan is a strategic level document that formalises the overall staff management structure and key lines of communication during the following stages of a flood event;

- Transition from business as usual to response – comprising the process of escalation and shift into flood response stand-by.
- Response – comprising the activation of planning and operational activities undertaken by the council in responding to flood events.
- Remediation – comprising the planning and operation activities undertaken by the council to remediate damage to its streams/rivers and catchments and flood mitigation assets from a flood event/s.

The Regional Flood Response Management Plan also provides guidance on;

- The indicators used to determine and define the scale of a flood event.
- The key trigger points that signal the shift from business as usual to response to remediation.
- Roles and responsibilities of the council staff during each stage of an event.
- Key lines of communication between staff.

The key focus area of the plan is on the flood response activities that sit outside the readiness planning, flood risk reduction and monitoring functions undertaken by the Integrated Catchment Management Directorate as part of business as usual. This area of focus and its relationship to business as usual are highlighted in green in Figure 1 below.

#### Waikato Regional Council Flood Response Management

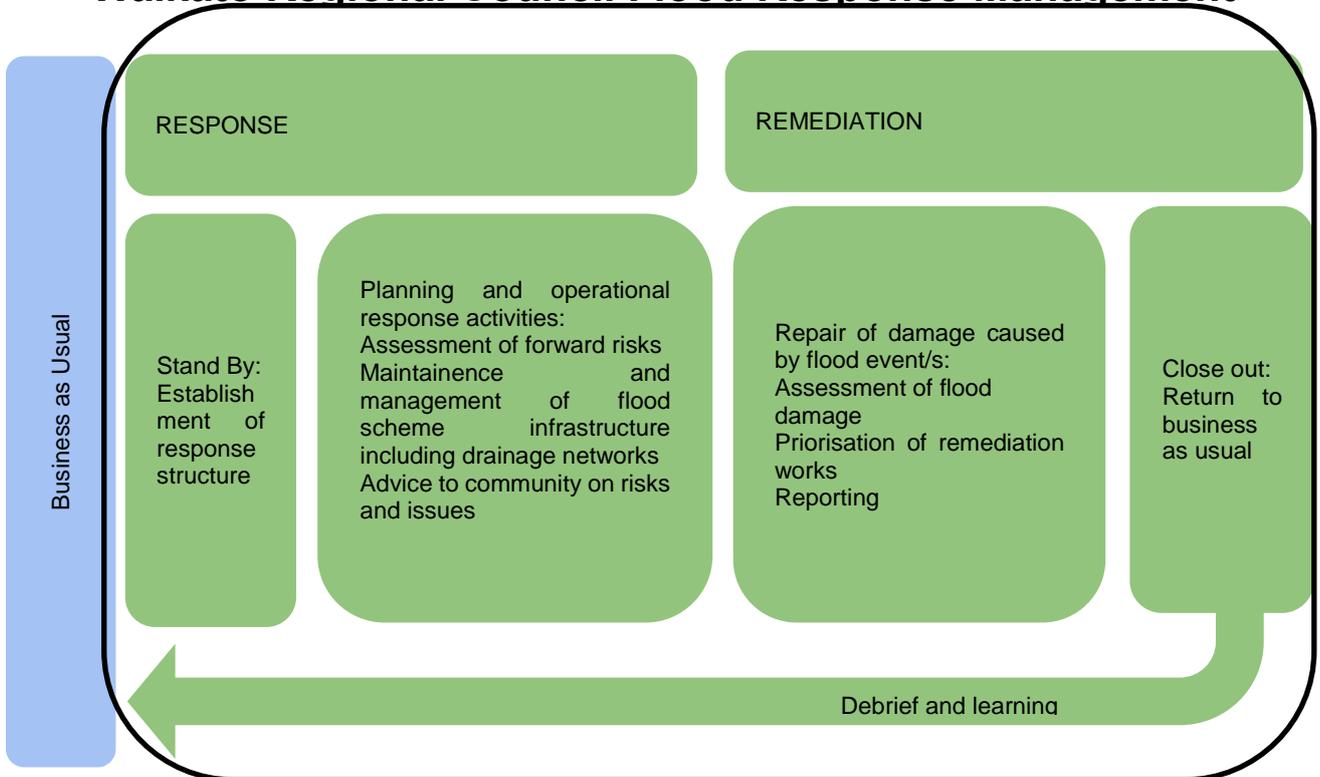


Figure 1: Regional flood response management plan focus and scope

The Regional Flood Response Management Plan does not capture the specific actions, tasks or prioritisation methods that are used during the stages of flood response and remediation. The detailed processes and actions in this respect are captured within the flood response manual. This document will be updated in response to the Regional Flood Response Management Plan.

## 4 Principles and development process

The Regional Flood Response Management Plan has been developed in collaboration with Integrated Catchment Management staff that are directly involved in delivering flood response and remediation activities, including the regional hazards team, catchment management and operations staff. Critically, the plan development process has involved an amalgam of staff in the central Hamilton office and local area offices, to ensure that management structures are practical and will appropriately support local needs.

The Regional Flood Response Management Plan has been reviewed and tested throughout by a Project Steering Group (PSG) comprising a mix of senior emergency management staff, area office section managers, zone managers and local operations team leaders.

External stakeholders including Civil Defence, Mighty River Power and Genesis Energy have also been engaged on the contents of the Regional Flood Response Management Plan and its implications for external communications. Cross directorate engagement has also occurred with the resource information group and the communications team as these provide critical support to Integrated Catchment Management during a flood response.

Stakeholder input and a desire to reflect best practice has shaped the development of the Regional Flood Response Management Plan throughout. The principles of the Regional Flood Response Management Plan are summarised in Table 1.

Principle	What does it mean?
Practical and flexible	To the point and user friendly. Reflects reality. Use of plain language throughout. A living document subject to ongoing review that can be adapted overtime.
Role clarity	Total clarity around the key roles and responsibilities. Promotes regionally consistent structures. Clarity around key lines of communication.
Reflects best practice	Based on national and international emergency management best practice. Coordinated Incident Management System (CIMs) based. Mappable across roles. Scalable.
Supports local needs	Structure that supports operations in local area offices, not command and control. Structures that are responsive to local and regional context.

Table 1: Regional flood response management plan principles

## 5 Key supporting documents

The processes and structures set out in this plan have been informed by, and are supported by a range of existing Waikato Regional Council documents including;

- Waikato Regional Council Flood Response Manual.

- Regional Flood Event Management Plans.
- Waikato Civil Defence Emergency Management Plan.
- The Integrated Catchment Management Fit for Purpose Review and the resourcing structure.
- River Flood Risk Management Strategy 2009.

The Regional Flood Response Management Plan includes a range of recommendations that are likely to necessitate changes to the documents above.

## **6 Status and review**

The Regional Flood Response Management Plan has been conceived as a living document that is proposed for review every two years to ensure it remains fit for purpose.

The next review shall be completed no later than 1 December 2017.

