



State Emergency Response Plan

Flood Sub-plan

Edition 2.0

This plan has been endorsed by the State Crisis and Resilience Council (SCRC) as a Sub-plan to the State Emergency Response Plan.

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Foreword

Victoria State Emergency Service (VICSES) led an update to the State Emergency Response Plan (SERP) Flood Sub-plan (the Flood Sub-plan) between August and September 2020.

The update of the Flood Sub-plan has formed part of VICSES preparedness activities in response to the Bureau of Meteorology (BoM) releasing Weather Outlook products for Victoria, indicating significant flooding for large parts of the state during spring 2020.

The update of the Flood Sub-plan has been targeted to address critical components of the plan to deliver current and accurate information for flood preparedness and response activities. The update was undertaken solely by VICSES and precedes the comprehensive and collaborative update scheduled to occur in 2021.

The objective of the update includes provision of current and accurate information relating to:

- VICSES changes in organisation, agency roles and responsibilities, and utilisation of sector tools such as the use of EM-COP and VicEmergency.
- Evolution of the sector in relation to multi-agency and cross border arrangements, including access and deployment of the Australian Defence Force (ADF).
- Operational response in a complex and multi-hazard environment that has impacted Victoria since late 2019, including bushfires, storms and COVID-19. The COVID-19 pandemic is recognised and included as part of the update of the Flood Sub-plan, however, to ensure the continued application of the plan to be relevant and applicable at all times key considerations and related activities to COVID-19 and flood preparedness and response have been included in Attachment A.
- Any information duplicated from the SERP.

It is recognised that the Emergency Management Legislation Amendment Act 2018 (EMLA Act 2018) will take full effect on the 1 December 2020. As part of the phased implementation of this legislative reform, the SERP and the Emergency Management Manual Victoria (EMMV) will be superseded by the State Emergency Management Plan (SEMP) on 1 October 2020. These changes were deemed to be out of scope of the urgent update required. Additional components out of scope of the update include:

- Any non-urgent updates that do not negatively impact the audience's ability to understand and apply the contents of the Flood Sub-plan.
- Any out of date information that is not deemed to cause confusion or risk interpretation and accurate application of the Flood Sub-plan.

The Flood Sub-plan will be exercised through any operational response activity that occurs within a year of publishing, and will be reviewed and updated in 2021 to then align to a three year planning cycle implemented by VICSES.

1 Introduction

1.1 Purpose

This State Emergency Response Plan (SERP) Flood Sub-plan outlines the Victorian arrangements for managing floods in Victoria.

1.2 Objective

The objective of the SERP Flood Sub-plan is to provide sources of information and to outline the arrangements for ensuring an integrated and coordinated approach to the state's management of flood events, in order to reduce the impact and consequences of these events on the community, infrastructure and services.

1.3 Scope

This plan provides strategic information about the Victorian arrangements for managing response to flood. It includes:

- Description of potential and observed consequences of floods to the social, built, economic and natural environments (section 2 and 3).
- The policy, practices and programs in place to mitigate flood risks and build community resilience before, during and after a flood event (section 4).
- Where relevant, the arrangements and practices for managing flood response and positions with accountability and the agencies responsible for managing specific strategies (section 5 and 6).
- The multi-agency management arrangements at the national, state, regional and local levels (section 7).

This plan provides strategic information about the Victorian arrangements for managing the response to a flood event. It does not include detail about the operational activities of individual agencies.

1.4 Authorising environment

The Emergency Management Act (1986 and 2013) is the empowering legislation for the management of emergencies in Victoria. The Emergency Management Manual Victoria (EMMV) contains policy and planning documents for emergency management in Victoria, and provides details about the roles different organisations play in the emergency management arrangements.

The SERP (part 3, EMMV) identifies Victoria's organisational arrangements for managing the response to emergencies. This sub-plan is a subordinate plan of the

State Emergency Response Plan and has been approved by the State Crisis and Resilience Council (SCRC).

Other relevant legislation includes:

- *Emergency Management Act 1986 and 2013.*
- *Emergency Management Legislation Amendment Act 2018.*
- *Victoria State Emergency Service Act 2005.*
- *Essential Services Act 1958.*
- *Planning and Environment Act 1989.*
- *Local Government Act 1989.*
- *Meteorology Act 1955 (Commonwealth).*
- *Water Act 1989.*
- *Melbourne Water Corporation Act 1992.*

1.5 Activation of the plan

The arrangements in this plan apply on a continuing basis and do not require activation.

1.6 Audience

The audience for this plan comprises the Victorian Government and agencies within the emergency management sector, including business and community groups with a significant role in the response for floods.

1.7 Linkages

This plan is a sub-plan of the SERP. It reflects legislation, the arrangements in the SERP, the strategic direction for emergency management in Victoria and the accepted state practice for managing emergencies. The arrangements in the SERP have not been repeated unless necessary to ensure context and readability. The SERP can be accessed at www.emv.vic.gov.au/policies/emmv

Flood plans are also developed at regional and municipal levels. These documents can be accessed at www.ses.vic.gov.au

It is likely that flood events will occur in conjunction with severe weather. For arrangements for the management of severe weather refer to the SERP Storm Sub-plan (Storm Sub-plan) at www.ses.vic.gov.au

Arrangements for the management of secondary consequences are contained in the following:

- For health response: State Health Emergency Response Plan Health Sub-plan.
- For rescue response: Victorian Urban Search and Rescue Response Arrangements.
- For coastal flooding response: State Emergency Response Plan Tsunami Sub-plan.

1.8 Exercising and evaluation

The plan was first operationalised in 2016 in response to a protract flood event that impacted large parts of the state, and then exercised in 2018. This revised plan will be exercised through any operational response activity that occurs within a year of publishing, and will be reviewed and updated in 2021 to then align to a three year planning cycle implemented by Victoria State Emergency Service (VICSES).

Exercises will be conducted in accordance with the Australian Institute for Disaster Resilience (AIDR) Managing Exercises Handbook, available at:

knowledge.aidr.org.au/resources/handbook-3-managing-exercises

1.9 Review

This plan was current at the time of publication and remains in effect until modified, superseded or withdrawn. This plan will be reviewed and updated every three years. Consideration will be given to an earlier revision if the plan has been applied in a major emergency or exercise, or following a substantial change to the relevant legislation or arrangements.

2 The emergency context

2.1 The flood hazard

Flooding may be defined, as an overflowing or influx of water from its normal confines onto land not usually submerged. In the Victorian context there are four potential mechanisms which may cause flooding:

- Heavy rainfalls, which cause runoff to enter watercourses, overtopping the banks of rivers and creeks, overflowing lakes, detention basins and stormwater drains, causing local overland flooding, or resulting in releases or spills from dams.
- Many factors contribute to the extent and nature of flooding caused by heavy rainfall such as the amount and duration of rainfall, the spatial distribution of rainfall, prior weather conditions and characteristics of a catchment including its size, shape, soil types, vegetation and land use.
- The characteristics of a river also influence the extent of flooding. These characteristics include the size and nature of the river, the presence of vegetation in and around the river, flood control structures and embankments that may restrict floodwater and downstream river levels.
- Storm surges, which involve the temporary raisings of sea levels above the astronomical tide. These are caused by deep low-pressure systems located off the coast and result in sea water invading low-lying areas along the coast.
- Tsunami resulting from undersea earthquakes, landslides, meteorite impacts or volcanic activity. The arrangements for the emergency management of tsunami are contained in the SERP (Tsunami Sub-plan).
- Dam failure, which involves the failure of a dam structure. There are a number of significant dams throughout Victoria that both store and provide water to communities across the state which have the potential to cause flooding in the event of failure. However, there are dam safety risk management processes in place and the possibility of dam failure is considered low but consequences could be catastrophic in some circumstances.

Flooding in Victoria is influenced by our variable climate, typified by periods of wet and dry conditions. For full description of climate influences and areas affected see www.bom.gov.au/climate/about/

A major factor in this variability is the El Niño – Southern Oscillation phenomena. La Niña, the positive phase, is associated with colder than average sea surface temperatures in the central and eastern tropical Pacific region. La Niña is normally associated with higher than average winter, spring and early summer rainfall over much of Australia, and this can result in more flooding.

Localised intense heavy rainfall over a short period of time can cause flash flooding to occur within minutes to hours. As there is little warning time, flash flooding is difficult to predict and manage. Flash flooding has occurred with significant consequences in regional urban areas such as the Geelong, Ballarat, Bendigo and Traralgon, as well as across Melbourne, including the Yarra River precinct. In larger catchments, floods can occur over several days to weeks, and are easier to forecast and manage.

A map of areas susceptible to 1% probability riverine flooding in Victoria is provided below:

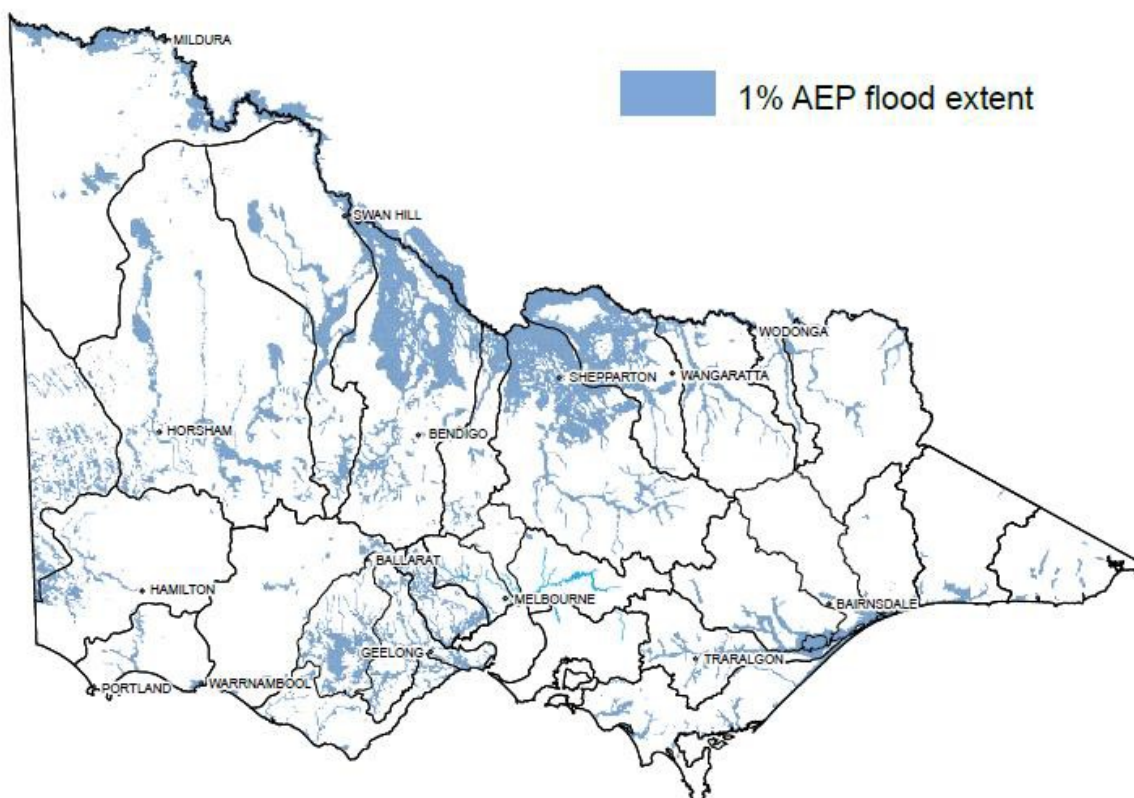


Figure 1 – Areas susceptible to 1% probability riverine flooding

3 Consequences

3.1 Possible flood consequences

Victoria has many flood prone communities. The effects of flooding on the community can include:

- Inundation of properties.
- Damage to essential infrastructure, public and private assets and property.
- Inundation of farmland, damage to crops and loss of livestock and fodder.
- Short or long term displacement of people.
- Isolation of properties or communities.
- Disruption to essential services.
- Death and injuries.

About 11.5% of Victoria's land mass is prone to a 1% probability flood. Significant community disruption can occur as a result of damage to essential infrastructure, which may lead to cascading secondary consequences.

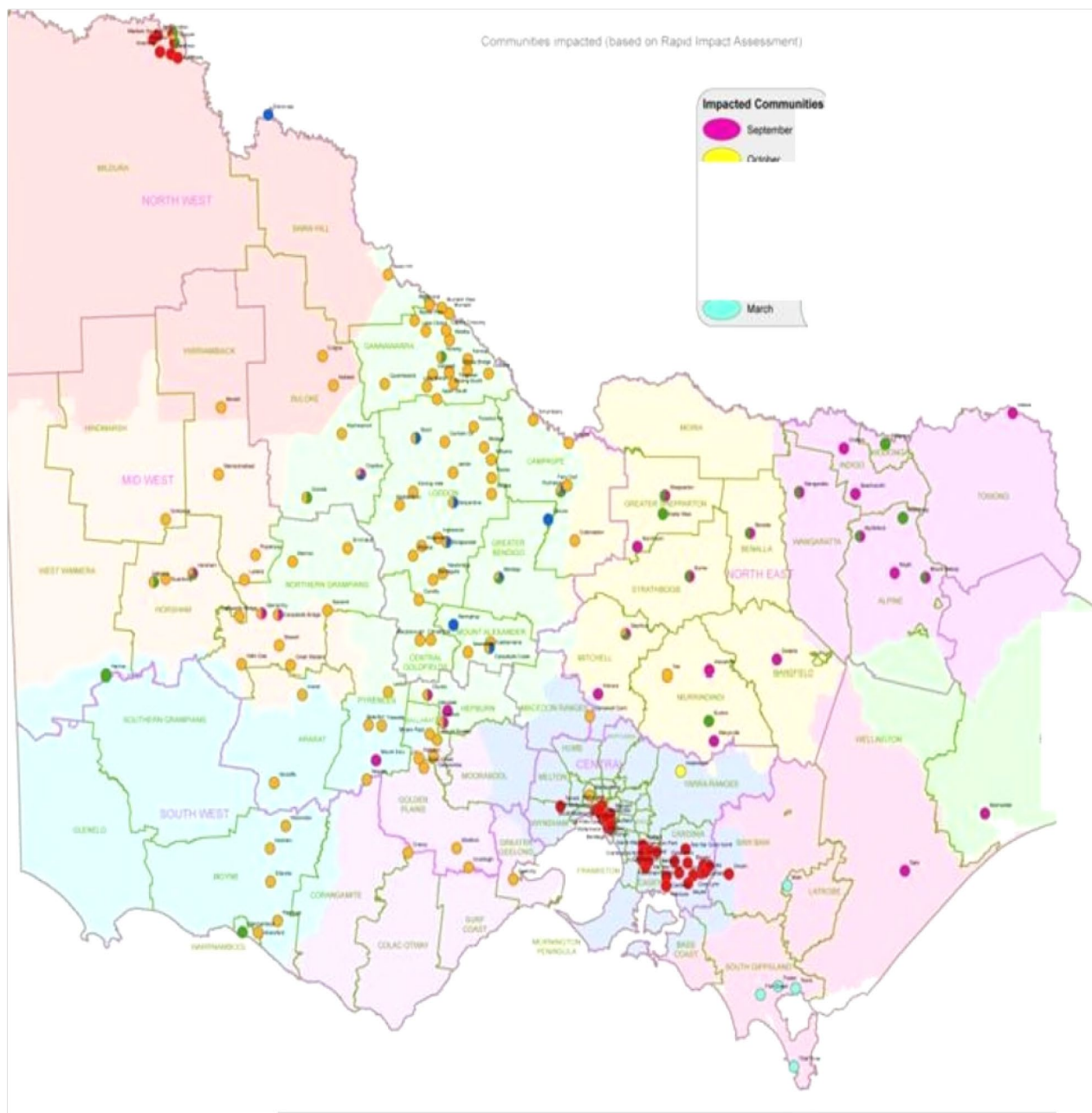
For example a loss of power may result in a loss of telecommunications, traffic signals and disruption to supply chains amongst other impacts. Damage and flooding of road infrastructure may result in isolation of properties and/or communities.

3.2 Flood history

From September 2010 to March 2011, Victoria experienced some of the worst floods in the state's history. The floods followed heavy rain across south eastern Australia, which began in August 2010. Over a series of flood events, the worst of which occurred in the months of September 2010, January and February 2011, approximately 70 local government areas experienced flood and storm damage.

Along with the substantial impact to residential property and townships, significant loss, damage and isolation to rural properties and farms was experienced. Damage occurred to infrastructure including roads, public buildings and essential services. As at October 2011, the estimated gross total cost of these floods was approximately 1.3 billion dollars. Figure 2 illustrates the areas affected by these floods.

Figure 2 – Areas impacted by 2010-11 floods



Flooding occurred also again across North East Victoria in late February and early March 2012, causing record flooding in some parts of the Goulburn- Broken River System. Significant property damage occurred with 135 residences flooded in Moira Shire (93 in Numurkah), and a further 31 residences damaged in Greater Shepparton City. Significant damage occurred to local roads, irrigation infrastructure, farm properties and the Numurkah Hospital.

4 Community resilience

4.1 Shared and individual responsibility for action

Flood events can have significant impacts and effect large areas. As with all hazards, flood can also not be fully mitigated from potential impacts on the community. As such, it is imperative that there is a shared responsibility for communities to understand and take action in an emergency, and for agencies to provide information to aid this decision.

Refer to the SERP for further information about shared responsibility.

4.2 Flood warnings services

Flood warnings and notifications are provided by the Bureau of Meteorology (BoM), Melbourne Water and VICSES.

BoM has a requirement under the *Meteorology Act 1955* (Commonwealth Act) to warn the community with regard to extreme weather, and provide the following services to VICSES. The services provided by the BoM are documented in its Service Level Specification for Flood Forecasting and Warning Services for Victoria and can be found at: http://www.bom.gov.au/vic/flood/brochures/VIC_SLS_current.pdf

BoM act as the flood prediction agency for Victorian catchments with the exception of Melbourne Metropolitan catchments where Melbourne Water is the prediction agency.

BoM formulate and issue official forecasts and warnings for:

- River basins (Flood Watches).
- Key locations on rivers and creeks (Flood Warnings).
- Land and coastal forecast districts (Severe Weather and Severe Thunderstorm Warnings).

Melbourne Water acts as the flood prediction agency for larger Melbourne Metropolitan catchments (Yarra, Maribyrnong, Westernport, Dandenong Creek, Werribee, Diamond Creek, Merry Creek, Kororoit Creek and Plenty River).

It operates a flood-warning network on major rivers and creeks in the Port Philip and Westernport region and provides flood forecasts to BoM who disseminates official forecasts and warnings for key locations on rivers and creeks (Flood Warnings).

VICSES provides warnings and emergency information to the community through releasing complementary public information and warnings published on VicEmergency.

4.2.1 Severe Thunderstorm Warnings (BoM issued)

Severe Thunderstorm Warnings are issued by BoM when severe thunderstorms are likely to develop, or extend into a specified area over the next few hours. The warnings are issued for specific areas in the state but are available state wide.

In the Melbourne area more detailed warnings are issued. These warnings depict and describe individual severe thunderstorms and their forecasted paths.

4.2.2 Severe Weather Warnings (BoM issued)

Severe Weather Warnings aim to provide advance notice of very heavy rainfall leading to flash flooding or storm surge, which is sometimes exacerbated by abnormally high tides. They are issued by BoM when severe weather is expected to affect land-based communities within the next 24 hours which is not directly the result of severe thunderstorms and are not covered by tropical cyclone or fire weather warnings.

4.2.3 Flood Watches (BoM issued)

Flood Watches are issued for specific regions (e.g. East Gippsland or North East Victoria) and advise that a flood is possible in those regions. They are issued 24 to 36 hours in advance of any likely flooding and updated as required.

If at any time during this period there is an imminent threat of a flood occurring, Flood Warnings are issued.

4.2.4 Flood Warnings (BoM issued)

Flood Warnings are firm predictions of flooding based on:

- Actual rainfall measurements.
- Stream level measurements in real time.
- Stream flow based models of catchment behaviour.
- Likely future rainfall.

