# NSW State Flood Plan

A sub plan to the State Emergency Management Plan (EMPLAN)

December 2024

Acknowledgement of Country

The NSW State Emergency Service acknowledges the Traditional Custodians of the lands where we work and live. We celebrate the diversity of Aboriginal and Torres Strait Islander peoples and their ongoing cultures and connections to the lands and waters of NSW. We pay our respects to Elders past, present and emerging. We acknowledge the Aboriginal and Torres Strait Islander people who contributed to the development of this plan.
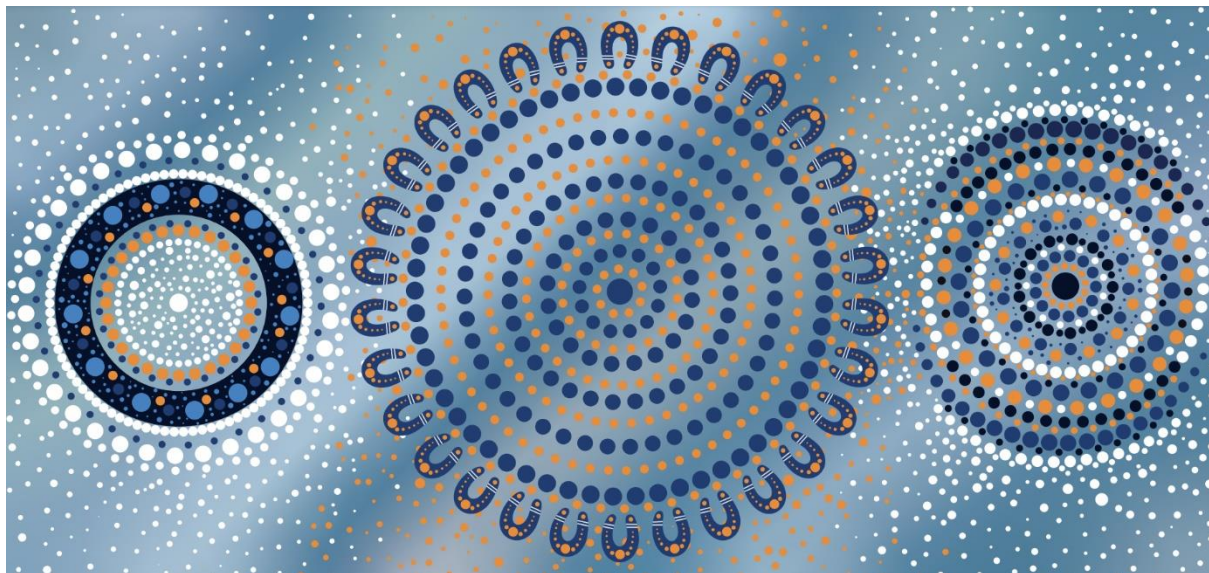
'Journey After the Storm' 2016

Commissioned artwork by Lani Balzan for the NSW State Emergency Service

"My name is Lani Balzan, and I am a proud Aboriginal woman from the Wiradjuri people. My family comes from Mudgee, but I was born in Penrith. Having lived in many different towns, including Illawarra, I feel I grew up all over Australia. Today I live in Figtree NSW with my husband John and our three beautiful boys. I am a recognised Indigenous artist, an Aboriginal Education Officer and conduct art therapy within my community. Painting is my passion, it's a means of showcasing and sharing our beautiful and amazing culture. In 2016, a fire tore through our home and destroyed everything we owned, including all the paintings I had lovingly created over many years. While this was a devastating time in my life, I felt it was important to use this experience as an inspiration to create new art and to push myself to learn more about my culture."

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Contents

Introduction

1   Introduction

1.1   Purpose

The purpose of this NSW Flood Emergency Sub Plan (NSW State Flood Plan) is to set out the state level multi-agency arrangements for the emergency management of flooding in NSW, including Lord Howe Island.

The NSW State Emergency Service (NSW SES) is identified in the _NSW State Emergency Management Plan_ (EMPLAN) and the _State Emergency Service Act 1989_ (NSW) ('SES Act') as the Combat Agency for dealing with floods (including the establishment of flood warning systems) and to coordinate the evacuation and welfare of affected communities. NSW SES is required to protect persons from dangers to their safety and health, and to protect property from destruction or damage, arising from floods.

The NSW SES Commissioner is the State Controller under the SES Act and is responsible for managing and controlling all flood response operations across NSW, including Lord Howe Island, according to this plan.

1.2   Authority

This plan is written and issued under the authority of the _State Emergency and Rescue Management Act 1989_ (NSW) ('SERM Act'), the SES Act and the EMPLAN. In addition to these instruments, the following acts and regulations apply to managing floods:

- _Essential Services Act 1988_ (NSW)
- _Work Health and Safety Act 2011_ (NSW)
- _NSW Reconstruction Authority Act 2022_ (NSW)
- _Fire and Rescue NSW Act 1989_ (NSW)
- _Water NSW Act 2014_ (NSW)
- _Water Management Act 2000_ (NSW)
- _Water Act 1912_ (NSW)
- _Dams Safety Act 2015_ (NSW)
- _Dams Safety Regulation 2019_ (NSW)
- _Coastal Management Act 2016_ (NSW)
- _Environmentally Hazardous Chemicals Act 1985_ (NSW)
- _Environmental Planning and Assessment Act 1979_ (NSW)
- _State Environmental Planning Policy (Transport and Infrastructure) 2021_ (NSW)
- _State Environmental Planning Policy (Resilience and Hazards) 2021_ (NSW)

It was approved by NSW SES, which is the designated Combat Agency for floods, on 14 November 2024 and was endorsed by the NSW State Emergency Management Committee (SEMC) on 5 December 2024.

1.3   Revision History

Version	Date endorsed	Amendment notes
2024-1.0	December 2024	Substantive review
2021-1.0	December 2021	Administrative review
2018-1.0	March 2018	Substantive review
2017-1.0	December 2017	Substantive review
2015-1.0	March 2015	Substantive review
2008.1.0	June 2008	Substantive review
2001-1.0	April 2001	Substantive review
1991-1.0	1991	Substantive review

1.4   Activation

The EMPLAN is always active in anticipation of the need to coordinate support and resources requested by combat agencies, including NSW SES.

The arrangements in this plan are always active and do not require formal activation. Triggers for formal activation of particular response functions are outlined in *Section 5 Response.*

1.5   Scope

This plan describes the state-level emergency management arrangements for prevention, preparation, response (including immediate relief) and transition to recovery of flood emergencies affecting NSW communities.

In this plan a 'flood' is defined as a relatively high-water level which overtops the natural or artificial banks in any part of a stream, river, estuary, lake, or dam, and/or local overland flooding associated with drainage before entering a watercourse and/or inundation resulting from super-elevated sea levels and/or waves (including tsunami) overtopping coastline defences. Any vehicle or pedestrian access way is deemed to be an artificial bank for the purpose of this plan and subordinate plans.

Flash flooding, can occur in a short duration (within 6 hours) after rain, causing overland flood and rapid stream rises.

The arrangements for the emergency management of damage control for storm (including beach erosion caused by storm activity) are detailed within the *NSW State Storm Plan*.

The arrangements for the emergency management of tsunami are detailed within the *NSW State Tsunami Plan*.

This plan addresses the high-level arrangements for the management of downstream consequences of flooding due to dam failure of a declared dam.

This plan does not address the management of flooding of an underground mine by inrush or other cause, which is covered by the *Mine Emergency Sub Plan* for the respective mine.

This plan recognises that agencies have responsibilities during emergencies allocated under the EMPLAN or other sub or supporting plans to the EMPLAN. This plan does not repeat those responsibilities or roles but does refer to them.

This plan includes:

- The potential risks and consequences of the emergency to the social, built, economic, natural and cultural environments.

- The policy and programs in place to mitigate these risks before, during and after an emergency.

- The arrangements for control and coordination led by the NSW SES Commissioner for managing a flood impact.

- An outline of the approach as determined by the NSW SES Commissioner in managing a flood impact and the agencies responsible for managing specific strategies.

- The multi-agency management arrangements and integrated strategies at the state, regional and local levels (include national-level arrangements where these exist).

- Links to sources of information where the reader can obtain further detail.

1.6   Assumptions

This plan is based on the following assumptions:

- All the agencies and organisations with a role or responsibility included in this plan maintain their own capability; including detailed operational plans, adequately trained personnel and sufficient resources to fulfil their role.

- Referring to stakeholders is inclusive of a wide range of groups, and where relevant includes, but is not limited to:

  — Communities (defined below).

  — Emergency Services Organisations.

  — Supporting Agencies.

  — Functional Areas.

  — Local Government Councils (defined below).

- Referring to communities is inclusive of a wide range of groups including, but not limited to:

  — People who live, work, or visit places where disasters can occur and who, therefore, face a common risk. Community can coalesce around demographics and interests and can transcend geographic boundaries using online platforms.

  — Existing social, community and organisational networks (e.g., associations, faith-based groups, clubs, sporting groups, community groups, multicultural groups and small businesses).

  — Aboriginal and Torres Strait Islander people, including Discrete Aboriginal Communities.

  — Different age groups and life stages.

  — Community hubs.

  — Multicultural and linguistically diverse communities.

  — People with disabilities.

  — All genders.

  — LGBTQIA+ individuals.

- Local Government Councils includes other relevant councils and agencies, if applicable. This can include, but is not limited to:
  — County Councils.
  — Unincorporated Far West Region.
  — The Lord Howe Island Board.
  — Local Aboriginal Land Councils, Aboriginal landowners, and Aboriginal community-controlled organisations.
  — Crown Lands.

1.7   Goals

The goals for flood emergency management in NSW are to:

- Protect and preserve life.
- Promote protective behaviours in the community by building flood resilience of communities through awareness campaigns and community outreach.
- Protect property including critical infrastructure, community assets and residential property.
- Enhance the community's capability to make safer decisions by implementing effective warning systems and enabling accurate and timely two-way communications between agencies and communities.
- Provide clarity of the command, control and coordination of effective flood focused activities across the prevention, preparation, response and early recovery stages.
- Protect the natural environment and conservation values, including cultural heritage, biodiversity and social values.
- Value and respect Aboriginal and Torres Strait Islander cultures, lands, waterways and people.
- Consider the safety and well-being of the emergency service members and the broader community, with a focus on the social impacts of flooding.
- Promote community-centred recovery.