# **PART 2:**

## **Flood response management structure and key processes**

# 7 Roles and responsibilities

## 7.1 Legislative mandate

Waikato Regional Council's role in flood response is legislatively mandated primarily through;

- Soil Conservation and Rivers Control Act 1941
- Civil Defence Emergency Management Act 2002

Flood protection and catchment/river management activities are a legislative requirement under the Soil Conservation and Rivers Control Act 1941 (SCRCA). The act requires the council to minimise and prevent damage from flooding or erosion. It also gives the council the authority to do works that control the flow of water towards, within and from watercourses, prevent the overflow of banks and reduce damage caused by such events.

SCRCA mandates the council to protect communities from flooding using the most appropriate methods. In effect, this means that it is up to the regional council and the local community to determine the level of protection required from flooding and flood risks.

In the Waikato, the council is the primary agency responsible for flood protection and assets include stopbanks, floodgates, pump stations, channel/streams, ponding areas, storage lakes and detention dams. The flood protection services are focused on those specific geographic areas where schemes have been agreed with communities. These services are closely connected to hazard, risk and land use management.

Flood hazard preparedness, response and recovery measures are authorised principally under the Civil Defence Emergency Management Act 2002. This statute provides the legislative framework for national, regional and local communities to prepare for, and respond to hazards such as flooding. Council's responsibilities in respect of this legislation are co-ordinated by the regional hazards team.

## 7.2 Key responsibilities

The role of the council before, during and after a flood response can be divided into three key areas of responsibility;

1. Monitoring and evaluating flood risks and advising the community about the scale and nature of the risks.
2. Responding to flood events with a priority focus on minimising adverse impacts of flooding on people, property, the environment and flood control infrastructure.
3. Remediating the damage caused by flood event with a priority focus on minimising impact to people, property, the environment and flood control infrastructure.

Flood hazard/risk monitoring, assessment and evaluation are a core function of the council's everyday business. This role is undertaken by the regional hazards team who monitor flood hazards alongside other known hazards within the region. The regional hazards team are also responsible for ensuring that hazard response capability is maintained within the region and that council's civil defence emergency responsibilities are continually maintained and resourced.

Responding to flood events and remediating the damage caused by flooding is generally beyond business as usual for the council. The intensity and nature of flood events within the region generally requires increased co-ordination and (at times) up scaling of staff resources to ensure that risks are appropriately managed during a response and that significant damage from flooding is remediated. Flood response activities involve Integrated Catchment Management catchment planning, regional hazards and operations staff and cross directorate support staff.

## 7.3 Flood risk by catchment

The Waikato region has a diverse range of waterways and catchments that result in wide typology of flood hazards and risks. The key catchments subject to flood risk include;

- **Coromandel** - due to its short steep catchments (where rain quickly runs into the rivers) and susceptibility to tropical storms. The Coromandel has frequent severe flooding when water levels rise very quickly, with little time for warning and preparation.
- **Waihou and Piako Catchments** – upper reaches steep well vegetated (e.g. Upper Waihou/Kaimai, Kauaeranga and Ohinemuri) that experience intense rainfall, with lower reaches in low lying farmland and towns that are vulnerable to flooding. This area is largely managed through the Waihou-Piako Scheme.
- **Farmland adjacent to the Waipa River** – vulnerable to flooding, especially since the river is uncontrolled by dams.
- **Lower Waikato River (from Ngaruawahia north)** - properties on low lying land near the Waikato River are at risk. The river carries large volumes of water where the Waipa River joins the Waikato River.
- **Flooding at the southern end of Lake Taupo** - where the Tongariro and Tauranga-Taupo rivers enter the Lake.

The nature of flood hazards and events varies significantly within the region, meaning that response and remediation periods will vary in accordance with local conditions.

An indicative example of this variance is provided in Figure 2 which shows that the flood response activities within the Coromandel are typically more focussed on remediation, whereas the Lower Waikato generally requires a longer response timeframe.

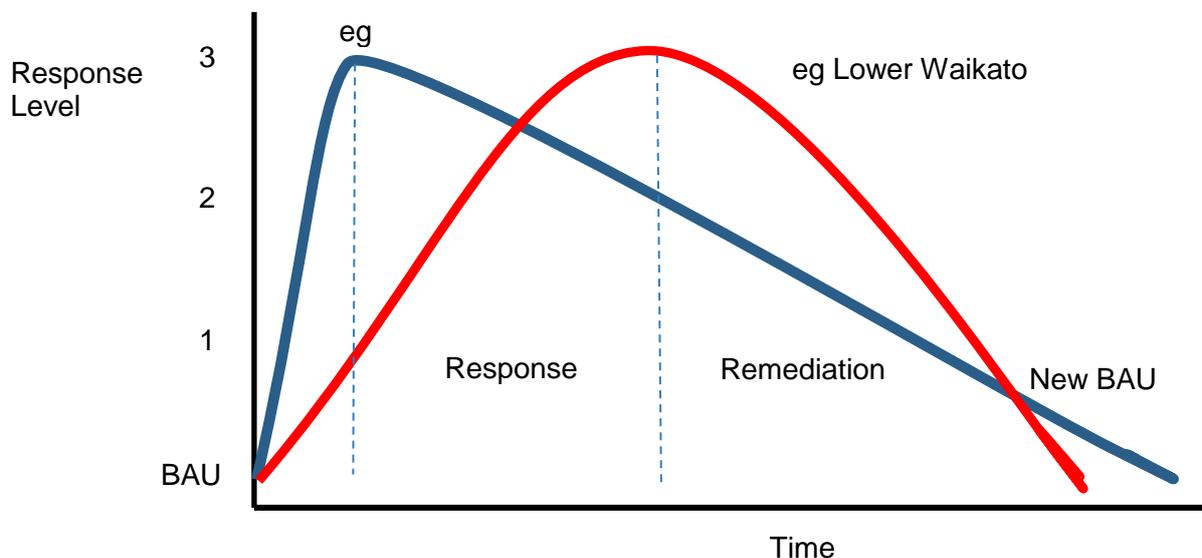


Figure 2: Flood event phases by catchment (indicative only)

The flood response management structure set out in sections 9 and 10 of this Regional Flood Response Management Plan are designed to enable a tailored response and remediation depending on the nature of the event.

The response structure also seeks to promote the efficient transfer of “on ground knowledge” from local area offices to the regional office to ensure that resources are matched and co-ordinated appropriately during each phase of response and remediation.