They are issued for specific rivers when flooding is imminent or is already occurring. Flood Warnings provide predictions of flood severity (minor, moderate and major) and the estimations of rise, fall or peak at forecast locations (river gauges).

Flood Warnings and predictions are upgraded and downgraded as a flood rises, peaks and falls. Any series of Flood Warnings are finalised when floods reach levels below the minor flood classification.



Figure 3: Understanding flood advice, BoM 2020

4.2.5 Emergency management agency issued flood warnings

VICSES will lead the coordination of public information and warnings that translate the flood threat identified in BoM Warnings to the likely impact of a flood event to the community.

VICSES has developed a one-page infographic that graphically depicts how VICSES warnings align to the BoM Warnings before, during and after the event, along with the associated communication channels (see Figure 4).

In locations that do not currently receive a flood warning service, otherwise known as unmonitored locations, VICSES has also developed a process to support personnel issue warnings. This applies only in instances where there is a verified risk to life or property that is significant to warrant a flood warning. Further information is available in the Riverine Flood EM-COP Public Publishing Business Rules.

VICSES will also issue public information and warnings for severe weather, thunderstorms and flash flooding as the triggers within the EM-COP Public Publishing Business Rules are met for each hazard.

4.2.6 VicEmergency and warning channels

VICSES use the state endorsed multi-hazard warning platform, EM-COP Public Publishing, to disseminate public information and warnings to the community via VicEmergency and its associated channels.

VicEmergency warning recipients include emergency broadcasters (i.e. commercial and ABC radio) who are required to re-disseminate warning information and sound the Standard Emergency Warning Signal (SEWS) if required, in accordance with the Emergency Broadcasting Practice Note and the agreed Memorandum of Understandings.

A range of approaches are used by VICSES to disseminate public information and warnings that are selected based on the needs of the community and the nature of the event. Examples include:

- Door knocking for evacuation of a small area, if time permits.
- Emergency Alert (EA) for urgent dissemination of warnings to telephones (including mobile phones) within a specific geographic location (see section 5.2.4).

VICSES ensure public information and warnings align to current best practice, as outlined in the National Public Information and Warnings Handbook, (see knowledge.aidr.org.au/resources/public-information-and-warnings-handbook) and the Victorian Warnings Protocol, available on the Public Information section of the IMT Toolbox on EM-COP.

The VICSES Riverine Flood EM-COP Public Publishing Business Rules can also be found on the Public Information section of the IMT Toolbox. A version is also contained in Appendix B of this plan.

Adjoining states will be consulted over public information messages if impacts have occurred in a border area.

Public Information and Warnings for Riverine Flood Events

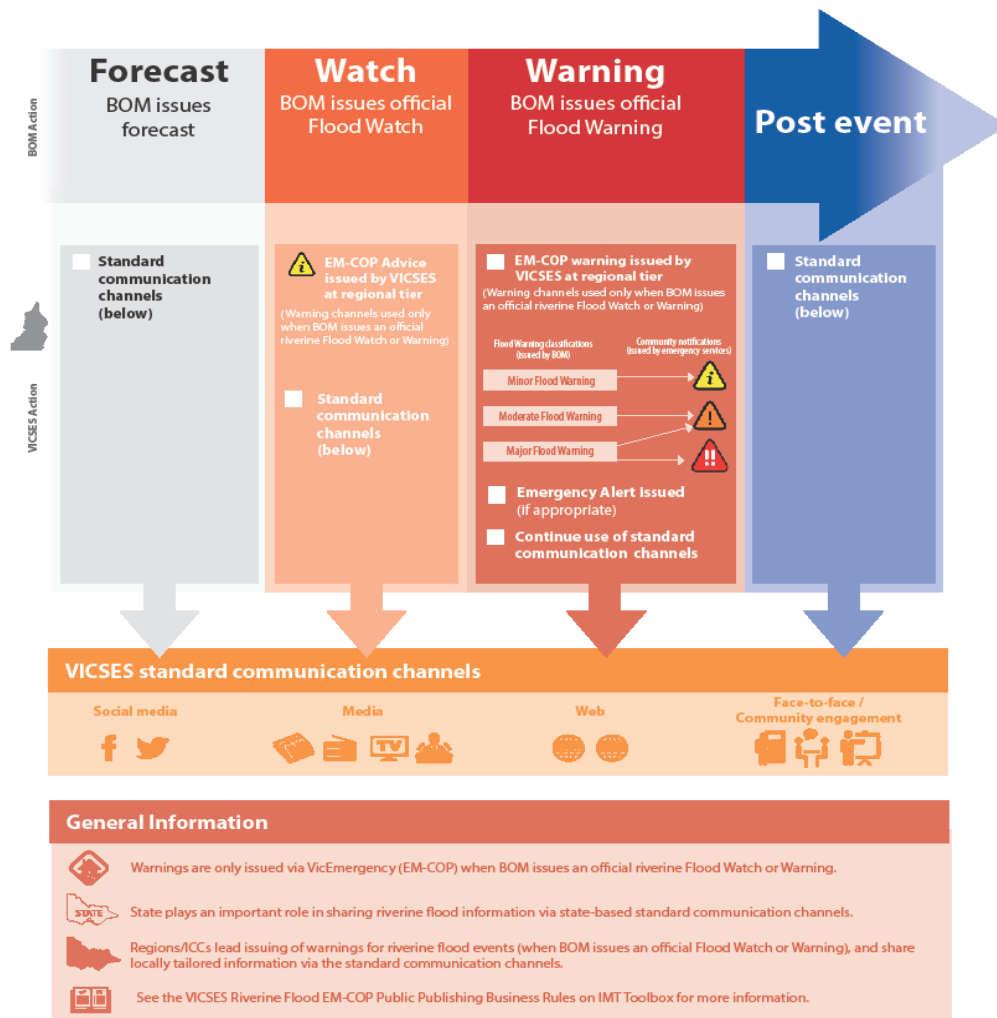


Figure 4: Riverine flood Public Information and Warnings infographic (2018)

4.2.7 VicEmergency Hotline

Community members can call the VicEmergency Hotline (1800 226 226) to access emergency information during and after major incidents in Victoria, including flood events. It also offers information to help Victorians plan for and recover from emergencies.

The VicEmergency Hotline is staffed by operators from Monday to Friday 8:00am – 6:00pm, with opening times extended during significant emergency events. The hotline also features an automatic text to speech function, which ensures Victorians can access important emergency information outside of operator hours, at any time of the day or night, by entering their postcode.

The hotline is managed by the Department of Environment, Land, Water and Planning (DELWP) Customer Contact Centre. The VICSES State Agency Commander may, in consultation with the State Response Controller, request enhanced readiness and staffing in anticipation of, or in response to, an emergency event. This may include extending the operating hours of the centre beyond standard arrangements, including weekends.

4.2.8 Community meetings

Community meetings are a useful and effective method of disseminating up-to-date information and engaging with communities. They can be used to provide face-to-face information before, during or after an incident, to assist community members to make decisions and educate about the roles of relevant agencies. A 'virtual meeting' can also be held through online platforms where a face-to-face meeting is not possible or to reach a wider audience (i.e. Facebook Live¹).

The decision to run a community meeting is made within the Incident Management Team (IMT) through the Incident Controller and Public Information Officer, prior to consultation with the Emergency Management Team (EMT).

4.2.9 Community safety messages

VICSES use key safety messages designed to promote protective action by the community. The key safety messages provide action based advice for what to do immediately before, during and after a flood event. The latest version of the VICSES Hazard Key Messages can be found on the Public Information section of the IMT Toolbox.

4.3 Flood mitigation policy framework

Floodplain risk management is a subset of the community emergency risk management process focused on identifying and analysing flood risks and evaluating and recommending appropriate flood risk mitigation options.

Prevention activities cover both structural and non-structural measures. Structural measures have traditionally included flood mitigation works, such as levees, retarding basins, channel modifications and the flood proofing of dwellings. Non-structural measures include flood warning services, developing local and municipal flood plans, land use zoning and building restrictions.

The DELWP is responsible for policy and oversight of floodplain risk management arrangements. Implementation is carried out at the regional level though regional floodplain management strategies developed in consultation with local stakeholders and communities.

The floodplain management function is carried out by Catchment Management Authorities (CMAs) in regional Victoria and Melbourne Water in the Port Phillip and Westernport catchments. Local government has a significant role to play in the administration of land use planning arrangements and accountability for flood mitigation at the local level.

4.3.1 Victorian Floodplain Management Strategy

DELWP maintains the Victorian Floodplain Management Strategy (VFMS), released in April 2016. This strategy sets the policy and accountability framework for flood related mitigation activities in Victoria.

¹ Online communication platforms such as Facebook Live are dependent on functioning telecommunications, powered devices or availability of electricity, and internet connectivity. These elements should be considered when determining the appropriateness of the channel.

The strategy is available at: <https://www.water.vic.gov.au/managing-floodplains/new-victorian-floodplain-management-strategy>

4.3.2 Regional Floodplain Management Strategy

Regional floodplain management strategies (RFMS) were released in 2017 and set out the implementation of flood mitigation activities for a region. There are nine RFMS aligning with CMA areas, and consist of Corangamite, Glenelg Hopkins, Wimmera, Mallee, North Central, Goulburn Broken, North East, East Gippsland, West Gippsland, and Port Phillip and Westernport.

These RFMS are available from the relevant CMAs, and from Melbourne Water for Port Phillip and Westernport area. RFMS were developed by CMAs after a significant consultation phase with community and key stakeholders including VICSES, and were released in 2017.

4.4 Levee management

About 98% of Victoria's 4,000 kms of levees protect rural land and are not formally managed. The VFMS states that flood mitigation infrastructure outside Melbourne Water's region that is not currently subject to formal management arrangements will remain that way unless the relevant Municipal Council (through a RFMS or local assessment) determines that the infrastructure should be brought into formal management arrangements through a Water Management Scheme or other appropriate arrangements. Historically these levees have provided some protection against minor and moderate floods.

There are a number of smaller levees which protect urban communities. Many have been constructed by municipal councils to a high standard as Water Management Schemes, and the municipal councils are expected to maintain them. There are however, many urban levees for which management arrangements are uncertain. In the long term, if they are expected to protect urban communities, the management arrangements will need to be formalised.