1.8   Key Principles

The key principles for NSW SES in relation to flood emergency management include the following:

- Protection and preservation of life (including the lives of responders and the community) is the highest priority.
- Establish Strategic Command and Incident Control at the level most relevant to the incident. In significant flood events this may include a whole of government response.
- Establish and operate warning systems, ensuring information is provided to the community in an effective and timely manner.
- Recovery planning and actions will occur in parallel with response operations. NSW SES as the Combat Agency is responsible for immediate relief, as per the _NSW Recovery Plan_.
- Working to prevent, prepare for, respond to and recover from the impacts of floods is the shared responsibility of agencies and the community. [1]
- All agencies, including cross-border agencies, will embrace interoperability between agencies and the community to better prepare for, respond to and recover from flood incidents and related emergencies.

1.9   Audience

The audience for this plan is the NSW Government and agencies within the emergency management sector including Local Government Councils, non-government organisations, businesses and community groups with a significant role in emergency management.

Although the wider community is not the primary audience, community members and industry groups may find the contents of this plan informative.

1.10   Linkages

This plan reflects current legislation, the arrangements in the EMPLAN, the strategic direction for emergency management in NSW and accepted state practice for emergency management. The EMPLAN arrangements have not been repeated unless necessary to ensure context and readability. Any variations from these arrangements have been identified and justified.

Furthermore, the following plans and policies may be relevant to this plan and should be considered concurrently:

- *State Disaster Mitigation Plan including Disaster Adaptation Plans*
- *State Level Emergency Risk Assessment*
- *Flood Risk Management Manual*
- *NSW State Rescue Policy*
- *Evacuation Management Guidelines*
- *NSW Recovery Plan*
- Other sub and supporting plans available at *NSW Government - Rescue and emergency management*

1.10.1 Roles and Responsibilities

General responsibilities of Emergency Services Organisations, Functional Areas and Supporting Agencies are set out in the EMPLAN.

Specific roles and responsibilities for Emergency Services Organisations, Functional Areas, and Supporting Agencies in relation to flooding are detailed throughout this plan and in Appendix A.

Local arrangements are detailed in NSW SES Local Flood Emergency Sub Plans, which are developed by NSW SES Emergency Risk Management, planning teams and local NSW SES Units in cooperation with the Local Emergency Management Committee (LEMC) and Supporting Agencies. These arrangements should align to the requirements outlined in this plan and other sub plans.

Any agency with agreed responsibilities in this plan that are temporarily unable, or no longer able to fulfil their responsibilities must as soon as possible notify the:

- NSW SES State Controller, NSW SES Deputy State Controller or NSW SES State Duty Commander (for state level responsibilities); or
- NSW SES Incident Controller (for local level responsibilities during response operations); or
- NSW SES Zone, Local and/or Unit Commander (for local level responsibilities outside of response operations).

1.10.2 Supplementary documents

Supplementary and supporting material of the NSW State Flood Plan is maintained on the NSW SES website at: *https://www.ses.nsw.gov.au/about-us/flood-storm-and-tsunami-plans/.* This material includes:

- Flood hazard and risk in NSW.

- Provision and requirements for flood warning in NSW.
- NSW State Plan Glossary.
- NSW SES Resupply Flowchart.
- Coastal and inland river basin maps.

Further information on flood hazard and warning is located on the following websites:

- Australian Institute for Disaster Resilience (AIDR) *https://knowledge.aidr.org.au/resources/handbook-flood-emergency-planning/*
- NSW SES website *https://www.ses.nsw.gov.au/disaster-tabs-header/flood/*
- NSW SES Warnings page *https://www.ses.nsw.gov.au/about-us/our-warnings/*

1.10.3 Linking with Aboriginal Communities

NSW SES, as the Combat Agency for floods, and other government organisations are committed to working in partnership with Aboriginal people and communities to prepare for, respond to and recover from flooding and the effects of flooding.

NSW SES will support Aboriginal initiatives such as the Aboriginal Communities Emergency Management Program led by Aboriginal Affairs NSW.

NSW SES will engage and consult with Local Aboriginal Land Councils, Aboriginal landowners, and Aboriginal community-controlled organisations in local and regional flood planning.

1.11 Maintaining the Plan

The NSW SES Commissioner (or delegate) will keep this plan current by:

- Ensuring all Emergency Services Organisations, Functional Areas, Supporting Agencies and officers included in this plan have the opportunity to review and contribute to the development of the plan.
- Conducting exercises to test arrangements.
- Reviewing the contents of this plan:
  — After significant flood response operations.
  — After recommendations from After Action Reviews, reports or inquiries have been finalised.
  — After changes in knowledge of flood risk affecting NSW.
  — When changes to land use strategic plans and policies increase the population at risk.
  — When new data and information is available that is material to this plan.
  — When there are changes to the machinery of government.
  — When there are changes that alter agreed plan arrangements.
  — As determined by the NSW SES Commissioner.
  — As determined by the NSW SEMC.
- This plan will be reviewed no less frequently than every 5 years.

The Emergency Risk Context

2 The Emergency Risk Context

2.1 The Hazard

2.1.1 The Flood Threat

The *State Disaster Mitigation Plan* (SDMP) identifies flood as a natural hazard with significant disaster risk for NSW. [2]

The SDMP identifies that the highest natural hazard risks in the built environment are from storms and floods, with coastal hazards dominating risk in the future. [2]

It is understood that the changes to natural climate processes, oceanic climate systems, temperatures and weather pressure systems will affect the extremity of Australia's weather systems and ocean hazards. [3] The increased risk of severe thunderstorms and storm surges, flash flooding and large flood events will have more severe impact on communities when they occur. [3]

2.1.2 Causes of flooding

In NSW, there are four mechanisms which may cause flooding:

- **Heavy rainfall** and associated runoff are the most common cause of flooding in NSW. Heavy rainfall can cause:
  — Banks of rivers and creeks to overtop.
  — Overflow from lakes, detention basins and stormwater drains.
  — Local overland flooding.
  — Releases or spills from dams.
- **Storm surge** is an increase in coastal water levels above predicted astronomical tide levels (i.e., tidal anomaly) resulting from a range of location factors including the inverted barometer effect, wind and wave set-up, and astronomical tidal waves, together with any other factors that increase tidal water level.
- **Tsunami** results from vertical movement of the sea floor because of a large earthquake, submarine or coastal volcanic eruptions, meteor impacts, coastal landslides and slumps, meteotsunamis, or any other disturbances to ocean water columns that may cause tsunamis.
- **Dam failure** causes flooding of downstream waterways and their surrounds. Dam failure is very rare but can have catastrophic consequences, in some cases exceeding the Probable Maximum Flood (PMF) extent. Dams Safety NSW publishes guidelines to help declared dam owners comply with the requirements of the *Dams Safety Act 2015* (NSW) and regulation. Some causes of dam failure include:
  — Overtopping in severe floods.
  — Lack of structural integrity.
  — Earthquake activity (resulting in sunny day failure).
  — Failure of operating equipment.
  — Piping (erosion of the embankment or substructure).
  — Any other major disturbances that may cause dam failure (e.g., sabotage).

2.1.3 Types of flooding

In NSW, there are five types of flooding that may occur:

- Riverine flooding:

  — For this plan and subordinate plans, riverine flooding is defined as any flooding where rain-to-flood delay time is relatively high and typically more than six hours, but excludes flooding caused by: elevated sea levels, storm surge, flash floods, failure of any human-made infrastructure (e.g., failure of dams or levees) or urban overland flow.

  — Riverine flooding differs in characteristics between the coastal and inland areas of the state. Maps of inland and coastal rivers can be found in the NSW State Flood Plan supplementary and supporting documentation on the NSW SES website.

  — Coastal Rivers are located to the east of the Great Dividing Range and are generally characterised by short headwaters of relatively steep gradient, fast rising floodwaters, high velocity flows and inundation even on the low-lying floodplains. Some rivers (such as the Georges and Hawkesbury-Nepean Rivers) can experience flooding with significant depths. Flooding usually lasts a relatively short period of time (i.e., days).

  — Inland Rivers are located west of the Great Dividing Range and are generally characterised by flooding that rises and travels relatively slowly. Flooding can occur long after heavy rain and at great distances from the location of the rainfall. Vast areas of land can be inundated for weeks or months. However, some locations immediately west of the Great Dividing Range (such as Tamworth and Bathurst) experience flooding like coastal rivers with floodwaters quick to rise and travel.

- Flash flooding:

  — Flash flooding is sudden and often unexpected. It is caused by sudden local or nearby heavy rainfall and typically occurs in small catchments. For this plan and subordinate plans, flash flooding is defined as occurring in a short duration (within 6 hours) after rain, causing overland flood and rapid stream rises. It can occur anywhere in the state when the intensity of the rainfall overwhelms natural or artificial drainage systems.

  — Larger urban areas of Sydney, Newcastle, the Central Coast and Wollongong, as well as near-coastal environments where communities have been developed on, and immediately below steep escarpments (such as at Coffs Harbour) are at risk of flash flooding. Flash flooding also occurs when urban drainage systems are overwhelmed by intense rainfall and roads become "rivers", with flooding occurring at their low points. In steeply sloping areas, such flooding can have dangerously high flow velocities.

  — Whilst flash flooding is quick to occur, when it occurs in the low-lying, flat, western parts of the state, floodwaters may take long periods of time to dissipate due to a lack of flow of water towards main rivers.

- Dam failure flooding:

  — Dam failure results in the uncontrolled release of the dam storage. The uncontrolled release may be caused by a partial or complete collapse of the dam or the structural failure of critical control mechanisms such as gates or valves. Noting that a dam failure does not include controlled releases or engineered dam spillways, and in some instances, dam walls, that can be designed to overtop and pass design floods of various severities, sometimes up to the PMF.