## 8 Response management phases

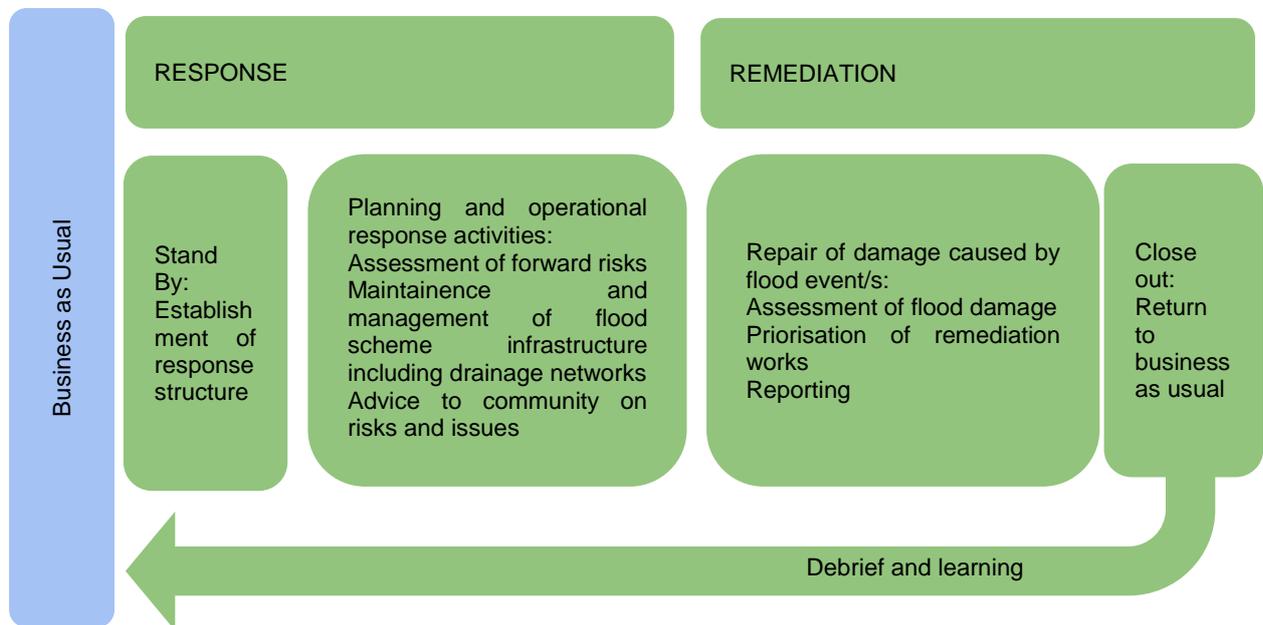
Council’s flood response management activities are divided into the following phases;

- Transition from business as usual to response – comprising the process of escalation and the shift from stand-by into flood response.
- Response – comprising the intelligence, planning and operational activities undertaken by Waikato Regional Council in responding to a flood event/s.
- Remediation – comprising the planning, operational and reporting activities undertaken by the council to remediate damage from a flood event/s.

These phases are also supported by a formal debrief and learning process that is co-ordinated by regional hazards team as part of remediation activities.

The phases of flood response management and the relationship of each phase to business as usual activities are summarised in Figure 3 below.

## Waikato Regional Council Flood Response Management Phases



**Figure 3: Key flood response management phases**

## 9 Flood response management

The flood response management structure is activated when key monitoring and triggers indicate an operational need to respond to a flood event that is outside business as usual. Depending on the speed of the flood event, the activation process may or may not involve a period of stand-by to establish the management structure before operations commence. Figure 4 illustrates the flood response management phase in relation to business as usual and remediation management phases.

### Waikato Regional Council Flood Response Management Phases

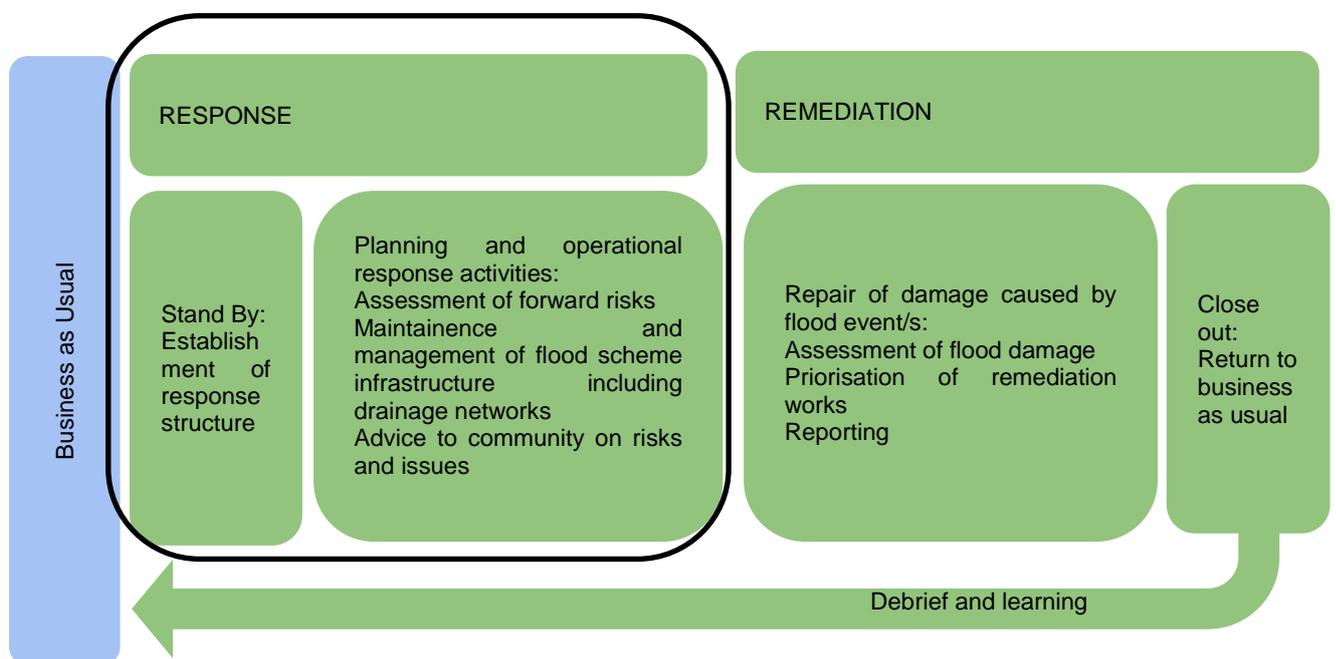


Figure 4: Flood response management phase

The focus of the response management is to coordinate and undertake priority operational actions to limit any damage caused by flooding. It aims to provide clarification of roles, ensure consideration of health and safety and provide appropriate level of service to zone communities. The first order priorities for activities undertaken within a response are the protection of lives, livestock and flood scheme infrastructure from the impacts of a flood event.

### 9.1 Management structure

Council's structure for managing flood response is set out in Figure 5. The key leadership roles within the structure are contained within grey boxes. Governance and support team functions that may be required during a response are shown within the coloured boxes. Key reporting lines are shown in grey.

The management structure is scalable and can be applied to multiple catchments in flood. Figure 5 demonstrates this scalability and includes as an example the interrelationship between the regional office and 3 local area offices.

The response management structure is not command and control based. Each leadership role within the structure has its own area of responsibility with a focussed priority on supporting the operations activities that are co-ordinated from local area offices.

Depending on the speed of the flood event, the management structure for flood response is activated by placing relevant staff on standby. Standby activation is determined by the regional hazards team when flood risk monitoring indicates there is a need to respond to the threat of flooding hazards that is outside business as usual.