Irrespective of whether a levee is maintained or not, all levees can fail unpredictably. Therefore close monitoring is required during floods to ensure that people can be safely evacuated. Information on levees has been collated and is available through CMAs and DELWP. This information is being incorporated in FloodZoom, Victoria's flood intelligence platform (see section 4.5 for further information).

4.5 Flood intelligence

Flood intelligence supports decision making and planning for flooding by providing reliable and accurate information relating to:

- The expected level, depth and velocity of floodwater and its consequences.
- Determination of actions to be undertaken in response to the identified consequences.

VICSES works closely with CMAs, DELWP, other agencies and trusted local sources, as appropriate, to ensure available sources of flood information are utilised.

DELWP maintains the FloodZoom flood intelligence platform. FloodZoom is a web based system and is the central repository of all near real-time and historic flood data for the State. FloodZoom assists VICSES and other emergency services agencies

identify the possible local consequences of flooding, and supports CMAs in land use planning and flood risk assessments.

4.6 Regional and municipal flood planning

Flood emergency planning occurs at the state, regional and municipal level under the auspices of key forums and committees, formed under the Victorian emergency management arrangements. Plans recognise the responsibilities that emergency management agencies, floodplain managers and water authorities have to their customers and to the broader community. Preparedness activities should include the regular conduct of exercises to test emergency plans.

Best practice guidance on flood emergency planning can be found in the Flood Emergency Planning for Disaster Resilience Handbook available as part of the Australian Institute for Disaster Resilience Handbook Series at:
<https://knowledge.aidr.org.au/resources/handbook-flood-planning/>

Flood plans are to complement existing emergency management plans at regional and municipal levels (i.e. Regional Emergency Response Plan (REMP) and Municipal Emergency Management Plans (MEMPs)). Flood plans should not duplicate existing arrangements but add value to these in the context of flooding.

All Flood plans should be reviewed at least every three years or under the following circumstances:

- New flood risk information derived from the Floodplain Risk Management Process becomes available.
- Implementation of new structural flood mitigation works.
- Implementation of new or upgrade of the existing flood warning services.
- After major floods and exercises.

5 Collaboration, notification and coordination

5.1 Collaboration, notification and escalation

BoM publishes all Flood Watches, Flood Warnings, Severe Weather and Severe Thunderstorm Warnings on the BoM website and provides them to pre identified agencies, organisations, and media outlets.

BoM will email warning messages to VICSES at a state and regional Level. Upon the receipt of a warning, VICSES as the control agency for response to floods in Victoria has the responsibility to disseminate notifications and advice to emergency services, affected communities and key support organisations at state, regional and local levels.

VICSES Flood Readiness and Activation Triggers Considerations employ the following 6 level readiness framework for notification and escalation arrangements in responding to floods (see Figure 5). The flood readiness levels can be accessed within JSOP 2.03 Incident Management Team (IMT) Readiness Arrangements or the VICSES Flood Readiness and Activation Trigger Considerations (v4.0).

Figure 5: IMT Readiness Arrangements – JSOP 2.03

Readiness Level	RL 1 Low to Moderate	RL 2 High	RL 3(A) Very High	RL 3 (B) VERY HIGH	RL 4 SEVERE	RL 5 EXTREME
Operations	VICSES Managed			Multi Agency (JSOP02.03)		

If the warning specifically describes a serious and imminent threat based on the advice from the BoM, the VICSES State Duty Officer (SDO) will notify all emergency service organisations, including the Emergency Services Telecommunications Authority (ESTA), via the State Emergency Management Team (SEMT) and relevant agency SDOs. Regional Duty Officers (RDOs) will notify all regional emergency service organisations via their EMT and relevant agency RDO.

VICSES Chief Officer Operations is responsible for notifying the Emergency Management Commissioner (EMC) in accordance with JSOP 3.16 Significant Event Notification. The EMC can assist through the State Control Centre (SCC) to notify the State Coordination Team (SCT) and the SEMT. Following the issuing of any warning product, VICSES will maintain regular contact with BoM and/or Melbourne Water until the flood risk has passed. Where local information indicates the need for river height predictions to be adjusted VICSES will advise BoM/Melbourne Water without delay, so adjustments may be issued if appropriate.

VICSES has developed a detailed notification process for flood events which is documented in VICSES Standard Operating Procedures (SOPs).

VICSES understands the need to be proactive in early warnings to the community regarding the potential for severe weather and its associated impacts. VICSES and BoM will work in close partnership to ensure the timely notification of flood events in Victoria.

5.2 Strategic coordination of a flood event

5.2.1 Emergency Management Commissioner

Refer to the SERP for arrangements.

5.2.2 The role of VICSES

VICSES is the control agency for flood. Responsibilities for control agencies are outlined in the SERP.

5.2.3 Supporting agency roles and responsibilities

A flood event requires a coordinated response from multiple supporting agencies. Refer to the SERP for arrangements.

5.2.4 Cross jurisdictional arrangements

The cross jurisdictional arrangements to support operational response to flood events are underpinned by national and inter-state agreements, including:

- Arrangement for Interstate Assistance (AIA) which provides the national governing arrangements for deployments and support.
- Inter-state Memorandums of Understanding (MOU) between VICSES and South Australia (SA) SES and New South Wales (NSW) SES respectively, which detail arrangements for cross jurisdictional response within 40km of the state boundaries.

Local arrangements are also detailed in VICSES regional plans.

Some of the key considerations when establishing cross jurisdictional arrangements that are relevant to flood response include:

- Coordination and negotiation for resource requests when additional support is required by the Australian Defence Force (ADF).
- Use of the national warning platform, Emergency Alert, to provide urgent information to community members above and beyond state warning platforms (i.e. VicEmergency).
- Establishment of offline communication (i.e. radio networks).

5.3 Victorian government management arrangements

Refer to the SERP for arrangements.

5.4 Emergency Management Team

Refer to the SERP for arrangements.

5.5 Consequence management

Refer to the SERP for arrangements.

5.6 Reporting to government

Refer to the SERP for arrangements.

5.7 Transition to recovery

Refer to the SERP for arrangements.

5.8 Management of spontaneous volunteers

Refer to the SERP for arrangements.

6 Capability and complementary plans

The Victorian Preparedness Goal led by EMV sets out the core capabilities needed before, during and after emergencies occur (see emv.vic.gov.au/our-work/victorian-preparedness-goal).

The 21 core capabilities in the Victorian Preparedness Goal are highly interdependent on each other. Many are relevant to preparedness in reducing the potential consequences of a flood event (i.e. building community resilience) as well as managing response to a flood event (i.e. search and rescue) as well as the relief and recovery considerations after it occurs.

For VICSES, these capabilities are developed through its volunteer workforce supported by paid staff within the responsibilities of being the control agency. VICSES requires supporting capabilities from across whole of government including for example access implementation of relief and recovery requirements.

6.1 Regional and municipal flood emergency planning

6.1.1 Regional planning

Regional flood plans have been developed for all six VICSES regions that are determined to have a flood risk. This includes East (Gippsland), North East (Hume), North West (Loddon-Mallee), Mid-West (Grampians), South West (Barwon South West) and Central Regions.

Flood narratives for each of the six regional flood plans has also been created in 2020 as a complementary component to the plans, providing emergency management personnel with key insights about the known high-risk flood prone locations within the region that may be impacted with over floor flooding, or have a significant risk to flooding.

The plans include the identification of suitable incident control and regional control locations in consultation with other key emergency management agencies. The selection and placement of these locations must take into account possible access and damage limitations that could occur during major floods.

Regional flood plans focus on strategic resource coordination within catchment areas and across the relevant regional boundary, covering the following:

- Regional risk assessment.
- Resource requirements.

- Locations of significant flood mitigation works of regional importance and their management.
- Locations of significant essential infrastructure of regional importance.
- Locations of Division Command, and Incident and Regional Control Centres.
- Location of key strategic resources such as incident management personnel, flood boats, aircraft and sandbags.
- Local knowledge.
- Consequence management.
- Traffic management plans for major arterial roads.
- Arrangements for regional resource coordination and support.
- Identification of significant evacuation scenarios.
- Operation and role of REMTs.
- Areas where other agencies may provide first response flood capability.
- Communication.
- Cross boundary arrangements (intra and inter-state).
- Warnings and community information.

6.1.2 Municipal planning

Where a flood hazard is identified through the Community Emergency Risk Assessment (CERA) process as a high risk to a community, VICSES will provide advice and support to Municipal Emergency Management Planning Committees (MEMPCs) to ensure the MEMP contains arrangements concerning the preparedness for, and response to, a flood event based on an all hazards and all agency response.

7 Managing a flood event

7.1 Concept of operations

VICSES Flood Readiness and Activation Triggers Considerations employ the following 6 level readiness framework for control and command arrangements in responding to floods.

Readiness Level	RL 1 Low to Moderate	RL 2 High	RL 3(A) Very High	RL 3 (B) VERY HIGH	RL 4 SEVERE	RL 5 EXTREME
Operations	VICSES Managed			Multi Agency (JSOP02.03)		

For readiness levels 1, 2 and 3(a), control is in the VICSES line of control.

For readiness levels 3(b), 4 and 5, control is in the State Response Controller (SRC) line of control.

The SERP details the functions and roles of regional controllers, and incident controllers in a multi-agency response (SRC line of control). JSOP 2.03 sets out the default regional and incident footprints for a multi-agency response (SRC line of control). The SERP outlines alternative control arrangements and the processes to enact these alternative control arrangements (e.g. areas of operations). Support agencies functions are outlined in the SERP and apply for both line of control arrangements.

There may be multiple consequential emergencies resulting from a flood (e.g. fire, building collapse, hazmat). Refer to the SERP for arrangements in multiple consequential emergencies.

7.2 Readiness activities

On receipt of advice from the BoM of flooding possibly exceeding the triggers for Readiness Level 3 (B), the readiness activities may include:

- Establishing the control structure for managing the event.
- Providing consistent emergency warnings and information to the community.
- Implementation of evacuation and emergency relief plans.
- Confirming agencies at all tiers are activated and appropriate response arrangements are in place.
- Identifying the likely consequences of the flood event and any interdependencies that may affect planning.