  — Dam failure flooding from declared dams and detention basins is rare (because of the high standards of safety for dams in NSW) but can be catastrophic. Flooding can be fast rising with high velocities and depths that can exceed the PMF extent dependant on the failure mode and preceding conditions. As dam failure can occur during a severe flood, areas downstream of dams may already be flood affected, with dam failure flooding worsening existing flood conditions.

  — Flooding close to the dam wall generally has similar characteristics to flash flooding, whilst further down the catchment characteristics tend to transition to become like riverine flooding.

- — The failure of dams that have not been formally designed and/or are poorly constructed and maintained (such as small farm dams) are the most common type of failure and can cause limited and localised flooding downstream.

- — Dam failure flooding can also occur without existing flooding or heavy rainfall conditions (such as from earthquakes). This is known as sunny day failure. During sunny day failures flooding is unlikely to exceed a PMF extent.

- **Levee bank overtopping and/or failure:**

  - — Levees are designed to reduce flood risk and impact of a designated area within a floodplain. Levees are built to a design height. When larger floods occur greater than the design height, levees may be overtopped, causing floodwater to flow over the levee. This increases risk to people and property located behind the levee and can lead to a possible breach of the levee. In addition, poorly maintained levees can fail due to weak points within the levee and can occur prior to overtopping. Levee breaches may be unpredictable.

- **Coastal and lacustrine (lake and estuarine) flooding:**

  - — Flooding on the lower reaches of coastal streams and around the lakes along the coast can be worsened by tidal conditions, storm surges and flooding associated with east coast lows.

  - — Discharge of lakes into the ocean can also be hampered by a build-up of sand at the point of entry, resulting in additional flooding of properties.

  - — Intermittently Closed and Opening Lakes and Lagoons (ICOLLs) is a term applied to estuaries where the entrance to the ocean can open and close intermittently due to the formation and breakdown of an entrance sand barrier. There are a significant number of ICOLLs along the NSW coastline, and many of them are manually opened to allow water trapped behind the barrier to be released. [4]

2.2   Consequences

The distribution and impacts of flooding can vary across NSW. The consequences of flooding can necessitate emergency actions such as warnings, evacuation, resupply, search and rescue, and property protection.

The consequences of flooding can include, but are not limited to:

- Injuries, medical emergencies or loss of life (often by drowning).

- Inundation damaging property, farmland, infrastructure, overwhelming drainage systems and roads (leading to a need for evacuation, property protection and/or rescue).

- Property damage or destruction (including buildings and vehicles).

- Infrastructure damage leading to loss of services, such as airports, roads, bridges, downed power lines and telecommunications infrastructure, water and sewerage.

- Isolation of properties and/or communities (e.g., Discrete Aboriginal Communities) due to flooding of access roads, with the additional risk of secondary emergencies (creating risk to life and the need for resupply and/or rescue).

- Economic losses (e.g., impacts to industries, local businesses, tourism and agricultural damages).

- Environmental losses (e.g., impacts to water quality, soil erosion, animal habitat, cultural heritage and generation of waste that is potentially hazardous).

- Trigger of positive environmental processes, benefitting native plants, fish and animals.

- Public Health risks (e.g., reduced access to primary health care, contamination to food supply, water borne diseases, other impacts because of direct contact with flood water and psychosocial impacts).

- Indirect effects such as disruption to community activities and ongoing psychological and psychosocial issues, including evacuation and losses related to persons, property, financial, and other cumulative effects of multiple/prolonged events may also have further psychological and psychosocial impacts on communities. The broader community can be affected by infrastructure damage, disruption of essential services and disruption to transport and shipping routes.

Prevention

3 Prevention

Prevention includes the identification of hazards, assessment of threats to life and property and taking measures to reduce potential loss to life or property. Prevention aims to reduce vulnerability and exposure to the hazard and associated threats.

Guided by various planning legislation and policies, NSW SES works with agencies and the community to inform and influence the consideration of risks arising from floods, storms and tsunamis to assist all stakeholders in building resilience and reducing risk.

3.1 Flood Mitigation

Whilst it is not always possible to prevent severe floods from occurring, actions (including, targeted and local government policies) to mitigate risk to life, reduce property damage and improve the resilience of infrastructure and assets to the impacts of flood events can be undertaken by carefully managing floodplains. These actions help to ensure the use of flood prone land is compatible with the flood behaviour and constraints and allows for sustainable land use.

The NSW Government's Floodplain Management Program provides technical and financial support to local councils to implement flood mitigation works in flood risk management plans to reduce risks to their communities.

The SDMP outlines a range of actions to mitigate disaster risk. It also supports the development of Disaster Adaptation Plans for each region across the state that outlines actions to reduce disaster risk. These plans consider flood risk management actions in local council flood risk management plans.

3.2 Flood Risk Management

The *Flood Risk Management Manual* outlines the NSW Government's Flood Prone Land Policy which details the framework for managing flood prone land in NSW. The primary objective of the Flood Prone Land Policy is to:

- "Reduce the impacts of flooding and flood liability on communities and individual owners and occupiers of flood prone property." [5]

- "Reduce private and public losses resulting from floods, utilising ecologically positive methods where possible. In doing so, community resilience to flooding is improved." [5]

Flood risk management includes an understanding and consideration of existing, future, continuing and residual risk as a means of limiting exposure to flood risk for both existing and growing communities. It requires a multidisciplinary approach including flood emergency managers, flood risk managers and land use planners working together to help communities build long term resilience to future flood events.

Strategy:	Actions to achieve the strategy (or outcome):
Advocate for consideration of emergency risk management in decision making to reduce flood risks to the community and minimise future, continuing and residual risk due to development.	1 NSW SES and agencies involved in flood risk management will provide coordinated and consistent emergency risk management advice to Local Government Councils, Local Aboriginal Land Councils (as required) and other agencies in relation to the management of land that is subject to flooding (including coastal hazards).

	2	NSW SES and agencies involved in flood risk management will contribute to national and state legislation reviews, policies and guidelines dealing with mitigation and flood risk management.
	3	NSW SES and agencies involved in flood risk management will provide technical emergency management advice to other relevant stakeholders including in the development of Flood Risk Management Plans, Coastal Management Programs, and Disaster Adaptation Plans.
	4	NSW SES and agencies involved in flood risk management will provide representation on state and local government committees and at other forums, such as Floodplain Management Australia (FMA), to inform consideration of emergency management in flood risk management decision making.
	5	NSW SES and agencies involved in flood risk management will provide advice, support, technical resources, and training for NSW SES representatives to contribute effectively on local Flood Risk Management Committees.
	6	Agencies involved in flood risk management, including NSW SES, will collaborate to identify potential evacuation routes.

3.3   Land Use Planning

Strategy:	Actions to achieve the strategy (or outcome):	
Work with planning and consent authorities, government agencies, Local Aboriginal Land Councils, public infrastructure and service utility organisations to understand, manage, reduce and, where possible, avoid risks associated with and improve resilience to flooding.	1	NSW SES and agencies involved in land use planning, will participate in reviews of the National Construction Code which sets the minimum required level for the safety, health, amenity, accessibility and sustainability of certain buildings.
	2	NSW SES and agencies involved in land use planning, will provide strategic input on land use planning matters that have or will create significant risk to life and/or property due to the impact of floods.
	3	NSW SES and agencies involved in land use planning, will contribute to national and state legislation reviews, policies and guidelines dealing with floods.
	4	NSW SES and agencies involved in land use planning, will provide coordinated and consistent emergency management advice to planning and consent authorities, public infrastructure and service utility organisations in relation to the impact of flooding to inform measures to reduce the risk for proposed development and infrastructure, as per the NSW Flood Prone Land Policy.

	5	NSW SES and agencies involved in land use planning, will provide coordinated and consistent emergency management advice to planning authorities, Local Government Councils, and Local Aboriginal Land Councils on planning controls that reduce or avoid potential flood damage and risk to life.
	6	NSW SES and agencies involved in land use planning will work with planning authorities involved in planning related to flooding to strengthen advice for proposed development, infrastructure and major projects (refer to Appendix A).
	7	NSW SES and agencies involved in land use planning will provide representation on state government committees and at other forums dealing with relevant land use planning matters.

3.4   Coastal Zone Management

The arrangements for identifying and managing risks from coastal hazards are detailed in Coastal Management Programs, Coastal Zone Emergency Action Sub Plans, and the NSW State Storm Plan.

Strategy:	Actions to achieve the strategy (or outcome):
Work with planning and consent authorities, public infrastructure and service utility organisations and the community to reduce or avoid the exposure of private and public assets to flooding arising from coastal hazards.	1 NSW SES and agencies involved in Coastal Zone Management will provide advice to NSW Government and Local Government Councils in the development and implementation of coastal zone management arrangements.

Preparation

4 Preparation

Preparedness includes arrangements or plans to deal with an emergency or the effects of an emergency. Key preparedness activities such as emergency planning and efforts to build community resilience assist in the success of response operations.

This includes working with communities to assist them in understanding their risk and through the provision of information have the knowledge to make the best decision for themselves and their family.

Preparedness activities are undertaken by:

- Agencies and organisations that have responsibilities before, during and after an emergency.

- Communities, businesses and households that are likely to be affected by flooding.