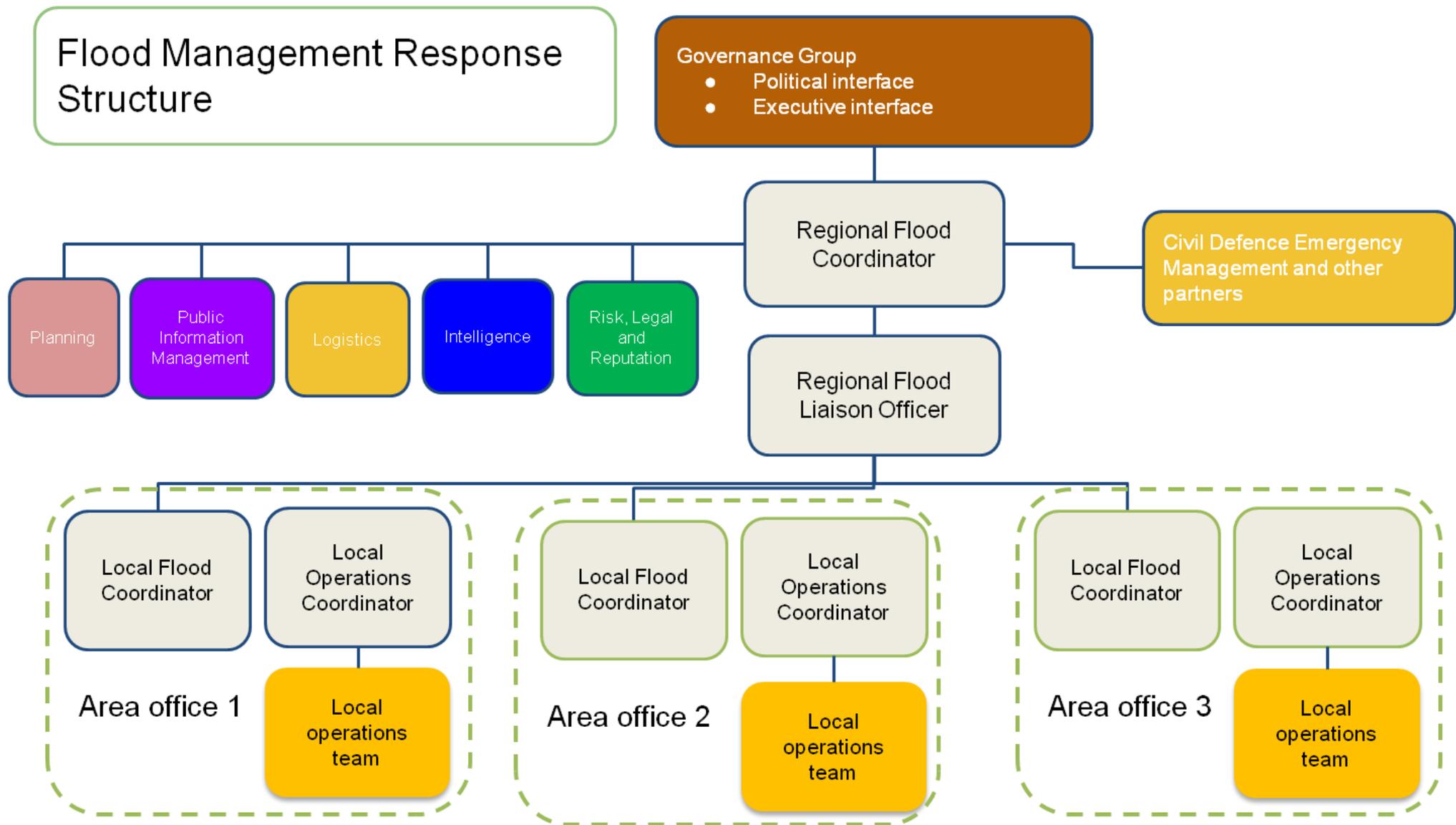


Figure 5: Flood response management structure

## **9.2 Roles and responsibilities**

### **9.2.1 Regional office functions**

During a flood response, regional office staff are tasked with supporting local area office operational response through the following activities;

- Managing regional political interface.
- Providing timely resourcing for flood event response, including resourcing for local area offices.
- Coordinating resources across the organisation to support local area office response actions.
- Forward planning and intelligence.
- Managing legal and reputation risk.
- Managing liaison with Civil Defence, Mighty River Power, Genesis Energy and other external emergency agencies on key risks.
- Distributing and managing media, communications and risk warnings to the community.

### **9.2.2 Local area office functions**

The focus of local area office staff during a flood response is to;

- Prioritise and deliver areas of operational response across catchments.
- Co-ordinate resources to protect people, property, livestock, the environment and flood scheme infrastructure from flood damage.
- Provide situation intelligence to the regional area office on operational responses and resource and logistical needs.
- Managing local political interface.

### **9.2.3 Flood response leadership roles**

The flood response structure includes four key leadership roles that lead the delivery of;

1. Regional flood coordinator – responsible for overall coordination of the flood response including governance reporting, co-ordination of regional resources, establishing and coordinating necessary support staff and managing engagement with external agencies.
2. Regional flood liaison officer – responsible for the provision of strategic intelligence to local areas offices, the coordination of communication between the regional office and the area offices and briefing to the regional flood coordinator on local office needs.
3. Local flood coordinator/s – responsible for providing situational intelligence to the regional office during response mode, communicating with the regional flood liaison officer on resource and support requirements for the operations teams. Responsible for communication with local authorities to ensure alignment and integration of response. The local flood coordinator also manages the local political interface (e.g. catchment committees).
4. Local operations co-ordinator/s – responsible for providing situational intelligence to the regional flood co-ordinator up until the decision to move out of standby mode. Responsible for briefing the local flood co-ordinator on resourcing requirements, situation intelligence and the management, deployment and co-ordination of operations teams during flood response.

Further detailed descriptions for each leadership role are contained in Appendix A of the Regional Flood Response Management Plan.

## 9.2.4 Governance

Every response requires executive oversight, known as governance. The governance group has ultimate responsibility for the response, but delegates authority and operational control to the regional flood co-ordinator.

Governance group members must be notified of potential involvement in response during the stand-by phase. The group will then be formally activated at the start of response by the regional flood coordinator.

The responsibilities of governance group are defined by terms of reference (see Regional Flood Response Management Plan recommendations) and include:

- Making strategic, rather than operational decisions,
- Providing high-level support, advice, and direction to the response,
- Providing a spokesperson,
- Liaising with other levels of governance, and
- Deciding on special funding arrangements.

The flood response governance group must include at least three staff from the following business as usual roles;

- Integrated Catchment Management Director
- Executive Leadership Team
- Integrated Catchment Management Section Managers (as required by area office requirements)

During a response the governance group will be briefed regularly by the regional flood co-ordinator on developments, activities, planning, and messages that need to be delivered to the media, VIPs and the public.