- Confirming agencies have adequate resources in place to fulfil their responsibilities and are planning for sustainment and surge capacity, including identification of need for inter-state assistance.
- Ensuring that flood mitigation structures have been checked and any issues identified.
- Identifying mass gatherings and large public events that maybe at-risk, and arrangements to ensure the safety of individuals attending.
- Confirming agencies with call taking responsibilities have resources in place and back up arrangements to cope with the expected call load.
- Positioning of Emergency Management Liaison Officers from key support agencies to the State Control Centre and Regional Control Centres, where appropriate.
- Arranging for regular meetings of the State, Regional and Incident Emergency Management Teams.
- Providing whole-of-government situation reports to relevant Government Ministers.

The SERP details role and agency responsibilities for the above readiness activities at state, region, and incident level.

7.3 Community information

For agency managed flood, VICSES will lead the community information and media management function to ensure the provision of timely and accurate emergency information to the community. For SRC line of control flood, the Incident Controller, Regional Controller, and/or SRC will lead the community information and media management function to ensure the provision of timely and accurate emergency information to the community.

Where there are impacts to community, marine areas, roads, parklands and beaches, this will be done in collaboration with respective agencies that have a responsibility to provide information and advice to key stakeholder and the community, including Department of Health and Human Services (DHHS), Victoria Police (Water Police), VicRoads, Parks Victoria and Life Saving Victoria respectively.

See section 4.3 of this plan for full details relating to the provision of public information and warnings.

7.4 Local knowledge

The community and other organisations can provide valuable local knowledge about incidents and how they may evolve. This information is commonly referred to as local knowledge.

It is essential that communications pathways are created and maintained to ensure appropriate local knowledge can be captured before, during and after incidents.

As an incident escalates from local control to a larger incident management structure, it is essential that local knowledge capability is retained within the overall structure.

VICSES has developed a pilot project to improve communication from Flood Observers to IMTs using the Snap, Send, Solve app. To support the pilot of this project, networks of local observers has been created in each of the six VICSES regions to provide pictures from the field to the intelligence section in IMTs depicting flood behaviour and impacts.

Consideration will be given to incorporating people with relevant local knowledge into relevant roles within an IMT.

VICSES has developed a Local Knowledge Policy which outlines key strategies for incorporating local knowledge into the management of flooding, and can be accessed at: www.ses.vic.gov.au/em-sector/em-planning/local-knowledge

7.5 Access to flood intelligence

For a SRC line of control flood, an Intelligence Section will be established comprising members of DELWP, CMAs, VICSES and private technical specialists. The Intelligence Section shall use available sources of flood information, including flood studies, gauge data, mapping outputs (available through FloodZoom) and local knowledge through established networks such as municipal council, Flood Wardens and local observers to provide information on possible predicted flood consequences to inform public information and response actions.

VICSES in collaboration with DELWP has established the Flood Analyst role that comprises of a number of engineering consulting firms under VICSES managed formal agreements, along with CMA personnel to deliver technical specialists to support the Intelligence Section. VICSES has developed and manages internal doctrine to support the deployment of the Flood Analyst role, and leads the capability and capacity building of those undertaking the role.

The BoM provides flood intelligence and information in a number of forms when a significant flood event occurs. In addition to forecasts, Flood Watch and Flood Warnings, the Bureau of Meteorology will provide regular briefings, and will activate the Victorian Flood Desk to support 24/7 operational response. The Flood Desk may be contacted by emergency management personnel to seek further intelligence over the phone. Further intelligence products may also be created to inform planning activities, such as the Flood Scenario Outlook.

For high impact weather events the BoM shall provide a meteorologist at the SCC to provide weather briefings including ongoing liaison and state teleconferences as required. When staffed, the SCC meteorologist shall be the primary contact for weather information from the Bureau of Meteorology.

DELWP and CMAs in partnership with municipal councils shall coordinate the collection, collation, analysis, interpretation and dissemination of post-flood extent and survey levels, and ensure that relevant information is available through the initial impact assessment process.

7.6 Access to mapping products

The central repository for the state's flood mapping and spatial products are available in FloodZoom and accessible by a link on Emergency Management – Common Operating Picture (EM-COP).

Printed flood mapping products are also made available at each Incident Control Centre (ICC), including flood inundation mapping and flood travel time schematics.

Operational response and planning maps may also be generated using e-Map Water by personnel in the Intelligence Section.

7.7 Flood rescue

Under Victoria's emergency management arrangements, rescue is considered separately to the relocation of people who are stranded or isolated by flood water. Where the waters are

either fast or swift flowing and/or the people being assisted are facing actual or threatened danger of physical harm the response escalates from relocation to rescue.

Victoria Police, as the designated control agency for water rescue, coordinates rescues undertaken during flood events.

To activate water rescue services for a predicted flood event (Readiness Level 3B and above) the EMC, on advice from the SRC, will identify areas at risk of requiring rescue and notify the Victoria Police Senior Police Liaison Officer (SPLO) Officer in Charge of the Water Police Search and Rescue Squad to request pre-deployment of Water Rescue resources to these area via the Victoria Police Rescue Coordination Centre (Water Police and Search and Rescue Squads).

In conducting rescues Victoria Police will often require assistance of appropriately trained and equipped personnel from support agencies (including VICSES, Volunteer Marine Search and Rescue Organisations, the Country Fire Authority, Fire Rescue Victoria and Life Saving Victoria) to undertake flood rescue. Victoria Police coordinate with these agencies to ensure operational readiness for activation.

In significant flood events, Victoria Police will appoint a Flood Rescue Manager, who may be an officer from Victoria Police or one of the support agencies. The primary responsibilities of the Flood Rescue Manager are to:

- Coordinate all Flood rescue activities.
- Identify and source required resources.
- Deploy required police and support agency resources.
- Contribute to the development of the rescue plan for the incident.

7.8 Health response

Refer to the SHERP for arrangements.

7.9 Restricting access

To ensure public safety, it may be necessary to restrict access to affected areas. Victoria Police and relevant land managers will coordinate the restriction of access to these areas as directed by the Incident Controller.

Traffic management will be conducted in accordance with the Joint Standard Operating Procedure for Traffic Management (JSOP3.10).

Analysis of traffic management requirements and development of traffic management plans will be undertaken in consultation with relevant road managers.

7.10 Evacuation and relocation

Evacuation is a risk management strategy, which may be used as a means of mitigating the effects of an emergency on a community. It involves the movement of people to a safer location. However, to be effective it must be correctly planned and executed.

In Victoria, evacuation is largely voluntary. The Incident Controller makes a recommendation to evacuate and it is the choice of individuals as to how they respond to this recommendation. However, in particular circumstances legislation provides some

emergency service personnel with authority to remove people from areas or prohibit their entry e.g. *Coroners Act 2008 (sections 37(2), 37(3) & 38(1))*.

Evacuation operations should be consistent with Evacuation Guidelines available on EM-COP (see files-em.em.vic.gov.au/IMT-Toolbox/Inc/EvacuationPlanlines-v2.0.pdf) and Joint Standard Operating Procedure on Evacuation (JSOP3.12). Guidelines for best practice for planning evacuations are provided in AIDR Handbook 4, available at: www.knowledge.aidr.org.au/resources/handbook-4-evacuation-planning/

Some special evacuation considerations exist in specific environments which are detailed below.

7.10.1 Properties located behind levees

Levees are flood mitigation structures which aim to reduce flood frequency by creating a barrier between floodwaters and elements at-risk. Levees have been used across Victoria in an attempt to reduce flood damages and enhance public safety.

Levee owners / operators are responsible for the maintenance and operation of levees. Monitoring of a levee is the responsibility of levee owners / operators. Best practice guidelines for levee management are available at www.delwp.vic.gov.au/water/floods-and-floodplains/floodplain-management

All levees, however, unless designed for Probable Maximum Flood (PMF) events, will ultimately be over-topped by events larger than their design events, or possibly fail through lack of maintenance, inadequate construction or unforeseen circumstances for floods of lesser magnitude than the design specifications

Since the performance of a levee that is formally maintained cannot be assured after its design height or design specifications are exceeded, the design height or design specifications should be used as the trigger for evacuation when a levee is in danger of over-topping. For levees that are not formally maintained, there is no guarantee that a levee will hold when tested by a flood.

Augmentation of levees through temporary means (e.g. sandbagging) cannot be considered as alternatives to evacuation. Such works should be considered only as attempts to protect property and consideration must still be given to evacuating at-risk residents. Such works should also be undertaken only after technical advice is sought regarding their potential consequences on flooding and authority to undertake the proposed works.

Levees may be in danger of failure due to breaching and therefore must be carefully monitored to ensure any signs of piping or seepage are identified. Where such observations are made or there are concerns about the structural integrity of a levee, evacuation of the protected community should be considered. Specialist geo-technical advice may be sought regarding the stabilisation of a deteriorating levee. However, evacuation should occur and continue until a levees integrity can be assessed as safe.

Incident Controllers should always consider that no levee is flood-proof and that levees are primarily a mechanism for the protection of property, not life. Where there is potential for levee over-topping or a levee breach, evacuation must be considered.

7.10.2 Isolated properties and communities

The isolation of people is not without risk. Where it is viewed that people are unsuitable to remain in a property that may become isolated based upon predicted flood heights, they should be encouraged to evacuate. Such people may include:

- Unprepared property owners.
- People dependent upon medical care.
- Families with young children.
- People who are immobile.
- People who suffer from physical disabilities.
- People who suffer from health conditions that are likely to be exacerbated through either direct exposure or stress caused as a consequence of flooding.
- People who are frail.

7.11 Powers to entry land

The *VICSES Act 2005, Part 3, Section 32AB* provides the power to enter land or premises with or without the consent of the occupier of the land or premises if a service member reasonably believes that entry is urgently required to protect life or property in the course of responding to, or preparing for, a flood, earthquake, storm, landslide, or when undertaking a rescue.

The risk to life or property must be deemed urgent for members to enter land or premises without consent. To this end, and to support consistency and effective management of incidents, the VICSES Chief Officer Operations (COO) has determined in SOP035 'Entering land or premises during operations' the steps to be followed by authorised personnel in making a decision to enter land or property. Members are required to comply with this SOP.