4.1 Emergency Planning

Strategy:	Actions to achieve the strategy (or outcome):
Review and maintain the NSW State Flood Plan and associated Emergency Sub Plans.	1 NSW SES will review and maintain the NSW State Flood Plan and associated supporting documents.
	2 NSW SES will review and maintain the *Hawkesbury-Nepean Valley Flood Emergency Plan* and associated supporting documents.
	3 NSW SES will review and maintain NSW SES Regional Flood Emergency Sub Plans as required. NSW SES Regional Flood Emergency Sub Plans may be prepared in special circumstances and outline the specific arrangements for management of flood events at a regional scale (e.g., river basin, multiple Local Government Areas or pre-defined areas of operation).
	4 NSW SES will review and maintain NSW SES Local Flood Emergency Subs Plans as required. NSW SES Local Flood Emergency Sub Plans outline the specific arrangements for management of flood events within a Local Government Area and may include cross boundary arrangements.
	5 NSW SES will conduct flood research to inform future Flood Emergency Sub Plans.
	6 Local Government Councils should consult with NSW SES in the development of council emergency arrangements including any Coastal Zone Emergency Action Sub Plans for coastal hazards to ensure compatibility with the NSW State Flood Plan.
	7 All agencies will review and provide any necessary feedback on any changes and updates to the NSW State Flood Plan, and associated Sub Plans where applicable.
Plan for the evacuation of communities and properties that may	1 NSW SES will make all evacuation planning decisions as per NSW SES policy and procedures and be

be impacted by actual and/or forecast emergency flood events.		consistent with the Evacuation Management Guidelines.
	2	NSW SES will determine the requirements and triggers for the evacuation of communities and properties that may occur during emergency flood events.
	3	NSW SES will engage with Supporting Agencies and Functional Areas to determine the capability of managing evacuation for specific communities and properties during an emergency flood event.
	4	All agencies involved in evacuation planning, including NSW SES, will ensure the plan for evacuation is a scalable activity that may be applied to individuals, a household, a street, a large facility, a suburb, a town or a larger geographic area.
	5	All agencies involved in evacuation management will share information between Emergency Services Organisations, Supporting Agencies and Functional Areas as required to support pre-incident planning.

Note: Regional and Local EMPLAN Consequence Management Guides (CMG) for flood are not required for communities covered by NSW SES Regional and Local Flood Emergency Sub Plans however may be utilised in addition to a Local Flood Emergency Sub Plan if agreed to by NSW SES.

4.2   Operational Readiness

4.2.1 Flood Intelligence Systems

The Flood Intelligence System describes the impact of flooding at key locations throughout NSW. This information is used by NSW SES to support community warnings, inform emergency planning, and assist emergency decision making.

Strategy:		Actions to achieve the strategy (or outcome):
Develop and maintain a Flood Intelligence System to identify flood behaviour, its impact on the community and required response actions.	1	NSW SES, and agencies requested by NSW SES, will gather and assess flood information for a range of flood types and severities.
	2	NSW SES will collect, collate, and assess information about the potential effects of flooding on communities at risk.
	3	NSW SES will use flood information to inform the Flood Intelligence System.
	4	NSW SES is the primary point of contact in NSW for emergency risk management related flood research, modelling and planning.
	5	NSW SES will support research and the development of information, technology and systems which may improve the Flood Intelligence System and data gathering.
	6	All agencies that collect, collate, and assess information on the characteristics of communities at

	risk will provide the information to NSW SES for inclusion in the Flood Intelligence System.
	7 All agencies will share real-time flood information with stakeholders to support effective and collaborative planning and decision making by emergency management partners.

4.2.2 Development of Warning Systems

Strategy:	Actions to achieve the strategy (or outcome):
Develop, maintain and prepare systems for the provision of flood warnings and associated warning services.	1 The Australian Government Bureau of Meteorology (Bureau) will provide warning services in line with *the Intergovernmental Agreement on the Provision of Bureau of Meteorology Hazard Services to the States and Territories* and the *Service Level Specifications for Flood Forecasting and Warning Services for NSW and ACT*.
	2 All levels of government will work in partnership to develop and maintain flood warning infrastructure.
	3 Councils in consultation with NSW SES may develop flash flood Warning Systems.
	4 NSW Government, including NSW SES, in partnership with Local Government, is responsible for developing and maintaining flash flood warning systems for local catchments where required.
	5 Levee owners will maintain levees and provide the NSW SES with details of known structural defects.
	6 The NSW & ACT Flood Warning Consultative Committee (NSW & ACT FWCC) provides a forum for the Bureau and key stakeholders including lead agencies in emergency management, flood risk management and gauge owners to inform the provision of flood warning services to communities in NSW. Its purpose is to coordinate the development and operation of flood forecasting and warning services across NSW and membership comprises of the Bureau; NSW SES; Department of Climate Change, Energy, the Environment and Water – Biodiversity Conservation and Science Division (DCCEEW BCS); NSW Reconstruction Authority; ACT SES; Water NSW; Sydney Water; Murray-Darling Basin Authority; Local Government Councils; and FMA.
	7 The NSW & ACT FWCC encourage warning systems to align with the concept of a Total Flood Warning System (as outlined in the *Public Information and Warnings Handbook* of the Australian Disaster Resilience Handbook Collection).
	8 Declared Dam Owners will consult with NSW SES on Dam Emergency Plans and distribute final plans to NSW SES and Dams Safety NSW.

	9	NSW SES will maintain a dedicated dam failure hotline and procedures to ensure priority dissemination of dam failure warnings.
	10	NSW SES will lead the development and implementation of warning systems for flood, ensuring warnings are issued in a timely and effective manner to communities.
	11	NSW SES will work with Aboriginal Affairs NSW and Local Aboriginal Land Councils to engage communities in the development and implementation of flood warning systems for Discrete Aboriginal Communities.
	12	NSW SES will develop and maintain warning and flood information products by: a. Utilising flood intelligence data prior to and during flooding. b. Developing warning and flood information products suitable for use at the community level. c. Ensuring warning and information products are aligned with the Australian Warning System (AWS). d. Continuously reviewing warning and flood information and incorporate into warnings systems. e. Consulting with affected communities, the Bureau, Dams Safety NSW, the NSW & ACT FWCC and other key stakeholders to obtain feedback on existing and future warning products. NSW SES will lead the development of public information and warning systems for flood.
	13	NSW SES will work with gauge owners, so they adequately maintain flood warning gauges and systems, including those identified in the 'Service Level Specification' maintained by the Bureau and those identified in the 'Provision and Requirements for Flood Warning in NSW' maintained by NSW SES.
	14	NSW SES will maintain a list of the requirements for flood warnings for flood gauges in NSW (including flood classifications, warning times required and key statistics). This can be found in the NSW State Flood Plan Supplementary and supporting documentation on the NSW SES website.

4.2.3 Briefing, Training and Exercising

Strategy:		Actions to achieve the strategy (or outcome):
Ensure NSW SES, Supporting Agencies, Functional Areas and the community are prepared for and familiar with the strategies and arrangements within the NSW State	1	NSW SES will consult stakeholders throughout the development and review of plans.
	2	NSW SES will inform stakeholders of content changes after revisions.

Flood Plan and supporting documents.	3	NSW SES will train members and those of other agencies (as requested) for their expected flood operation roles to ensure operational readiness (including flood support, flood operations, and flood rescue).
	4	NSW SES will regularly brief stakeholders and exercise the arrangements contained in the NSW State Flood Plan and relevant sections of the *NSW State Rescue Policy*, as per EMPLAN requirements.
	5	NSW SES with the support of other agencies will lead activities to engage and educate the community about the arrangements contained in the NSW State Flood Plan.
	6	NSW SES will maintain and review this plan's supporting documents with Supporting Agencies and Functional Areas in line with the review schedule and requirements of this plan.
	7	NSW SES will conduct evaluations and reviews following all large-scale multi-agency exercises to identify areas to sustain and areas for improvement. These will include all stakeholders. The lessons identified will be disseminated and used to review and continuously improve arrangements, plans, systems, processes and future exercises using an appropriate lessons management framework depending on the severity of the event.
	8	All agencies will ensure facilities and resources used in flood response are maintained and operationally ready.

4.3   Community Resilience

Strategy:	Actions to achieve the strategy (or outcome):	
Collaborate with the community to plan and prepare for flood impacts and any resultant risks to life and property.	1	NSW SES will partner with other organisations and engage communities early and often to improve understanding and management of the risks associated with floods, including beach erosion caused by flood events. This can be achieved through strategies based on policy, guidance and resources from the NSW Reconstruction Authority and other relevant NSW Government agencies, the NSW SES, and other sources (e.g., community organisations).
	2	NSW SES will partner with other organisations to develop and implement programs that emphasise community behavioural change before, during and after flooding to ensure effective emergency response, reduce flood-related risks and improve community readiness and recovery.
	3	NSW SES and other organisations will collaborate with non-government organisations and communities,

	Aboriginal Communities (including Discrete Aboriginal Communities) when developing flood information, intelligence, warnings, preparedness and response information. The following considerations should be made when collaborating with these stakeholders:
	a. Disaster risk information is accessible and considers communication capabilities.
	b. Locally led and owned disaster risk reduction efforts are supported by NSW SES.
	c. Community expectations are understood and managed when planning and preparing for hazards. For example, community members should be made aware when they will not be able to influence a decision.
	4 All agencies will ensure local flood information (including Aboriginal knowledge of landscapes and waterways) from community is proactively sourced and utilised to develop community awareness campaigns and undertake community outreach. This may include undertaking and utilisation of research.
	5 NSW SES will support the development of community action plans, community action teams (which may include the development of equipment caches) and flood wardens.
	6 NSW SES will support the development of Aboriginal and Torres Strait Islander community action plans, community action teams (which may include the development of equipment caches) and flood wardens, including the design and management of culturally safe evacuation centres.
	7 NSW SES will work in partnership with other Government Agencies and with Aboriginal and Torres Strait Islander peoples to develop an Indigenous first responder program (as part of a community first responder program) to address the needs of Aboriginal peoples during disasters.
	8 NSW Government agencies (e.g., NSW Reconstruction Authority and NSW SES) will measure the level of community resilience and develop community engagement plans based on unique community needs.
Collaborate with the community to understand the needs of community members who may be constrained by a range of circumstances in their ability to prepare for and withstand the effects of flood risks and consequences.	1 All agencies will ensure the effectiveness of information that is being shared with individuals experiencing additional susceptibilities to flood hazard risk and find alternative means of sharing information to meet these individual needs.
	2 NSW SES and NSW Reconstruction Authority will work with community organisations to understand where greater risk to harm during disaster exists and how these risks can be reduced.

	3	NSW SES and NSW Reconstruction Authority will develop and implement programs specific to community members (e.g., culturally and linguistically diverse communities, Aboriginal and Torres Strait Islander peoples).