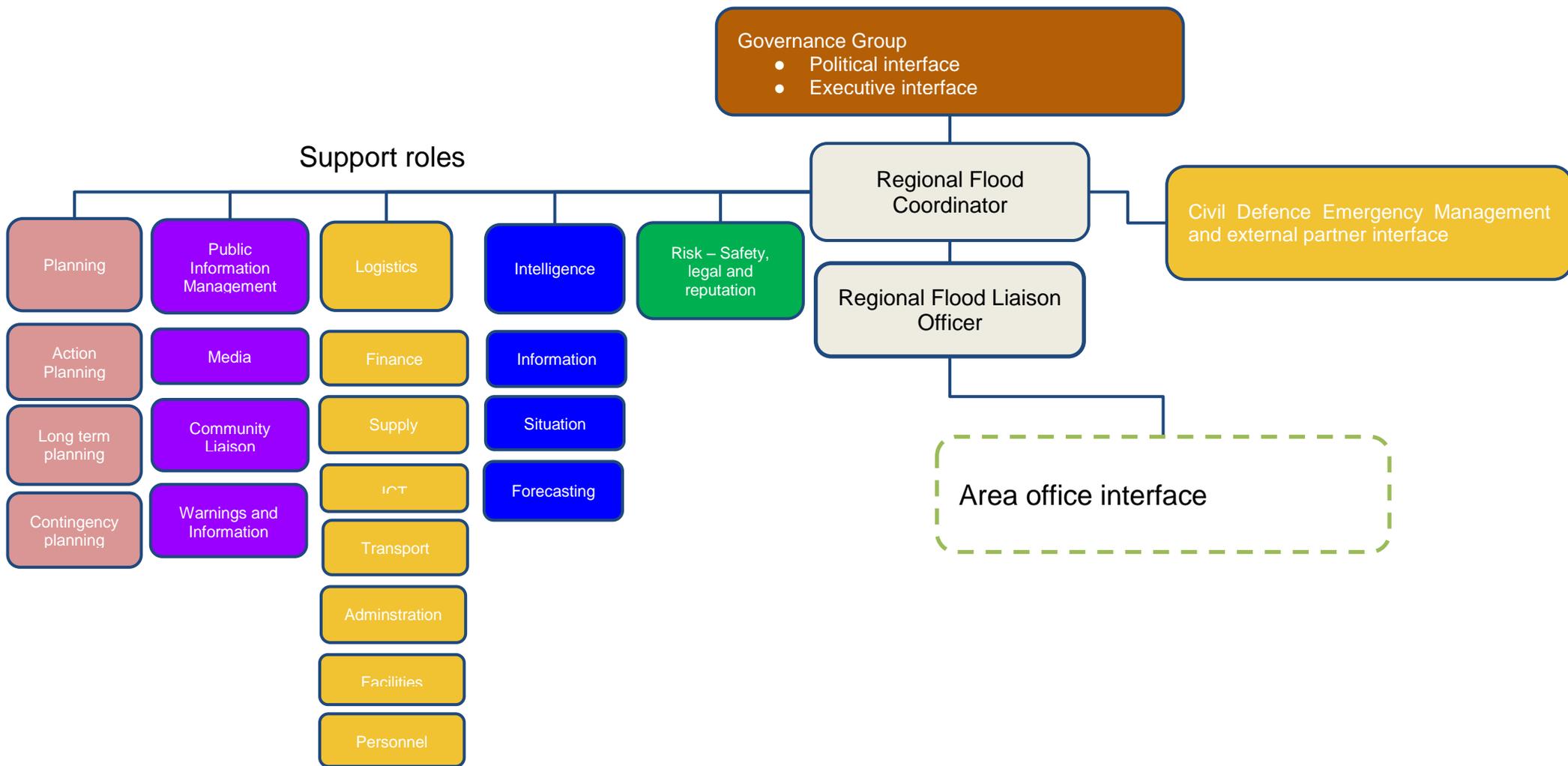
## 9.2.5 Support roles

Support staff are vital to any flood response providing essential assistance to the key leadership roles and the governance group within the structure.

The overall scale of resourcing and type of support required for a response is assessed and confirmed by the regional flood coordinator at the beginning of the response. Multiple support roles may be fulfilled by one to two staff members depending on the scale of the response. Support resources, such as administration staff, may also be assigned to local area offices by the regional flood coordinator to support local response.

During a response the support team within the regional office is managed by the regional flood coordinator. The operational support team with the local area offices is managed and coordinated by the local operations co-ordinator.

The key support functions that may be required within the regional office during a full scale response are denoted in the coloured boxes in Figure 6 below.



**Figure 6: Regional office management structure and key support roles during flood response**

Additional local office resourcing is to be determined by the Local Flood Coordinator and Local Operations Coordinator and coordinated via the Regional Flood Coordinator as shown in Figure 7.

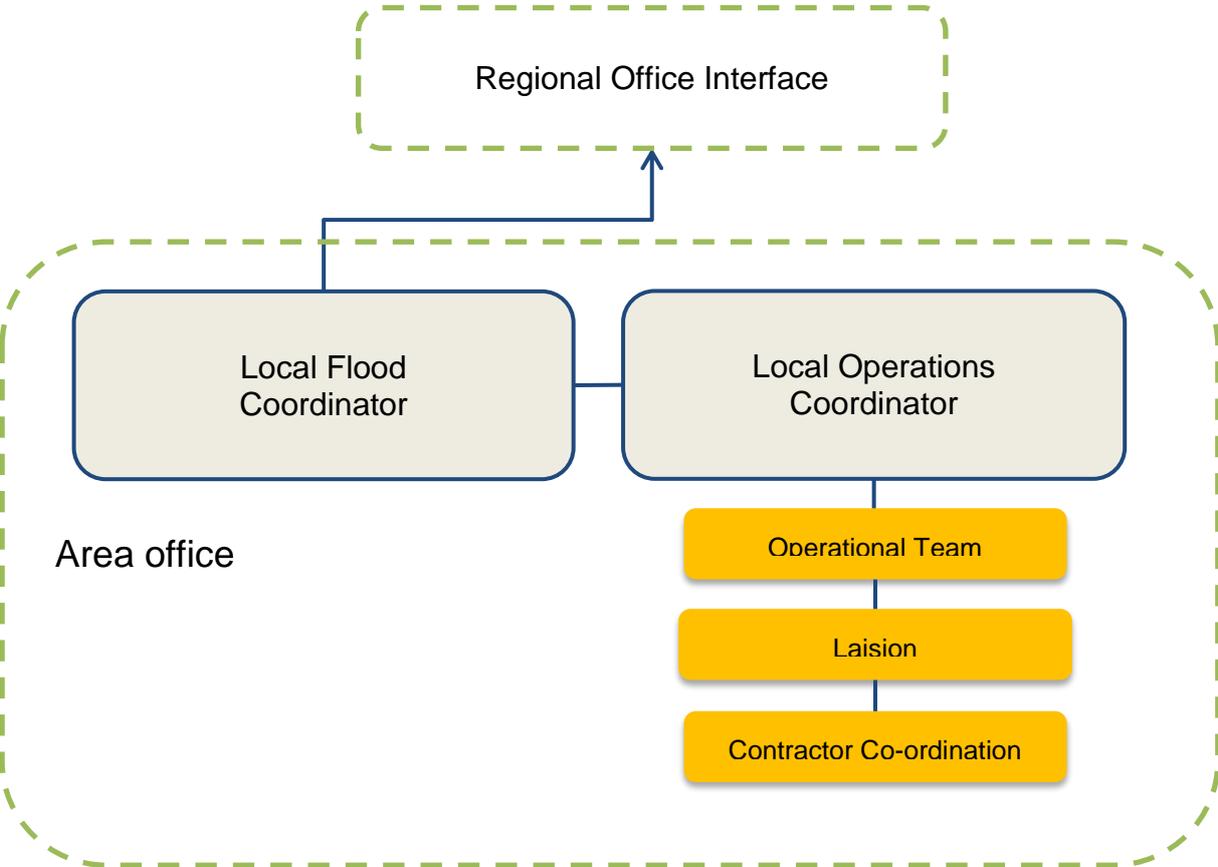


Figure 7: Key support roles during flood response

## 9.3 Communication

The success any flood response operation relies on efficient, effective and clear lines of communication between the regional office and local area office personnel at all times and a clear understanding of relevant delegations.