Only Incident Controllers, VICSES Crew Leaders and VICSES Agency Commanders at incident, regional and state tier are authorised to make a decision to enter property with oral consent or without the consent of occupiers.

Section 32AB applies to VICSES members, or a person who voluntarily places themselves at the disposal of the COO and is directed by a service member. Therefore, such directions should be noted in logbooks where a support agency is operating under the control structure.

Where a decision has been made to enter land or premises without consent, the authorised person who made the decision to enter the property must ensure that the SOP035 is followed in regards to notifying the occupier in writing that the service (or its representative) has attended to deal with an emergency situation. Victoria Police are to be notified through VICSES dispatch (or line of control) should there be threat to life.

7.12 Levee management

Levee owners / operators are responsible for the maintenance and operation of levees. Monitoring of a levee is the responsibility of levee owners / operators.

Levee owners / operators must keep the Incident Controller informed of the levees status and be prepared to provide expert advice to the Incident Controller about the design and construction of their levee.

The Incident Controller may assist levee owners to coordinate resources, both technical and physical, to provide advice and affect temporary repairs or augmentation to levees.

7.13 Powers to construct, remove or alter levee and/or remove debris

The *VICSES Act 2005, Part 3, Section 32AC* provides the power to construct, remove or alter a levee and/or remove debris if a service member reasonably believes that removal is required to protect life or property.

Debris removal may be required in situations where trees and other items are restricting access or where a build-up of debris is obstructing waterways and exacerbating flood effects.

To support consistency and effective management of incident(s) the COO has determined in SOP036 'Construction, Removal or Altering of Levee and Removal of Debris' the steps to be followed by authorised personnel in making a decision to construct, remove or alter a levee and/or remove debris. Members are required to comply within this SOP.

The following persons are authorised to make a decision and direct activities associated with the construction, removal or alteration of a levee:

- State Response Controller.
- Regional Controller.
- State or Regional Agency Commander.
- An endorsed Level 2 or Level 3 Incident Controller (where appointed).

Section 32AC applies to members of VICSES, or a person who voluntarily places themselves at this disposal of the COO and is directed by a service member. Therefore, it should be noted in logbooks where a support agency is operating under the control structure.

Section 32AC (2) requires the VICSES Authority to as soon as practicable remove any levee constructed, replace any levee removed, or restore the site.

The COO (or nominated delegate) or SRC in consultation with the EMC will determine whether the construction, removal or alteration of the levee or the removal of debris is taken, under section 43 of the Act, to be damage to land or property caused by the emergency.

Section 43 provides that any damage caused by the service, service member or the SRC or a controller deployed in a Class 1 emergency or a person acting under the direction of a Service member is taken to be damaged caused by the emergency for the purpose of insurance policies, despite any clause or condition to the contrary in the policy.

Where insurance coverage is unlikely, the COO (or delegate) in consultation with the EMC will determine who will lead the restoration and/or rehabilitation of land and/or premises where a decision is taken to temporarily construct, remove or alter a levee.

7.14 Property protection

Property may be protected by:

- Sandbagging to minimise entry of water into buildings.
- Encouraging businesses and households to lift or move contents.
- Construction of temporary levees in consultation in accordance with Section 7.13 of this plan.

The Incident Controller shall determine the priorities related to the use of sandbags, which shall be consistent with the strategic priorities and the VICSES Sandbag Policy.

If sandbags are becoming limited in supply, then priority will be given to protection of essential and key community infrastructure and heritage assets.

7.15 Resupply

Resupply is the supply of essential goods or services to a community, neighbourhood or households isolated by an emergency for the purpose of ensuring the welfare of residents in a manner that attempts to maintain existing economic networks and functions.

Communities, neighbourhoods or households can become isolated during floods as a consequence of road closures or damage to roads, bridges and causeways. Under such circumstances, the need may arise to resupply isolated communities/properties with essential items.

When predictions/intelligence indicates that communities, neighbourhoods or households may become isolated, VICSES will advise businesses to ensure the continuity of supply of essential services to retailers. Households in areas of high risk should stock up on essential items well before an emergency occurs and advice may be sought at www.pantrylist.com.au

Resupply operations to emergency relief centres and individuals will be aligned to the emergency relief operation managed by emergency relief agencies (municipal councils and DHHS). Supporting agencies may be requested to assist with performing logistics functions through Emergency Management Team arrangements.

VICSES can support isolated communities through assisting with the transport of essential items to isolated communities.

7.16 Management of flooding downstream of dams

VICSES and DELWP have developed arrangements for the management of flooding downstream of dams. These can be found in the State Emergency Plans section of the EMV and VICSES websites.

7.17 Energy

Refer to the SERP for arrangements.

7.18 Impact assessment

Refer to the SERP for arrangements.

7.19 Clean-up

Refer to the SERP for arrangements.

7.20 Relief and recovery

Refer to the SERP for arrangements.

8 Appendix A – COVID-19 principles and considerations

The SERP Flood Sub-plan already has provisions to support a flexible approach to flood preparedness and response activities, in Victoria's management of flood events. This appendix provides guidance for a COVID-19 setting. Specifically, Appendix A provides guidance and support to the potential risks associated with the current COVID-19 cases and concerns of the community and emergency service personnel in seeking to minimise their exposure to COVID-19.

This appendix should be read in conjunction with:

- Emergency Management Victoria Advisory Bulletins available on EM-COP at: <https://files-portal.em.vic.gov.au/refdocs/SC-Bulletin.htm?v=1601446813158>
- Any other state directions in relation to emergency management during COVID-19.

Principle – Community engagement

Consider how best to effectively engage the community within limitations of the existing COVID-19 restrictions. VICSES has transitioned a number of community engagement activities online to adapt to how Victorians are engaging across the community. This includes:

- Development of flood education and flood risk videos for community and business.
- Inviting feedback on community education resources, such as Local Flood Plans that are in development.
- Delivering targeted education and awareness campaigns to high risk residents and businesses.

Principles – Community information and warnings

The amount of information about COVID-19 can at times saturate media channels and has had a clear impact on the overall mental health of the Victorian community. This should be considered when designing public information and warnings for community, and may be best approached by applying best practice approaches to warnings – which is to provide clear and consistent information across multiple channels.

The importance of clear messaging is of particular importance for sensitive matters such as evacuation.

- DHHS has provided key messages for COVID-19 and emergencies at: <https://www.dhhs.vic.gov.au/emergencies-and-coronavirus-covid-19>

- The State Control – Advisory Bulletin 03 – 30/04/2020 - Relief Considerations for Class 1 Emergencies during a COVID-19 pandemic, provides details of exemptions for people leave their home in the event of an emergency and key messages.

Principles – Operational arrangements

It is important that personnel are aware of any updates or changes to existing agency or sector doctrine that relate to guidance and practices for operational arrangements and how they apply to operational preparedness and response activities. Relevant resources and activities include:

- Joint Standard Operating Procedure 2.03 (JSOP2.03) – Incident Management Team (IMT) readiness and activation – Adjustments supporting physical distancing.
- Response Agency Task Force, COVID-19 Agreed Principles,
- Impacts on any MOUs or agreements (i.e. inter-state arrangements and deployments may be affected by COVID-19 for health and logistical reasons).
- Pre-discussions and negotiations about potential resource requests to received support from the ADF.

Principles – Cross border arrangements

It is always critical to ensure that strong relationships are maintained across borders to support effective emergency response and to ensure robust arrangements are in place. This includes at a local Unit level, across regional borders as well as State borders.

The importance of this has been highlighted with the closure of State borders and the implications that this has on flood response, particularly for communities that are close to or on border locations. It is recommended that proactively and early engagement occurs with relevant sector partners, organisations and community to ensure that the strategy is formulated and in place, ideally prior to a flood event occurring.

Principles – Evacuation, relief and recovery

- Inform early - Timeliness for planning and decision making has always been of critical importance, and has become even more important during COVID-19.
- Early engagement and communication with sector partners, and the community when relevant, is paramount to ensure timely, tailored and relevant information can be delivered to the community.
- The State Control – Advisory Bulletin 03 – 30/04/2020 - Relief Considerations for Class 1 Emergencies during a COVID-19 pandemic, provides considerations for the implementation of relief arrangements within a COVID-19 setting. See <https://files-portal.em.vic.gov.au/refdocs/SC-Bulletin-ReliefConsiderationsClass1-Emergency-COVID19Environment.pdf>

Exercises – Be prepared

Delivering and undertaking exercises in the lead up to any flood event is highly recommended to ensure strong understanding of challenges associated to COVID-19 and ways to overcome them. It is recognised that there are some common challenges, such as ways to work effectively across Incident Management Teams when geographically dispersed, but also unique challenges such as how to effectively manage cross border issues when State borders are closed.

VICSES has led and supported a number of multi-agency flood exercises to better understand how to effectively respond to flood events during COVID-19. This includes but is not limited:

- Exercise Deluge (State).
- Exercise Wallamete (VICSES Central Region).
- Exercise Pelican (VICSES North West Region).