4.4   Volunteering

The NSW SES workforce is predominately made up of volunteers. Effective pre-incident planning is crucial to ensuring that NSW SES can effectively engage with volunteers during a flood event. Other Supporting Agencies may provide trained volunteers to the Combat Agency to support flood operations.

Volunteers, both formal and informal, play a critical role in emergency management across the full spectrum of prevention, preparation, response, and recovery.

The NSW State Flood Plan provides enabling strategies and actions regarding engagement with spontaneous volunteers. It is at the discretion of Local Government Councils to further articulate how volunteers are engaged within their own flood planning.

Strategy:	Actions to achieve the strategy (or outcome):
Provide and maintain a flexible volunteer workforce to support community resilience.	1 NSW SES and its volunteer workforce will adopt a strengths-based approach that recognises and complements existing community capabilities. (1) 2 NSW SES will undertake ongoing recruitment and training of a diverse range of volunteers. 3 NSW SES will undertake pre-planning to facilitate the management of spontaneous volunteers and community members during a flood. 4 NSW SES will implement a simple, scalable approach to engaging spontaneous volunteers to support Incident Controllers and volunteer coordinators to make informed, timely decisions during response operations.
Integration of operational considerations for spontaneous volunteering into NSW SES operational planning.	1 NSW SES will incorporate the engagement with and utilisation of spontaneous volunteers in emergency planning (i.e., local flood plans) and in Incident Action Plans. 2 NSW SES will undertake exercising and training for formal volunteers who incorporate and engage with spontaneous volunteers in disasters. 3 NSW SES will harness community connection with local NSW SES Units through community engagement to build trust and understanding before disasters, increasing the likelihood of community adherence to advice and messaging for spontaneous volunteering.
Improving community understanding of NSW SES's role in emergencies and expectations for safe and considered spontaneous volunteering.	1 NSW SES, with support from other agencies, will develop and implement public information campaigns focussed on the capabilities of the community and how they can be harnessed through spontaneous

		volunteering in a safe and considered manner during large incidents.
	2	NSW SES, with support from other agencies, will develop approaches to build the resilience and safety of the community, ensuring volunteering activities do not lead to further harm.
	3	NSW SES, with support from other agencies, will encourage communities to be involved in disaster preparedness activities.

Response

5 Response

The response phase includes pre-impact, impact, and immediate post-impact response actions. Response involves taking appropriate actions to ensure the impacts of flooding on communities are minimised, this includes undertaking immediate relief for people affected by the flood.

The following response strategies and actions generally follow this sequence of phases but there may be some overlap of actions between phases.

Flood response operations will begin when NSW SES receives:

- A Bureau Severe Weather Warning, Detailed Severe Thunderstorm Warning, or broad-based Severe Thunderstorm Warning.

- A Bureau Flood Watch or Flood Warning.

- Advice from the Bureau of potential flooding.

- Warnings for flash flood.

- A dam safety or dam failure alert.

- A flood forecast that has the potential to impact communities.

- Incidents relating to flooding.

- Information or intelligence indicates imminent or actual flood impacts to the community.

5.1 Concept of Operations

NSW SES is the responsible authority for the control and coordination in responding to the consequences of flooding on a community. Consistent with the 'All Hazard, All Agency', approach to emergency management in NSW, other agencies can assist at the request of the Combat Agency.

This concept of operations provides guidance for:

- The development of subordinate flood plans.

- The development of Incident Action Plans prepared by the Incident Management Team appointed to manage a particular flood event.

An Incident Action Plan developed for a particular event will contextualise this Concept of Operations to the prevailing and predicted conditions at the time. The Incident Action Plan will be shared with relevant stakeholders, as required.

5.1.1 Principles of Flood Operations

NSW SES is the Combat Agency for preparing for, responding to and undertaking the immediate relief within community for floods. Control of flood response will be at the lowest effective level and may be scaled to suit the incident.

Scientific modelling, engineering and local knowledge, including local Aboriginal knowledge, should, as far as possible, be used to assist in the management of flood operations.

If Zone and local resources are insufficient or likely to be exhausted, then additional resources may be requested by the Zone and sourced and deployed by the NSW SES State Duty Commander.

Resources from Supporting Agencies and Functional Areas may be requested as required.

Resources from interstate and international Supporting Agencies and Functional Areas may be requested through the State Emergency Operations Centre (SEOC), National Resource Sharing Centre (NRSC) or National Emergency Management Agency (NEMA) as required.

5.1.2 Operational Strategies

The strategic priorities of the NSW SES State Controller (NSW SES Commissioner) will direct the management of incidents and other flood related emergencies controlled by the NSW SES. They underpin operational planning and decisions made when responding to an incident.

NSW SES will:

- Establish control of the incident and the area of operation, including a Flood Rescue Area of Operations (FRAO) if required.

- Provide timely, relevant, accurate and tailored information (including warnings) to the community regarding the potential impacts of a flood and what actions to undertake to support and encourage proactive measures.

- Evacuate people and animals pre-emptively from dangerous or potentially dangerous places created by the flood hazard to safe locations away from the hazard.

- Rescue people, companion and domestic animals from floods in accordance with the NSW State Rescue Policy including where evacuation operations have not been successfully completed.

- Coordinate the protection of property of residents, businesses and essential infrastructure at risk of flood damage where feasible.

- Resupply properties, towns and villages which have become isolated because of flooding to minimise disruption of the community.

- Undertake immediate relief, initial welfare and data collection and manage the transition from the Combat Agency (NSW SES) to the recovery agency (NSW Reconstruction Authority).

5.1.3 Aviation Strategies

Within NSW SES, standardised procedures for requesting and utilising aircraft ensure clarity and efficiency in the deployment of aviation assets.

The main response strategies for NSW SES to manage aviation resources are:

- Embedding Air Operations Officers into the State AirDesk.

- Implementing the State AirDesk Policy and pre-positioning of aircraft for response operations:
  — The State AirDesk Policy permits access to a fleet of aircraft including call-when-needed (CWN) and contract aircraft. These aircraft can be pre-deployed for the protection of people and essential services.
  — The State AirDesk does not coordinate NSW Police Force (NSWPF) or NSW Ambulance aviation assets.
  — The State AirDesk will liaise with other agencies (such as NSWPF and NSW Ambulance) and work with Civil Aviation Authority regarding airspace management.

- Establishing a clear aviation structure outlining roles and responsibilities, including those within the Incident Management Team, to effectively execute this aviation strategy.

- Ensuring NSW SES aviation training aligns with the Australasian Fire and Emergency Services Authorities Council (AFAC) recommendations and industry standards. NSW SES aims for standardised training for all aviation-based roles to enhance operational proficiency across all levels.

5.1.4 Protection of Property

Strategy:	Actions to achieve the strategy (or outcome):
Coordinate tasks designed to protect property to minimise damage and potential injury. These activities will only be undertaken when it does not conflict with rescue priorities and where resources and capabilities are available.	1 NSW SES will coordinate Supporting Agencies and community volunteers (including informal volunteers) to undertake tasks including, but not limited to: a. Protection of properties through flood protection systems (e.g., sandbagging) to minimise entry of water into buildings. b. Raising or moving of household furniture and commercial stock/equipment. c. Relocation of the public from hazardous areas. d. Identification of public health risks. e. Limiting access to hazardous areas by the public until they are deemed safe. f. Identification of potential asbestos and other contamination. g. Undertaking structural and damage assessment to identify extent and significance of damage. h. Unblocking and limiting access to stormwater drains. i. Pumping water out of premises. j. Clearing debris that directly interferes with operation response or poses a direct threat to the public. k. When isolation occurs may assist with transporting patients with non-life-threatening medical conditions to personal appointments and to access medications, in consultation with the Health Services Functional Area. 2 NSW SES will work with the relevant authorities to ensure response operations detailed within this plan do not unnecessarily impact the natural environment.

5.1.5 Protection of Critical Infrastructure

Arrangements for the protection of local assets are outlined in NSW SES Regional and Local Flood Emergency Sub Plans. In addition, Regional and Local EMPLANs contain infrastructure inventories.

Strategy:	Actions to achieve the strategy (or outcome):
Minimise disruption to the community by ensuring protection of infrastructure and supply of essential transport, energy, telecommunication, and utility services (including water supply and wastewater management).	1 NSW SES will protect critical infrastructure through flood protection systems (e.g., sandbagging) to minimise entry of water into buildings. 2 The Transport Services Functional Area is to coordinate the provision of information about the assessment and restoration of transport network infrastructure.

	3	The Energy and Utility Services Functional Area is to coordinate the assessment and restoration of essential energy and utility services (not including telecommunications).
	4	The Telecommunications Services Functional Area is to coordinate the assessment and restoration of telecommunications and the Public Safety Network.
	5	The Engineering Services Functional Area is to coordinate the assessment and restoration of critical public buildings and infrastructure.
	6	Functional Areas and Local Government Councils will keep NSW SES informed of the status of utilities and infrastructure through the provision of liaison officers and written situational updates.

5.1.6 Protection and Pre-deployment of Essential Resources

Strategy:	Actions to achieve the strategy (or outcome):
Where sufficient warning time is available and without additional risk to life, NSW SES will coordinate the protection and pre-deployment of essential resources required to respond to the impacts of flooding, such as rescue personnel equipment, critical communications equipment, boats, aircraft, fuel, food and earth-moving equipment for debris removal.	1 NSW SES (and other agencies upon request of the Combat Agency) will pre-deploy available land resources from outside potential impact areas to staging areas, closer to impact areas. Impacts such as road closures may occur in different areas. 2 NSW SES will relocate resources from within the immediate potential impact area to outside the impact area if sufficient time is available. 3 NSW SES will coordinate the timing of protection and pre-deployment activities, to avoid potential conflict created by the removal of resources essential for warning and evacuation. 4 NSW SES will consider flight limitations from poor weather and available daylight as an influence over trigger points for aviation pre-deployment. 5 NSW SES will communicate relevant information to Functional Areas and Supporting Agencies to assist with their protection and pre-deployment activities.

5.1.7 Evacuation Management and Welfare

NSW SES is a trusted voice on preparedness and response actions. Public information is the primary response strategy for people and animals impacted by flooding, with moving people away (evacuation) from immediate danger or threat being the preferred action.