The key communication interfaces set out below should be used as guide for staff to determine priority communication channels during a response.

### 9.3.1 Communication during stand by

The regional hazards team will maintain a direct line of communication with the local operations co-ordinator during the standby period to ensure up to date intelligence can be provided on a two way basis. Once the full response is activated the main line of communication between the regional office and area offices is through the regional flood liaison officer and the local flood co-ordinator.

### 9.3.2 Key communication interfaces

The critical communication interfaces within the flood response structure are summarised in Table 1 below. The communication needs of the primary interface should be prioritised over secondary interface and other communication pressures. These channels of communication must be maintained and remain active throughout flood response.

Role	Primary interface	Secondary interface
Governance group	Regional flood coordinator	Political interface
Regional flood coordinator	Regional flood liaison officer Support staff Team leaders	Governance group
Regional flood liaison officer	Regional flood coordinator	Local flood coordinator Local operations coordinator
Regional flood response support roles	Regional flood coordinator	
Local flood coordinator	Local operations coordinator	Regional flood liaison officer
Local operations coordinator	Local flood coordinator	Regional flood liaison officer
Local flood operations support team	Local operations coordinator	Local flood coordinator

**Table 1: Summary of primary and secondary communication interfaces**

### 9.3.3 Protocols

It is important that any communication during a flood response is efficient and well managed to allow flood operations to proceed in a timely manner. The interfaces outlined above should be used as guide to managing and prioritising communication during a response.

Specific communication protocols and actions that are required during a flood response are contained within the council flood manual. This document is the primary source of communication guidance during flood response and should be referred to throughout.

### 9.3.4 Conflict resolution

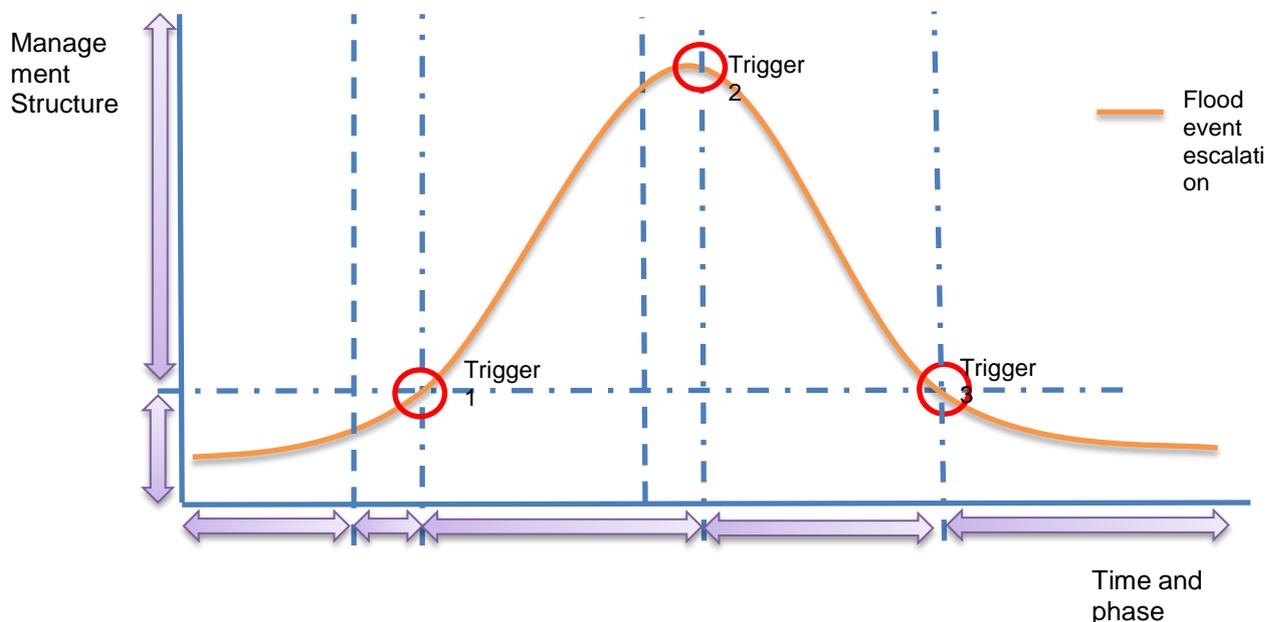
In situations where disagreements may arise between leadership and support roles as to appropriate response actions, the governance group will be responsible for the decision on the final action.

All disagreements are to be elevated to the regional flood coordinator in the first instance. The regional flood coordinator is then responsible for the on reporting of these to the governance group along with an appropriate recommendation on action. The governance group will make the final decision on action and may consult with relevant key leadership roles to assist this decision.

## 9.4 Flood event escalation and de-escalation

The flood event escalation and de-escalation process and the shift between stages of a flood response is critical for defining the management structures during a flood event.

The key trigger points that indicate the shift from a business as usual management structure to response and to remediation are summarised in Figure 8.



**Figure 8: Flood response escalation and de-escalation process – indicative only**

The trigger points for each transition stage, along with the personnel responsible for determining the transition between stages is set out in Table 2 below.

Trigger Point	Trigger point indicators	Decision Maker	Key decisions required
Trigger 1: Standby to Response	<ul style="list-style-type: none"> <li>Significant rainfall predictions</li> <li>Telemetry – increasing river levels</li> <li>Spatial extent of rainfall</li> <li>Presence of forward risks – potential threat to lives and property.</li> </ul>	<ul style="list-style-type: none"> <li>Regional Hazards team</li> <li>Regional flood coordinator</li> </ul>	<ul style="list-style-type: none"> <li>Scale of response – local, subregional, regional</li> <li>Response structure to match scale of event.</li> <li>Number and type of resources required to respond.</li> <li>Communications (internal and external)</li> <li>Formal declaration/activation.</li> </ul>

Trigger Point	Trigger point indicators	Decision Maker	Key decisions required
Trigger 2 Response to Remediation	Reduction in forward risks – reduced threat to lives and property No new incidents Declining river levels Favourable weather forecasts	Regional flood coordinator Local operations coordinator Local flood coordinator	Scale of remediation Prioritisation methods Programming of urgent remediation works Supporting resources required for urgent remediation.
Trigger 3 Remediation to Business as Usual	All urgent flood repair works are complete.	Local operations coordinator Local flood coordinator Section manager	Programme of remediation works that are absorbed into business as usual programme.

**Table 2: Summary of indicative triggers**

## 9.5 Determination of scale and severity

Determining the scale of a flood event is a key part of the critical path for matching resourcing and providing structure as part of response.

The likely event and flood response scale is formally declared at the beginning of a response by the regional flood coordinator to allow time for planning and operational response and to allow the council to communicate on the likely extent and severity of the event. Scale is also relevant to forward planning for remediation activities.