Appendix B – EM-COP Riverine Flood EM-COP Public Publishing Business Rules



VICSES Riverine Flood EM-COP Public Publishing Business Rules

April 2019

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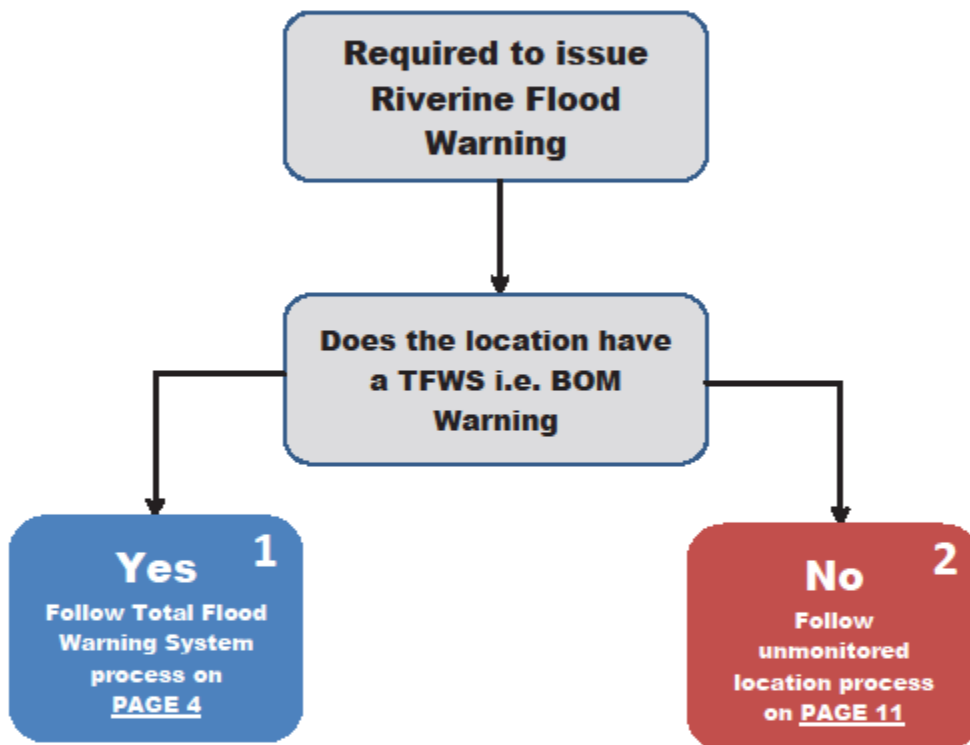
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Riverine flood community notification business rules

These business rules provide guidance for personnel issuing riverine flood community notifications, and support the core EM-COP Public Publishing Business Rules.

Flood warnings can be issued for either:

1. Locations with a Total Flood Warning System (TFWS) (Bureau of Meteorology (BOM) warnings, or
2. Locations without a TFWS i.e. no BOM Warnings



1 Total Flood Warning System (monitored location) community notifications

VICSES is control agency for flood, responsible for dissemination of BOM Flood Watch and Flood Warning products, as well as VICSES evacuation messaging, to the community as outlined below.

As part of the Total Flood Warning System (TFWS), BOM is responsible for issuing Flood Watches for catchments within the State that are likely to experience flooding in the subsequent 12-24 hours. BOM will also issue Flood Warnings for monitored river gauge locations (for catchments and sub-catchments) that are predicted to flood or are experiencing minor, moderate or major levels of flooding. Flood class levels are predetermined river heights at monitored gauge locations, as per the Service Level Specification for Flood Forecast and Warnings Services in Victoria, which are established by stakeholders in the TFWS.

Warning products include (1) Flood Watches and (2) Flood Warnings for the 29 river catchments and associated sub-catchments.

Where catchments cross regional VICSES boundaries, primary regions have been identified to be responsible for issuing riverine flood community notifications for the entire catchment as per VICSES SOP 009.

1.1 Responsibility for issuing and authorisation of community notifications

Business as usual:





- Issuer: Regional Duty Officer (RDO) or Warnings and Advice Duty Officer (WADO) if time critical (note: WADO must be requested to issue community notification by RDO/RAC)
- Authorisation: Regional Agency Commander (RAC)

ICC/RCC/SCC:






- Issuer: Information and Warnings Officer (IWO) / Public Information Officer (PIO)
- Authorisation: Incident Controller (IC) (may be delegated to PIO)




1.2 Warning triggers, publish, update and expiry times

The following table outlines triggers, publish, update and expiry times for community notifications.

Message type	Trigger	Publish	Update timeframes	Expiry (un-publish) timeframes
Advice: Flood Watch 	1.BOM issues or updates a flood watch	<1 hour of BOM issue time	Issue within 1 hour of BOM issuing the watch	Set message to expire 1 hour after the BOM warning is due to expire.
	2.BOM updates a flood watch with new catchment added	<1 hour of BOM issue time	Update within 1 hour of BOM reissuing or updating the watch	Set message to expire 1 hour after the BOM warning is due to expire.
	3.BOM updates a flood watch and a catchment has been upgraded to a flood warning.	<1 hour of BOM issue time	Update within 1 hour of BOM reissuing or updating the watch	Set message to expire 1 hour after the BOM warning is due to expire.
NOTE: Issue flood watch for relevant catchments and also issue flood warning for relevant sub-catchment				
Advice - All Clear: Flood Watch – Flooding no longer expected 	BOM updates a flood watch and flooding is no longer expected in a catchment.	<1 hour of BOM issue time	Unlikely to require updating, otherwise update within 1 hour of BOM reissuing or updating the warning	Automatically unublish Final Flood Watch after 12 hours
	NOTE: Issue flood watch to existing catchments and issue Flood Watch – Flooding no longer expected to removed catchments			
Advice - All Clear: Final Flood Watch 	BOM issues or updates a final flood watch	<1 hour of BOM issue time	Unlikely to require updating, otherwise update within 1 hour of BOM reissuing or updating the warning	Automatically unublish Final Flood Watch after 12 hours
Advice: Minor Flood Warning 	BOM issues or updates a minor flood warning	<1 hour of BOM issue time	Update within 1 hour of BOM reissuing or updating the warning	Set message to expire 1 hour after the BOM warning is due to expire.

Total Flood Warnings System (monitored locations)

Message type	Trigger	Publish	Update timeframes	Expiry (un-publish) timeframes
Warning: Moderate Flood Warning 	BOM issues or updates a moderate flood warning	<1 hour of BOM issue time	Update within 1 hour of BOM reissuing or updating the warning	Set message to expire 1 hour after the BOM warning is due to expire.
Warning: Major Flood Warning** 	BOM issues or updates a major flood warning (impacts determine whether Warning or Emergency Warning)	<1 hour of BOM issue time	Update within 1 hour of BOM reissuing or updating the warning	Set message to expire 1 hour after the BOM warning is due to expire.
Emergency Warning: Major Flood Warning** 	BOM issues or updates a major flood warning (impacts determine whether Warning or Emergency Warning)	<1 hour of BOM issue time	Update within 1 hour of BOM reissuing or updating the warning	Set message to expire 1 hour after the BOM warning is due to expire.
Advice - All Clear: Final Minor Flood Warning 	BOM issues or updates a final flood warning	<1 hour of BOM issue time	Unlikely to require updating, otherwise update within 1 hour of BOM reissuing or updating the warning	Automatically unublish Final Minor Flood Warning after 12 hours
Prepare to Evacuate 	RAC, SAC or IC request or update required	ASAP, no more than 30 mins from time of request	Update as required	Set expiry as per update timeframes. Original message will unublish when updated or updated with new template (e.g.: when Evacuate Now issued)

Message type	Trigger	Publish	Update timeframes	Expiry (un-publish) timeframes
Evacuate Now 	RAC, SAC or IC request or update required	ASAP, no more than 30 mins from time of request	Update every 2 hrs	Set expiry as per update timeframes. Original message will un-publish when updated or updated with new template (e.g.: when Evacuate Now Update is issued)
Evacuate Now Update 	RAC, SAC or IC request or update required. Issued when it is too late to evacuate and persons who have already evacuated cannot return	ASAP, no more than 30 mins from time of request	Update every 24 Hours until a Safe to Return Message is issued	Set expiry as per update timeframes. Original message will un-publish when updated or updated with new template (e.g.: when Safe to Return is issued)
Safe to Return 	RAC, SAC or IC request or update required	<30 min of notification time	Does not generally require updating – publish once only	Unpublish after 24 hours

** The Incident Controller (or delegate) has the option to issue either a Warning or Emergency Warning when a Major Flood Warning is issued by BOM. The decision should be consequence based, and take into consideration the likely impacts to the community.

1.3 Incident naming

- **Major emergencies** – apply JSOP J03.02 (Incident Naming – Major Emergencies):
 - Hazard Type – Widely Known Location – Local Reference
(e.g.: RiverineFlood – NorthEast – Euroa)

Note: When initially creating an EM-COP incident, the platform does not allow incident names to include spaces, however, the incident name can be altered manually when creating a community notification.

1.4 Polygons

The Area Polygon (Catchment Areas) must be used when issuing riverine flood warnings to ensure consistency with BOM warnings. Do not group warning areas together.

- **Catchment polygon** to be selected when issuing a Flood Watch to a catchment (e.g.: if BoM issues a flood watch for the Ovens Catchment, you should select the Ovens Catchment Area Polygon).
- **Sub-catchment polygons** to be selected when issuing a flood warning. (e.g. if BoM issues a warning for the Loddon River Catchment, inclusive of a minor warning for Loddon River upstream of Laanecoorie and a moderate warning for the Loddon River Laanecoorie to Loddon Weir, you must issue 2 separate warnings with the 2 separate pre-determined sub-catchment polygons).
- A **circle or vertex polygon** should only be used to define the evacuation or safe to return area when issuing evacuation community notifications.

1.5 Location

Enter the location for the community notification based on the location BOM has issued the watch or warning for (e.g.: Loddon River upstream of Laanecoorie), or the localities being evacuated (e.g.: Rochester).

1.6 Agency issuing warning

Always select SES as the agency issuing the warning from the drop down list when creating the warning. This ensures the community notification is published to VICSES social media channels.

1.7 Recipient list

The Statewide Mandatory list must be selected in addition to the relevant Vic Government Region(s) list(s).

1.7.1 SMS notification

The SMS notification is automatically selected for all warning messages and above.

An SMS shouldn't be sent:

- For Advice, All Clear or Community Information products
- If an insignificant change is being made to the warning (e.g. correcting a typo) if it's a long running event and the warning is being updated without significant change.

1.8 Message creation

- **Critical details** – import relevant BOM warning information by copy and paste from BOM website (www.bom.gov.au/vic/warnings).

Generally, the only text that should be included from the BOM warning is the situational information (generally, the text below the flood warning number and above the flood safety advice).

Example: Loddon River upstream of Laanecoorie

River rises are expected in the tributaries of the Loddon River upstream of Laanecoorie Reservoir, which may lead to areas of minor flooding developing overnight Sunday into Monday.