In some circumstances, warning and evacuation may need to be initiated immediately at the local level using local arrangements referenced within the Local EMPLAN (in addition to a Local Flood Emergency Sub Plan).

The main evacuation strategies available in the response operation are:

- **Progressive evacuation:** Dependent on the expected upper limit of flooding. Evacuation can take place by vehicle or as a last resort on foot along roads as floodwaters advance.

- **Partial evacuation:** Dependent on whether the expected upper limit of flooding cuts road evacuation routes for a sector, but the flood island will not be submerged beyond the point of sustainability. During a partial evacuation strategy consideration will need to be given to the sufficiency and availability of essential services to support the population that remains isolated, until road routes re-open.

- **Complete evacuation:** Evacuation may have to take place before isolation occurs, or in some cases, after isolation if it is not possible to provide adequate support to the community. Complete evacuation may be initiated for an area for one of the following reasons:

  — The predicted flood height may result in the area being completely submerged.

  — The predicted flood height will result in the area being flooded to such an extent the area is flooded beyond the point of sustainability (e.g., too few support services functioning to cope with the number of people left on the flood island).

  — Services such as water, electricity and sewerage are expected to be unavailable for a prolonged period.

  — There is a high level of uncertainty about the predicted upper level of flooding.

- **Resupply:** If there is a definite prediction that an area's road evacuation routes will be cut but the flood island or trapped perimeter will not be substantially inundated there may be no need to evacuate people. This will result in the need to maintain the isolated population by conducting a resupply operation. The coordination of resupply is the responsibility of NSW SES and is further detailed in *Section 5.1.10* of this plan.

- **Rescue:** A revised assessment of the expected upper limit of flooding may make it necessary to change to a rescue strategy. This may be the result of the temporary closure of a road evacuation route because of short term flooding, or permanent closure of a road evacuation route before the road evacuation of the required number of people can be completed. Community members who delay responding to emergency warnings may also need to be rescued.

Strategy:	Actions to achieve the strategy (or outcome):

NSW SES may evacuate people from dangerous or potentially dangerous places created by flood to safe locations away from the hazard.
 	
Evacuations may take place when there is a risk to public safety. Circumstances may include:
 	
  a. Evacuation of people when their homes or businesses are likely to flood.
 	
  b. Evacuation of people who are unsuited to living in isolated circumstances, due to flood water closing access.
 	
  c. Evacuation of people where essential energy and/or utility services are likely to fail.
 	
  d. Evacuation of people where buildings have been made uninhabitable or are at risk from building collapse.
	1 NSW SES Incident Controllers, Planning and Intelligence Officers will carefully consider the risks involved in conducting potential evacuations.
	
	2 The NSW SES Commissioner (or delegate) will warn communities to prepare for a possible evacuation, where circumstances allow such lead time.
	
	3 The NSW SES Commissioner (or delegate) will order any necessary evacuations and provide information to the community about when and how to evacuate, if decided to do so. The Public Information Service Functional Area will assist the NSW SES by amplifying messaging through established channels.
	
	4 NSW SES will control and coordinate the evacuation of affected communities and properties, if necessary. The NSW SES determines the requirements and triggers for the evacuation of affected communities and properties and should consult with the Emergency Operations Controller (EOCON) for the management of the evacuation process.
	
	5 NSW SES will work with Local Aboriginal Land Councils and Discrete Aboriginal Communities to determine

e. Evacuation from areas that have been deemed hazardous due to the flood activity (such as near downed powerlines).	appropriate triggers for potential evacuation of those affected communities and properties.
	
	6 NSW SES will make all evacuation decisions as per NSW SES policy and procedures and consistent with NSW Evacuation Management Guidelines. Considerations for an evacuation include:
	
	  a. Duration of evacuation or length of isolation.
	
	  b. Characteristics of the community, including community members who may be restricted in their ability to evacuate.
	
	  c. Number of people requiring evacuation.
	
	  d. Availability of evacuation routes and transport which may be impacted by:
	
	    i. Congestion of access roads due to evacuation traffic demand exceeding road capacity.
	
	    ii. Flood damage to roads and bridges.
	
	  e. Assigned Flood Emergency Response Classification of Communities (FERCC) for varying design floods and key trigger points, where known (as outlined in the Flood Risk Management Guideline). FERCCs can be used to:
	
	    i. Describe communities with flood risk up to the PMF based on differences in isolation due to the potential for an area to become surrounded or inundated by floodwater.
	
	    ii. Provide an indication for a likely consequence of flooding, including ramifications for an area to be isolated based on its potential to reach a PMF.
	
	    iii. Support emergency management decision making at a community level, including assessment of resource availability to support a community.
	
	  f. Time available for evacuation.
	
	  g. Evacuee management requirements.
	
	  h. Resources and delivery of evacuation information.
	
	  i. The ability for existing levees or other flood protection works to fulfil their intended function.
	
	7 NSW SES may request support to evacuation operations from other emergency services and Supporting Agencies using arrangements in the EMPLAN and supporting plans.
	
	8 NSW SES may utilise aircraft to facilitate evacuation. All aircraft must be operated in line with NSW SES policy and procedures.

NSW SES may consider shelter-in-place as a secondary strategy to	1 The NSW SES Incident Controller will consider whether shelter-in-place is the most effective risk management

evacuation where significant constraints to evacuation exist. Shelter-in-place may occur when there is a risk to public safety and other means of evacuation are not possible. Shelter-in-place is determined as a refuge occurring above the PMF level.		strategy, depending on each community and flood incident.
	2	NSW SES will ensure there is clear and regular communication with communities to understand the level of risk and triggers associated with shelter-in-place. Education is critical to ensuring that the community is aware of actions to be taken before, during, and after shelter-in-place and the key triggers that require shelter-in-place.
Provide relief to communities and individuals affected by the impact of a flood.	1	The Welfare Services Functional Area will establish evacuation centres when required to provide equitable access to psychological first aid, emergency accommodation and other forms of assistance to affected residents and travellers in accordance with the *Welfare Services Functional Area Supporting Plan* and the NSW Evacuation Management Guidelines.
	2	The Education Services Functional Area will assist with the coordination of the evacuation of schools and the immediate welfare of students until returned to the appropriate carer.
	3	NSW SES and other emergency service field teams who encounter residents whose dwellings are uninhabitable or who otherwise are likely to need assistance will notify the Incident Management Team, via their line of control, as soon as possible so that assistance can be provided to them by the Welfare Services Functional Area.
	4	NSW SES will provide details of all residents assisted in evacuations to the Welfare Services Functional Area as early as possible.
	5	The NSW SES State Controller (or delegate) will recommend to the State Emergency Operations Controller (SEOCON) if a Major Evacuation Centre is required. The need for such centres will be determined by the SEOCON in consultation with NSW SES and relevant Functional Areas.
	6	The SEOCON may establish Major Evacuation Centres where the expected number of evacuees and the duration of evacuation is assessed to be beyond the capability and capacity of existing Local / Regional arrangements.
	7	The SEOCON or appointed Major Evacuation Centre Manager will manage Major Evacuation Centres where they are established.
	8	The NSWPF with the assistance of NSW SES and Welfare Services Functional Area will control and coordinate Disaster Victim Registration.

Coordinate available and accessible health services for flood affected communities.	1	The Health Services Functional Area coordinates the provision of health services during all stages of an emergency, in support of the Combat Agency. The Health Services Functional Area maintains business-as-usual health system operations, limits impact on the delivery of health services and provides health services and advice to impacted people.
Maintain the welfare of animals impacted by a flood.	1	The Agricultural and Animal Services Functional Area will coordinate the welfare of livestock and domestic animals (excluding native wildlife) including support to primary producers, animal holding establishments and community members.
	2	The Agricultural and Animal Services Functional Area will coordinate evacuation, emergency care of animals (excluding native wildlife), including support to primary producers and community members and establishment of Animal Safe Places.
	3	The Agricultural and Animal Services Functional Area will coordinate evacuation, emergency care of animals (excluding native wildlife) and assessment, humane destruction and disposal of affected animals, and supply of emergency fodder, water and aerial support where necessary.
	4	The Environmental Services Functional Area will coordinate the support of native wildlife.

Note: Shelter-in-place considerations contained within this plan should not be used to determine development scale or density.

5.1.8 Search and Rescue

Strategy:	Actions to achieve the strategy (or outcome):	
Control and coordinate search and rescue of people and domestic animals during and after flood hazard impact, including flood rescue arising from flooding and inundation.	1	NSWPF will control and coordinate all rescues outside the declared FRAO, as per the NSW State Rescue Policy.
	2	NSW SES and/or Supporting Agencies will perform flood rescue of people and domestic animals when there has been no FRAO declared.
	3	NSW SES and/or Supporting Agencies will respond with the appropriate resources to support the rescue of victims related to flood impact.
	4	The NSW SES Incident Controller will establish a FRAO when the actual or imminent flood occurrence endangers or threatens to endanger the safety of persons or domestic animals and a significant and coordinated response is required.
	5	NSW SES will control and coordinate all flood rescues within the declared FRAO, as per the NSW State Rescue Policy and this plan.

	6	NSW SES during a FRAO, may request other supporting emergency services to undertake flood rescues on behalf of NSW SES.
		a. Agencies must be trained and equipped to undertake flood rescue operations in accordance with the NSW State Rescue Policy requirements.
		b. Supporting emergency services must supply information regarding rescues performed to NSW SES. Notification arrangements with the NSWPF are outlined in the NSW State Rescue Policy.
	7	NSW SES and Supporting Agencies tasked by NSW SES when a FRAO is declared will carefully assess the heightened risk to safety due to flood water velocity and depth and debris before undertaking any in-water or water-based activities.
	8	Supporting Agencies will ensure all personnel are appropriately trained for flood operational roles they are required to undertake as outlined in Appendix A.
	9	All agencies should ensure effective communications are always established.
	10	NSWPF will control all searches for persons missing with support from other agencies as requested.
	11	NSWPF will keep the NSW SES State Duty Commander, and the NSW SES Incident Controller informed of the progress of search operations and any requirement for rescue.
	12	NSW Ambulance will assess injured or medically unwell person/s to enable an assessment of the appropriate means of accessing and retrieving the person/s. If in imminent danger, the person/s should be removed and information of an appropriate meeting point with NSW Ambulance identified and communicated.
	13	Fire and Rescue NSW (FRNSW) will control and coordinate urban search and rescue operations as per the EMPLAN.
	14	The SEOCON may activate the SEOC in support of urban search and rescue operations.
	15	The State Air Desk will approve aircraft used by NSW SES for search and rescue operations or the aircraft is to be recognised by the NSW Government as an aerial rescue resource. Suitably qualified aircraft from the Australian Defence Force or civilian contract providers to the Federal Government may also be used.
	16	The arrangements for search and rescue operations from the ocean/coastal waterways are detailed within the NSW State Tsunami Plan.