The council operates a three tier system based on geographic spread to define the scale of the flood response required and the likely resourcing that is likely to be required. A summary of each scale is as follows;

1 = Within existing resources of local office team (regional team monitoring – standby), developing situation coordinated locally.

2 = Capacity and capability of local office team starts to become stretched but event is still managed locally with regional response team oversight (i.e. regional team is activated in support).

3 = Flood event extends beyond capacity of the local response team/office and event is now fully coordinated/managed by the regional flood response team.

This system as summarised in Table 3 should be **used as a guide** for determining scale.

Scale	Type of event	Area offices directly involved in flood response	Resource requirements	Example funding thresholds (indicative)
1	Local event	One area office	Low	Absorbed into existing operational budget 1 in 20yr flood
2	Subregional event	Two area offices	Medium	Regional Fund 1 in 20-50yr flood
3	Regional event	Two or more areas offices	High	National Fund 1 in 100yr flood

**Table 3: Flood event scale indicators**

## 9.6 Change over management

Change-over management is a major factor in ensuring that flood response operations are delivered effectively and efficiently.

For the leadership roles a change-over is required at the end of each 10 hour shift. During change-overs, incoming personnel need to be briefed by the personnel they are replacing. The regional flood coordinator plans and manage changeovers, and needs to ensure:

- Outgoing personnel leave once they have briefed their replacements.
- Change-overs do not disturb response operations, and are staggered to ensure continuity of response operations.

Further detail on the changeover process is set out in the flood manual.

## 9.7 Resourcing

Flood response management roles are all resourced internally with appropriately qualified and experienced personnel that are trained in civil defence emergency management.

Resourcing the roles within the structure has been mapped across business as usual roles and Table 4 provides a high level indication of the business as usual personnel roles that are generally suited to each of the key leadership roles.

With the appropriate skills and expertise, any business as usual personnel could fulfil one of a number of roles within the structure. For example, section managers could fulfil a regional role on the governance group or support hands on local operations through a local flood co-ordinator role as appropriate.

An important shift from the existing model, is the inclusion of zone managers to support the co-ordination of local flood response. The value of zone managers acting in this capacity is that they have significant expertise in communicating across the organisation, have established networks and reporting lines to zone committees to communicate costs, and they are familiar with existing regulatory commitments that may put remediation operations at risk.

Role	Personnel required (24 hr period)	BAU Roles
Governance group	Three	CEO ICM Director ICM Section Managers
Regional flood coordinator	Two	Regional Flood Hazards team Existing EMO 1 Duty team
Regional flood liaison officer	Two	Regional Flood Hazards team Existing EMO 2 Duty team
Regional flood support team	To be determined as required	ICM, RIG and communications personnel
Local flood coordinator	10	Zone Managers Catchment Management team leaders Section Managers
Local operations coordinator	10	Operations team leaders Catchment Management Team Leaders.
Local flood operations support team	10	River management officers Works supervisors Deputy works supervisors

		Leading hands Field operators Contractors
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**Table 4: Flood response roles v business as usual roles**

## 9.8 Closing out a flood response

It is the regional flood coordinator responsibility to declare the end of the flood response phase. This is done through direct notification to all leadership roles and the governance group. Individual leadership roles are then responsible for on communicating the conclusion of the response to various support teams.

Once a declaration is made both the regional flood coordinator and regional flood liaison stand down and the remediation management structure (refer Section 10) is activated.

# 10 Remediation

Remediation is activated following the flood response phase. The focus of remediation is to undertake urgent repair to damage caused by flooding, noting that full remediation could take a period of months. As with flood response, the priorities within remediation phase remain the protection of people, property, the environment and flood scheme infrastructure from the impacts of a flood event.

## Waikato Regional Council Flood Response Management Phases

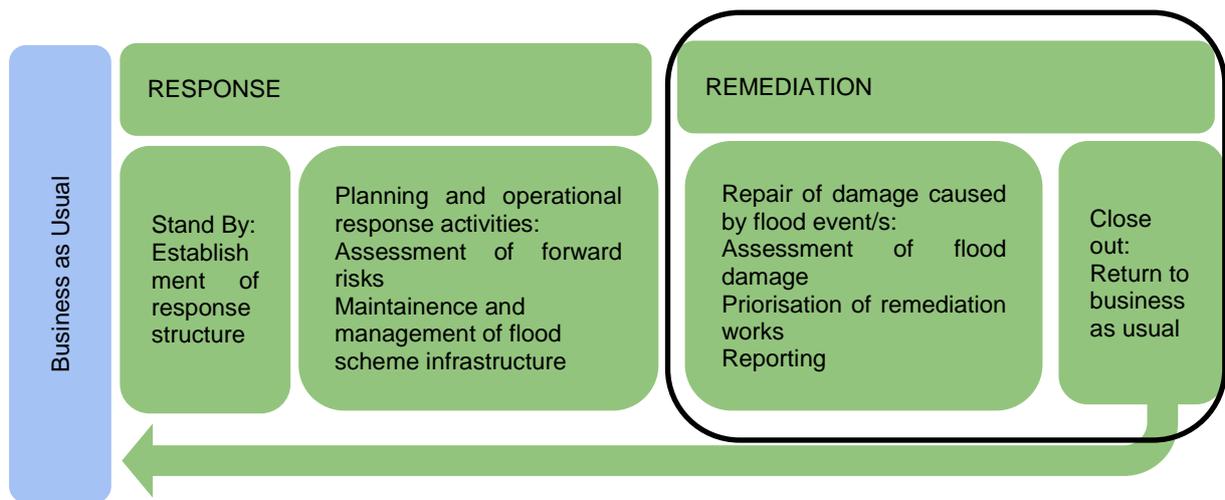


Figure 9: Remediation management phase

## 10.1 Management structure

Remediation is managed from local area offices and focuses on the coordination of necessary operations to support priority remediation works. The management structure for remediation and the responsibilities of each key leadership role within the structure are set out in Figure 10.