- **What you should do** – select relevant drag and drop statements.
- **Impacts in your area** – include any available flood intelligence and information available in flood resources (i.e. intelligence cards in Municipal Flood Emergency Plans (MFEPS) or Local Flood Guides (LFGs)).
- **More Information** – if deemed necessary, insert BOM river height data from BOM warnings into this section.

1.9 Evacuation template selection

Evacuation messages are to be used in conjunction with an advice, warning or emergency warning message as per below options.

Tailor both messages to ensure messaging is consistent. For example, if an Emergency Warning and Evacuate Now Update are issued simultaneously for the same location, the Emergency Warning should be updated to state it is too late to leave, to ensure consistency with the Evacuate Now Update.

- Flood – Riverine Flood – Prepare to Evacuate
- Flood – Riverine Flood – Evacuate Now
- Flood – Riverine Flood – Evacuate Now – Update
- Flood – Riverine Flood – All Clear – Safe to Return

Refer to Section 3.3 – Notification Levels in the core EM-COP Business Rules for guidelines when issuing warnings and JSOP 03.12 Evacuation for Major Emergencies.

1.10 Use of SES Alerting Tools

1.10.1 Emergency Alert

The use of Emergency Alert is governed by Joint Standard Operating Procedure J04.01 (EM-COP).

1.10.2 Sirens

Community Alerting Sirens are activated at the discretion of the Incident Controller to alert the community of an imminent threat to the community and community members should immediately seek further information.

Sirens should be activated for riverine flood events when issuing a prepare to evacuate or evacuate now message, or as required when issuing an evacuate now – update.

1.11 Definitions

Flood Warning: A written product to provide advice on impending flooding so people can take action to minimise its negative impact. This will involve some people taking action on their own behalf and others doing so as part of agency responsibilities.

Flood Watch: A written product that alerts when the combination of forecast rainfall and catchment conditions indicates the flooding is likely.

2 Locations without a Total Flood Warning System (unmonitored locations)

VICSES Regional Agency Commanders (during BAU) or the relevant L2/L3 Incident Controller (when active) are authorised to approve publishing of a community notification via EM-COP Public Publishing if they become aware of a verified risk to life or property from flooding, in a location where an existing Total Flood Warning System is unavailable.

The authoriser must ensure that the risk to life or property is significant enough to warrant issuing a community notification, and that the risk has been verified from a flood analyst or Catchment Management Authority (CMA).

Only the dedicated 'unmonitored warning templates' should be used (available in EM-COP Public Publishing).

Note: If impacts are expected less than 6 hours, follow EM-COP Flash Flood Business Rules (available on IMT Toolbox).

2.1 Responsibility for issuing and authorisation of community notifications

Business as usual:






- Issuer: Regional Duty Officer (RDO) or Warnings and Advice Duty Officer (WADO) if time critical (note: WADO must be requested to issue community notification by RDO/RAC)
- Authorisation: Regional Agency Commander (RAC)

ICC/RCC/SCC:




- Issuer: Information and Warnings Officer (IWO) / Public Information Officer (PIO)
- Authorisation: Incident Controller (IC) (may be delegated to PIO)

2.2 Warning triggers, publish, update and expiry times (unmonitored locations)

The following table outlines triggers, publish, update and expiry times for community notifications.

Message type	Trigger	Publish	Update timeframes	Expiry (un-publish) timeframes
Advice: 	Verified reports or intelligence of minor impacts	< 30 mins of triggers met	12 – 24 Hours (max)	12 – 24 Hours (max)
	Impacts: Water spilling over river banks and nearby low lying areas. Water coming up through drains in nearby streets. Require relocation of stock in some cases. Riverside camp areas and some low lying caravan parks impacted. Cover minor paths, tracks, and low level bridges. Some back yards impacted and buildings impacted below floor level			
Warning: 	Verified reports or intelligence of moderate impacts	< 30 mins of triggers met	6 – 24 Hours (max)	12 – 24 Hours (max)
	Impacts: Water spilling over river banks and covering larger areas of land. Water above floor level in some houses and buildings. Require evacuation in some areas. Impact to roads and traffic routes. Require relocation of stock in rural areas.			
Emergency Warning: 	Verified reports or intelligence of major impacts	< 30 mins of triggers met	6 – 24 Hours (max)	12 – 24 Hours (max)
	Impacts: Widespread flooding. Many houses and businesses are inundated above floor level. Properties and whole areas may be isolated. Major roads and rail routes closed. Require many evacuations. Impact to utility services (water, power, sewerage etc.)			
Advice - All Clear: 	Must be issued if a warning or emergency warning is issued as part of de-escalation once threat has ceased.	< 30 min of threat ceasing.	Only update if required	24 hours
Prepare to Evacuate 	RAC, SAC or IC request or update required	ASAP, no more than 30 mins from time of request	Update as required	Set expiry as per update timeframes. Original message will un-publish when updated or updated with new template (e.g.: when Evacuate Now issued)

Locations without a Total Flood Warnings System (unmonitored locations)

Message type	Trigger	Publish	Update timeframes	Expiry (un-publish) timeframes
Evacuate Now 	RAC, SAC or IC request or update required	ASAP, no more than 30 mins from time of request	Update every 2 hrs	Set expiry as per update timeframes. Original message will unpublish when updated or updated with new template (e.g.: when Evacuate Now Update is issued)
Evacuate Now Update 	RAC, SAC or IC request or update required. Issued when it is too late to evacuate and persons who have already evacuated cannot return	ASAP, no more than 30 mins from time of request	Update every 24 Hours until a Safe to Return Message is issued	Set expiry as per update timeframes. Original message will unpublish when updated or updated with new template (e.g.: when Safe to Return is issued)
Safe to Return 	RAC, SAC or IC request or update required	<30 min of notification time	Only update if required	24 hours

2.3 Incident naming

- Major emergencies – apply JSOP J03.02 (Incident Naming – Major Emergencies):
 - Hazard Type – Widely Known Location – Local Reference
(e.g.: RiverineFlood – NorthEast – Euroa)

Note: When initially creating an EM-COP incident, the platform does not allow incident names to include spaces, however, the incident name can be altered manually when creating a community notification.

2.4 Polygons

Creation of the appropriate flood polygon shapes should be based on available intelligence and based on the at risk area.

- Vertex, or circle polygon: Draw a circle or vertex based on the at risk area.

2.5 Location

Enter the location for the community notification based on the location at risk (e.g.: Heywood), or the localities being evacuated (e.g.: Elwood).

2.6 Agency issuing warning

Always select SES as the agency issuing the warning from the drop down list when creating the warning. This ensures the community notification is published to VICSES social media channels.

2.7 Recipient list

The Statewide Mandatory list must be selected in addition to the relevant Vic Government Region(s) list(s).

2.7.1 SMS notification

The SMS notification is automatically selected for all warning messages and above.

An SMS shouldn't be sent:

- For Advice, All Clear or Community Information products
- If an insignificant change is being made to the warning (e.g. correcting a typo) if it's a long running event and the warning is being updated without significant change.

2.8 Message creation

- *Critical details* – include location and verified prediction information
- *What you should do* – select relevant drag and drop statements.
- *Impacts in your area* – include any available flood intelligence and information available in flood resources (i.e. intelligence cards in Municipal Flood Emergency Plans (MFEPS) or Local Flood Guides (LFGs)).

2.9 Evacuation template selection

Evacuation messages are to be used in conjunction with an advice, warning or emergency warning message as per below options.

Tailor both messages to ensure messaging is consistent. For example, if an Emergency Warning and Evacuate Now Update are issued simultaneously for the same location, the Emergency Warning should be updated to state it is too late to leave, to ensure consistency with the Evacuate Now Update.

- Flood – Riverine Flood – Prepare to Evacuate
- Flood – Riverine Flood – Evacuate Now
- Flood – Riverine Flood – Evacuate Now – Update
- Flood – Riverine Flood – All Clear – Safe to Return

Refer to Section 3.3 – Notification Levels in the core EM-COP Business Rules for guidelines when issuing warnings and JSOP 03.12 Evacuation for Major Emergencies.

2.10 Use of SES Alerting Tools

2.10.1 Emergency Alert

The use of Emergency Alert is governed by Joint Standard Operating Procedure J04.01 (EM-COP).

2.10.2 Sirens

Community Alerting Sirens are activated at the discretion of the Incident Controller to alert the community of an imminent threat to the community and community members should immediately seek further information.

Sirens should be activated for riverine flood events when issuing a prepare to evacuate or evacuate now message, or as required when issuing an evacuate now – update.

3 Redundancy

If you are unable to public a community notification, the Redundancy Warnings Work Instruction (available via the IMT Toolbox > Public Information > Redundancy) should be applied.

Initially, you should:

- Contact the rostered Statewide Warnings and Advice Duty Officer via telephone 1300 877 990 (may be diverted to SCC Public Information Section if activated).

4 Continual improvement

These business rules are reviewed annually and are subject to ad-hoc amendments as required.

5 Document Information

Document details

Criteria		Details	
Document title:		VICSES Riverine Flood EM-COP Public Publishing Business Rules	
Agency		Victoria State Emergency Service	
Document owner:		Chief Officer, Operations, VICSES Director, Community Resilience and Communications, VICSES	
Version	Date	Description	Author
0.1	28/02/2017	Initial Draft	VICSES
1.0	01/03/2017	Final	VICSES
1.1	14/03/2017	Minor changes	VICSES
1.2	15/03/2017	Minor updates	VICSES
1.3	14/09/2017	Include reference to interim arrangements	VICSES
2.0	10/10/2017	Final, minor updates	VICSES
3.0	20/12/2017	Final, updates to polygon requirements and other minor updates	VICSES
4.0	20/04/2019	Remove community newsletter and minor updates. Added unmonitored locations warning process update flood watch process	VICSES
5.0	14/05/2019	Added color branding for monitored/unmonitored locations	VICSES

Reference list

- EMMV Part 8 (Standard Emergency Warning Signal)
- Service Level Specification for Flood Forecast and Warnings Services in Victoria
- JSOP J03.02 Incident Naming - Major Emergencies
- JSOP J03.12 Evacuation for Major Emergencies
- JSOP J04.01 Public Information and Warnings
- VICSES SOP 009 Flood Notification and Activation Process
- Victorian Warnings Protocol
- Emergency Management Public Information & Communications Manual