5.1.9 Use of Information and Collection of Intelligence

Strategy:	Actions to achieve the strategy (or outcome):	
Flood information is effectively collected, analysed, utilised, and communicated between NSW SES, the community, Supporting Agencies and Functional Areas before, during and post a flood.	1	All agencies will ensure information relating to specific incidents and the broader flood response is received by NSW SES and where able to is entered into the NSW SES Operational Management System (OMS) if tasked by NSW SES.
	2	All Supporting Agencies and Functional Areas will accurately record and report information relevant to their activities and any real time flood information to the NSW SES State Duty Commander (for state level activities) or the NSW SES Incident Controller (for Zone and local level activities). This may be in the form of a combined Emergency Operations Centre (EOC) Report, or direct from agencies where an EOC has not been established.
	3	Supporting Agencies and Functional Areas will provide trained staff for the Joint Intelligence Unit as required.
	4	NSW SES will share information relating to the consequences and impacts of flooding, response strategies, situational awareness and operational updates to Supporting Agencies and Functional Areas listed under this plan.
	5	NSW SES and/or Spatial Services, Emergency Information Coordination Unit (EICU) will provide geospatial information to support response strategies and situational awareness.
	6	NSW SES will record incidents received via Inter-CAD Electronic Messaging System (ICEMS) into the NSW SES OMS.
	7	NSW SES may establish and operate a Joint Intelligence Unit (incorporating situation and analysis, modelling and predictions, technical advice, airborne intelligence, and mapping) to coordinate the collection, collation, interpretation, mapping, actioning and dissemination of information.
	8	NSW SES will coordinate reconnaissance, mapping, damage assessments, intelligence validation and post flood evaluation. This may continue into the recovery phase.
	9	NSW SES may request the Engineering Services Functional Area to assist with the gathering of flood intelligence including (but not limited to) maximum flood extents, peak flood heights, recording flood damage at key high velocity locations and preparation of After-Flood Report.

Ensure flood intelligence is incorporated into operational decision-making.	1	NSW SES will use flood intelligence, official forecasts, warnings, and flood scenario products to undertake an assessment of the predicted impact of a flood and to inform operational decision-making.

5.1.10 Immediate Relief

Strategy:	Actions to achieve the strategy (or outcome):	
Coordinate immediate relief for impacted communities.	1	The NSW SES State Controller and Incident Controller will provide regular briefings to the relevant EOC.
	2	NSW SES will attend initial meetings of a Recovery Committee to provide overview of the emergency response operation.
	3	NSW SES will provide initial welfare for evacuees where required but will hand the responsibility over to the Welfare Services Functional Area as soon as possible. NSW SES will brief the Welfare Services Functional Area at the earliest opportunity regarding the level of assistance required.
	4	NSW SES and Supporting Agencies will assist with clean-up operations after floods where possible when resources and personnel permit.
	5	Community members requiring psychological first aid may be referred to support services in accordance with the *Health Services Functional Area Supporting Plan* and the Welfare Services Functional Area Support Plan.
Coordinate resupply to towns, villages and properties isolated by flooding or the effects of flooding (e.g., infrastructure failure) to minimise disruption to the community.	1	NSW SES will coordinate the resupply of isolated communities and/or properties, as per the NSW SES Resupply Flowchart (refer to Appendix D) and the designated resupply plan.
	2	NSW SES will work with Aboriginal Affairs NSW and Local Aboriginal Land Councils to support development and delivery of culturally suitable services
	3	NSW SES will advise communities, businesses and retailers if flood predictions indicate that areas are likely to become isolated and indicative timeframes where possible.
	4	NSW SES will establish loading points when isolation occurs. Retailers will instruct suppliers to deliver goods.
	5	NSW SES will endeavour to support the delivery of mail to isolated communities but may not be able to do so according to normal Australia Post timetables.
	6	NSW SES will assist hospitals with resupply of linen and other consumables where able.
	7	NSW SES will request the Engineering Services Functional Area to coordinate the supply of specialist

	goods and services in response to and recovery from the emergency.
	8 NSW SES will collaborate with the Transport Services Functional Area regarding the prioritisation of network repair and status of communities requiring resupply where required.
	9 NSW SES will refer the residents of isolated households unable to afford resupply to the Welfare Services Functional Area for assistance.

5.2   Control and Coordination

The EMPLAN identifies NSW SES as the Combat Agency for dealing with floods under the SERM Act.

Strategy:	Actions to achieve the strategy (or outcome):
Maintain effective control and coordination of flood operations across NSW.	1 NSW SES will use the Australasian Inter-service Incident Management System (AIIMS) to manage the flood response.
	2 NSW SES will control the flood response at the lowest effective level and will be scaled to suit the incident.
	3 NSW SES State Controller (or delegate) or Deputy State Controller (or delegate) appoints Incident Controllers and establishes Incident Control Centres.
	4 The NSW SES State Controller (or delegate) or Deputy State Controller (or delegate) determines one or more Areas of Operations to either coordinate relevant Incident Controllers, or to manage Incident at a higher level.
	5 The Incident Controller, in consultation with participating supporting emergency services and Functional Areas determines appropriate breakdown of an Incident into Divisions and/or Sectors in accordance with the principles of AIIMS.
	6 NSW SES may request response units from other Emergency Services Organisations for tasks, areas or sectors, operating under overall NSW SES control. **Note:** Emergency Services Organisations maintain command of their own resources as per AIIMS.
	7 NSW SES State Controller (or delegate) and Incident Controller (or delegate) will provide regular briefings to the relevant EOC.
	8 Where possible, the EOC should be co-located with NSW SES Incident Control Centres for flood emergency response.
Maintain a State Operations Centre (SOC) and a State Command Centre (SCC).	1 NSW SES operates a 24/7 State Operations Centre (SOC) to:

		a. Enable the public to contact NSW SES on 132 500 to request assistance with the impacts of severe weather or floods.
		b. Undertake dispatch of resources based on incident location and severity.
		c. Coordinate information, providing intelligence products to Incident Management Team(s) and other agencies.
		d. Coordinate and conduct weather and operational briefings at a minimum of once per week.
		e. Undertake proactive operational planning, interagency liaison, and the provision of warnings, as required.
		f. Support the State AirDesk with the provision of personnel to focus on aviation needs and requirements.
		g. Maintain operational readiness of the SCC to ensure capability and capacity to respond.
		h. Request assistance from other agencies as required.
	2	The NSW SES State Command Centre (SCC):
		a. Strategically plans for and coordinates multiple Areas of Operations, enabling interoperability with other agencies and synergy between Areas of Operations, state boundaries and/or jurisdictional areas.
		b. Conducts strategic resource management.
		c. Provides support to Incident Management Team(s) with operational information management and intelligence products, as well as a conduit to relevant stakeholders.
		d. Conducts state level advocation and reporting, and exchange situational awareness and information with Supporting Agencies, state and federal government, and other key stakeholders.
		e. Establishes communications between agencies through the embedding of Liaison Officers, scheduling meetings or implementing other agreed methodologies.
		f. Undertakes the provision of warnings through the NSW SES Warning System.
Establish and maintain Incident Control Centres (ICCs) using endorsed control arrangements to effectively manage operational response.	1	NSW SES will establish and operate Incident Control Centres as required, based on the defined area of operation.
	2	The NSW SES Incident Management Team(s):

	a. Controls resources from NSW SES and coordinate resources of supporting emergency services and Functional Areas.
	b. Manages dispatched response to incidents received and ensure they are actioned in a timely manner.
	c. Undertakes response planning and determines future resourcing requirements.
	d. Coordinates information flow, including warnings, public information and social media.
Provide effective liaison between NSW SES and Supporting Agencies or Functional Areas in accordance with the EMPLAN.	1 NSW SES will request Liaison Officers from Emergency Services Organisations (via established communication pathways) and Functional Areas (via the respective Functional Area Coordinator) to NSW SES Incident Control Centres, NSW SES SOC and/or SCC and/or EOC as required.
	2 NSW SES will provide Liaison Officers to the EOC where possible.
	3 The NSW SES State Controller, Deputy State Controller or Duty Commander ensures consultation with the SEOCON and SEOC is ongoing throughout response operations.
	4 Where possible, the EOC should be co-located with NSW SES Incident Control Centres for flood emergency response.
	5 NSW SES is prepared to support the State Crisis Centre if it is activated for a major and significant flood crisis.
	6 The NSW SES State Controller and Incident Controller provides regular briefings to the relevant EOC.
Supporting Agencies contribute to Flood Emergency Operations via plans, supporting plans and Memorandums of Understanding (MOU).	1 An EOC will be activated at either the request of NSW SES or as per requirements from the SERM Act.
	2 Emergency Services Organisations, Functional Areas, and Supporting Agencies provide support as per arrangements in this plan and supporting plans.
	3 Local Government Councils activate Coastal Zone Emergency Action Sub Plans as required, in addition to requirements listed in this plan.