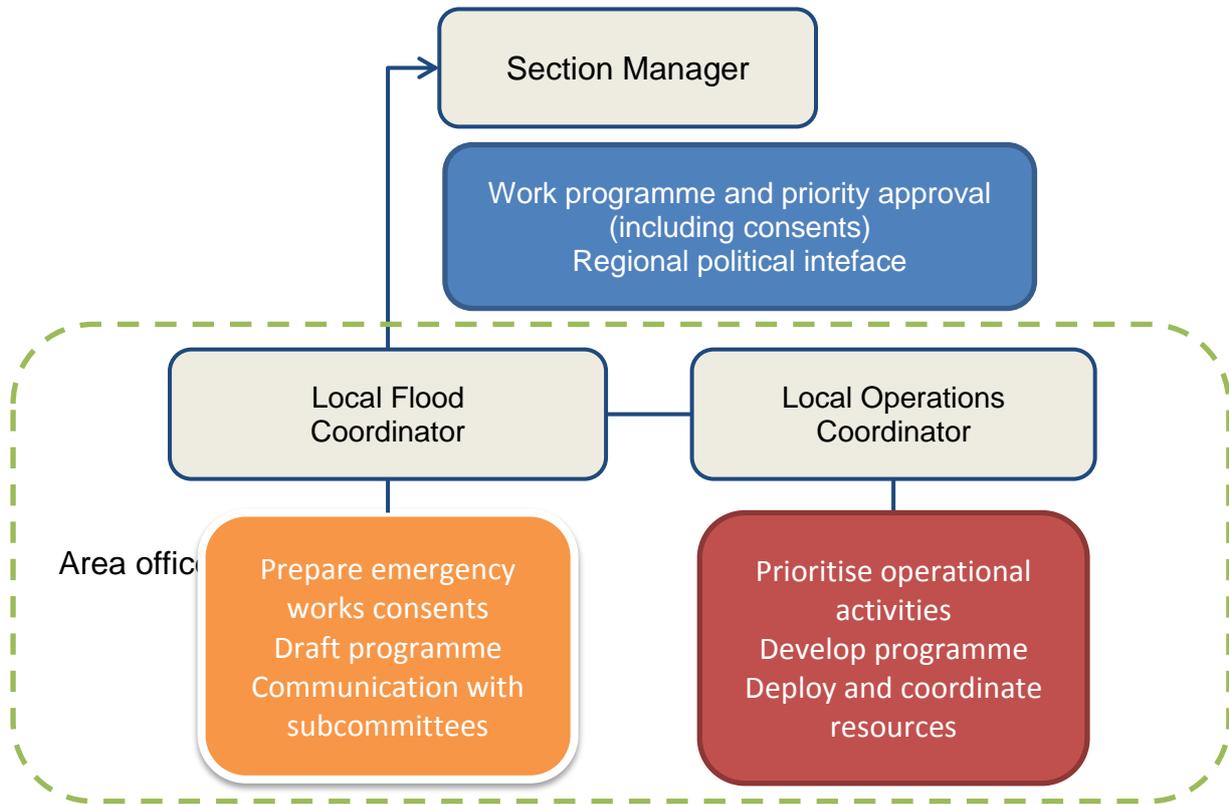


Figure 10: Remediation management structure

## 10.2 Roles and responsibilities

### 10.2.1 Leadership roles

The following roles are required to lead and co-ordinate remediation activities;

1. **Section manager** – responsible for managing regional political interface, seeking funding approval, reviewing and endorsing budgets and priority works.
2. **Local flood coordinator** – responsible for managing local political interface (e.g. catchment committees), determining funding contributions, assisting the development and documentation of the remediation work programme and fulfilling necessary regulatory requirements.
3. **Local operations coordinator** – responsible for prioritising operational response activities, programming work, deploy and coordinating operational resources.

### 10.2.2 Support roles

All resourcing for administrative and management support required for remediation operations is from business as usual.

## 10.3 Communication

Remediation communication is primarily managed through the area offices. Regular communication is required between the local flood coordinator and local operations coordinator to ensure that the local political and community interface is appropriately managed. Regional political interface will be managed by the section manager with support from the local flood coordinator and local operations coordinator.

## 10.4 Resourcing

All remediation roles are resourced internally using the appropriate personnel. As a guide to resourcing the roles within the remediation structure have been mapped across business as usual roles.

Role	Personnel required	BAU Roles
Section manager	Five (one per area office)	As per BAU.
Local flood coordinator	Five (one per area office)	Zone Managers Catchment Management team leaders Managers
Local operations coordinator	Five (one per area office)	Operations team leaders River Works Managers Catchment team leaders

## 11 Flood event debrief and review

The debriefing and review process is critical to provide learnings and improvements for future responses must be completed within three months of date of flood response close.

The regional flood co-ordinator is responsible for coordinating regional event report, debrief process, any flood manual updates and recommended operational improvements following the response. After a flood event, a flood report shall be prepared and a debriefing session called by the regional flood co-ordinator in accordance with the processes outlined in the flood manual.

## 12 Further recommendations

During the course of the development of the Regional Flood Response Management Plan a number of gaps have been identified within the current systems that are required to support the management of a flood response.

The key gaps include;

- The need to communicate the new response structure across the council.
- The need for more training and professional development to upskill staff in emergency management response (in line with the new response structure).
- Ensuring that flood readiness and response infrastructure is fit for purpose.
- The need to document detailed response actions and processes undertaken within local area offices.
- The need to explore consenting and compliance during clean up.

To address these issues and support the Regional Flood Response Management Plan management structure the following improvements are recommended for implementation;

Recommendation: Improve flood response processes procedures and communications		
Key projects	Project lead	Indicative completion timeframe
That the RFMP response structure and key roles be communicated to all Council staff.	Regional hazards team	March 2016

That consistent duty protocols for Hamilton and area offices be established, reviewed and documented.	Regional hazards team	June 2016
That priority operations actions during response are documented.	Area office section managers	April 2016
Review and confirm triggers and levels for flood response- 1 to 3.	Regional hazards team	March 2016
Develop protocols for time and cost recording during response and remediation.	Finance/Regional hazards team	June 2016
Development of Terms of Reference for Governance Group during flood response	Regional hazards team	April 2016
Brief Councillors (ICMC) on flood response role and lines of communication.	Team/ICM senior leadership team	April 2016
Recommendation: Improve key flood response infrastructure.		
<b>Key projects</b>	<b>Project lead</b>	<b>Indicative completion timeframe</b>
That Council complete a range of telemetry/monitoring improvements to improve intelligence during a flood response (underway as part of Hydrology Review by SAS).	Regional hazards team	Jun 16
Prepare Business Case to assess the need for fully resourced regional and local flood response venues (for informing LTP).	Regional hazards team	June 2016
That local area offices develop business continuity plans to ensure the ongoing maintenance of infrastructure for response. Local BCPs to integrate with corporate BCP currently under development.	Area office section managers	December 2016
Recommendation: Enhance staff training for flood response and implement regular testing of systems and processes.		
<b>Key projects</b>	<b>Project lead</b>	<b>Indicative completion timeframe</b>
Facilitation of an annual training exercise for all staff involved in flood response.	Regional Hazards team	1 <sup>st</sup> exercise complete by June 2016
Ensure all response roles are matched to training and professional development.	Regional hazards team	Review of training needs complete by December 2016

Recommendation: Ensure that flood response activities are supported by appropriate management/legal/regulatory tools.		
Key projects	Project Lead	Indicative Completion Timeframe
Ensure that consenting requirements meet response and recovery needs.	Zone managers	June 2016
Review delegation powers to meet structure/roles.	Regional hazards team	Review of delegations and role descriptions complete by April 2016
Ensure that flood response responsibilities are included in BAU role descriptions	HR/Regional hazards team	Timeframe here??

## 13 Plan implementation, monitoring and review

The regional flood coordinator shall review the procedures set out in the Regional Flood Response Management Plan and develop any alterations that may be required due to changed circumstances. In no case shall the period between reviews exceed two years.

Any changes to procedures shall not become operative until recommended by the regional flood coordinator (or team leader regional hazards) and approved by the Integrated Catchment Management Director.

The implementation of the Regional Flood Response Management Plan will be supported by a programme to improve response capability and capacity within the council overtime as referenced above.

# References

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# Appendices

## Appendix A: Flood response leadership role descriptions

Refer to DM #3678022.