5.3   Emergency Information and Warnings

Strategy:	Actions to achieve the strategy (or outcome):
Distribute timely, accurate and effective warnings to the community.	1 The Bureau disseminates all public weather products, Flood Watch and Warning products, and Flood Bulletins directly to media and all emergency services before

and during a flood. These products are available at *http://www.bom.gov.au/nsw/flood/index.shtml.*

These may include:

a. **Severe Thunderstorm Warnings – Detailed** – issued for all capital cities and surrounding areas when individual severe thunderstorms are within range of the capital city radars.

b. **Severe Thunderstorm Warnings – Broad-based** – issued for the entire Australian State or territories affected highlighting broad areas where severe storms may occur within the next 3 hours.

c. **Severe Weather Warnings** – with reference to heavy rainfall and/or storm surge.

d. **Flood Watches –** an early advice of increased flood risk over a catchment by the Bureau up to four days in advance of large-scale weather systems that have the potential to cause flooding.

e. **Flood Warnings –** advance notice that a flood may occur at a certain location or in a certain river basin or catchment.

2. NSW SES liaises with the Bureau to discuss the development of flood warnings.

3. NSW SES Incident Controllers may issue NSW SES information products incorporating warnings from the Bureau warnings, expected consequences, actions required and safety messages.

4. NSW SES Incident Controllers will issue the following NSW SES Flood Warnings aligning to the AWS.

AWS Warning Level		Action Statements
	Advice	Stay informed Monitor conditions Reduced Threat: Return with Caution
	Watch and Act	Do not enter floodwater Prepare to evacuate Prepare to isolate Avoid the area

	Emergency Warning	Evacuate now / Evacuate before [time] Shelter now Move to higher ground

5 NSW SES provides alerts and delivers flood information to affected communities using a combination of public information methods. NSW SES disseminates warnings through the following methods, or combinations of, where resources are available:

   a. NSW SES Website

   b. HazardWatch

   c. Hazards Near Me NSW App

   d. Doorknocking (using the multi-agency doorknocking app)

   e. Emergency Alert

   f. Social Media

   g. Community Meetings

   h. Broadcast media

   i. Distribution lists (direct to media outlets and stakeholders)

   j. Mobile and fixed public address systems

   k. Telephony

   l. Standard Emergency Warning Signal

   m. Variable message signs

   n. Community notices in identified hubs

6 NSW SES may request Supporting Agencies to redistribute official warnings, alerts, and information. If operational, the Public Information Service Functional Area will amplify these messages through established channels.

7 NSW SES may form and coordinate a Joint Media Information Centre.

8 Councils will use established flash flood warning systems to provide warnings and information to NSW SES, key stakeholders and the community.

9 During dam safety emergencies, declared dam owners will utilise the Dam Emergency Plan to provide

	warnings and information to NSW SES, Dams Safety NSW and communities (where appropriate).

5.4 Informal Volunteering

NSW SES follows the EMPLAN to guide and direct the agency on how to engage and use informal (spontaneous) volunteers during operations. This model is flexible and scalable, taking into consideration principles and operational factors such as the agency's capacity for coordinating spontaneous volunteering, the overall operational environment and the community needs.

Strategy:	Actions to achieve the strategy (or outcome):
Develop mutually beneficial partnerships with communities to enhance operational response when working with spontaneous volunteers.	1 NSW SES will use a flexible and adaptable approach when engaging spontaneous volunteers, recognising the diversity of the community, operating environments, and the impact of flood incidents. 2 NSW SES will communicate clearly with spontaneous volunteers to build trust and recognise that cooperative partnership between the community and the official response will deliver the greatest impact to community. 3 NSW SES will implement research and evidence into best practice approaches to improve partnerships with communities.

5.5 Inter-jurisdictional Support

Strategy:	Actions to achieve the strategy (or outcome):
Seek support from other jurisdictions if it is likely NSW resources will be exhausted or are insufficient for tasks.	1 NSW SES may request immediate assistance from agencies in a bordering state for incidents along the border of the state, and as outlined in established interstate MOUs. 2 NSW SES, via the SEOCON, may request immediate assistance from the Commonwealth via the NEMA. 3 NSW SES may request interstate assistance through the NRSC which is governed by AFAC. 4 NSW SES will establish an Interstate Liaison Unit (ILU) at the SCC to support NRSC or NEMA requests and deployments, as required.

5.6 Impact Assessment

NSW SES will maintain and operate a Flood Intelligence System. The Flood Intelligence System will be the primary means by which flood consequences can be pro-actively identified at a detailed level.

Reconnaissance, damage assessments and post flood evaluation will be coordinated by NSW SES, as early as possible and when it is safe to do so. Damage assessments are conducted to:

- Develop a holistic assessment of the actual impact of a flood and for the purpose of reviewing flood intelligence and emergency flood plans.

- Inform rapid impact assessment activities undertaken as part of the transition to recovery.

NSW SES will provide impact information as early as possible following a flood to the relevant EOCON and the NSW Reconstruction Authority to inform an initial recovery impact assessment. The impact information can be used to inform recovery needs, future planning and mitigation strategies.

5.7   Withdraw from Response

5.7.1 Return

Strategy:	Actions to achieve the strategy (or outcome):

Coordinate the safe return of communities to impacted areas by re-establishing access to properties, dwellings and impact areas when immediate danger to life and property has passed.	1 NSW SES will determine when it is safe to progressively return in consultation with the relevant EOCON and SERCON and Supporting Agencies considering the ongoing risk to public safety.
	
	2 NSW SES will specify the level of access to affected communities as the following:
	
	   a. Not suitable for access.
	
	   b. Limited access by emergency services and response agencies.
	
	   c. Limited access by residents and/or business operators.
	
	   d. Full access.
	
	3 The NSW SES Incident Controller will issue an Advice Warning advising 'Reduced Threat: Return with Caution' or 'Monitor Conditions' when the immediate danger to life and property has passed.
	
	4 NSW SES will coordinate the re-establishment of access and may utilise Supporting Agencies with the shortest lead time based on operational priorities.
	
	5 Where directly notified of a hazard or requested by NSW SES:
	
	   a. The Transport Services Functional Area will coordinate the assessment of any damage and the clearing of debris from the State Road network.
	
	   b. Local Government Councils will coordinate the assessment of any damage and the subsequent clearance of debris from council managed road networks and public land including beaches, where appropriate.
	
	6 The Engineering Services Functional Area may aid with the coordination of road access if requested by the NSW SES.
	
	7 NSWPF will coordinate traffic control activities, with support from the Transport Services Functional Area on the State Road network, support from councils on

	local and regional roads and with assistance from NSW SES.
	8 FRNSW will coordinate the re-establishment of access to areas affected by hazardous materials once areas have been rendered safe as per the *NSW Hazardous Materials/Chemical, Biological, Radiological, Nuclear Emergency Plan.*
	9 The Environmental Services Functional Area can aid with the re-establishment of access following a hazardous materials / substances incident in accordance with the NSW Hazardous Materials/Chemical, Biological, Radiological, Nuclear Emergency Plan, the *NSW Disaster Waste Sub Plan* and the *Environmental Services Functional Area Supporting Plan*.
	10 NSW SES will facilitate the return of evacuees to their homes as part of response operations when it is safe to do so.

5.7.2 End of Response Operations

Strategy:	Response operations will conclude when the following **conditions** have been met:
The NSW SES and Supporting Agencies conclude response operations and demobilisation plans have been completed.	1 There is a reduced likelihood of additional flooding within the community and flood waters have receded.
	2 Most of the responses to incidents related to the flood have been completed.
	3 The need for warning and evacuation no longer exists.
	4 There is no further likelihood of rescuing people or animals and the FRAO has been stood down, as per the NSW State Rescue Policy.
	5 Resupply operations to communities isolated due to flooding or the effect of flooding is no longer required or has transitioned from the response phase to the recovery phase.
	6 Response to fire and hazardous material incidents have concluded (not including subsequent clean-up of contaminated sites).
	7 All affected areas have had a '*Reduced Threat: Return with Caution*' or '*Monitor Conditions*' issued by NSW SES.
	8 The recovery agency and Supporting Agencies have been briefed that response operations have ceased.

Note: Full restoration of all utilities and transport routes may continue for some time beyond the end of Emergency Services Organisations' response operations, depending on the scale and scope of the impacts of the flood.

5.7.3 Post Impact Actions

Strategy:	Actions to achieve the strategy (or outcome):
Use learnings from the event to inform planning, recovery and future events.	1 NSW SES will continue to engage with communities after significant floods through convening one or more community forums, workshops, or other opportunities to provide communities a chance to provide feedback, address any concerns and provide input into the recovery process. These will typically include other agencies such as the Bureau, the Welfare Services Functional Area, the NSW Reconstruction Authority and Local Government Council representatives (including Local Aboriginal Land Councils).
	2 NSW SES will conduct After Action Reviews at the conclusion of response activities for flood events. These will include internal and external stakeholders. The lessons identified will be disseminated and used to review and continuously improve arrangements, plans, systems and processes for planning, response and recovery activities in future events.
	3 NSW SES will provide information and data throughout the emergency response to inform community recovery. A summary report will be developed at the conclusion of the response within an area. A response summary report will include the following:
	a. The emergency action plan in place at the conclusion of the response emphasising any continuing activities including community meetings/ engagement activities.
	b. Resources allocated to the emergency response and associated exit strategies.
	c. Details of any areas or situations with potential to re-escalate the emergency.
	d. A recommendation for the conclusion of the NSW SES as lead response agency and handover to the NSW Reconstruction Authority as the lead recovery agency.
	e. Any actions that are incomplete or outstanding.
	4 NSW SES and EICU will provide Damage Assessment Data and information obtained throughout the response phase which will further support the long-term recovery of communities.
	5 NSW SES will undertake/coordinate a comprehensive review of intelligence and plans following significant flood events.
Participate in post flood data collection and analysis.	1 NSW SES works with relevant stakeholders on post flood data collection and analysis including review of flood intelligence where necessary.

5.7.4 Transition from Response Agency to Recovery Agency

Community recovery commences simultaneously with the response phase and continues after the response phase is complete and the area is deemed to be safe. Where possible, the transition from response to recovery should occur at the lowest effective level.

As per the NSW Recovery Plan, triggers for transitioning from the response phase into the recovery phase include:

- NSW SES and/or the EOCON has made a public announcement that the transition from response to recovery is completed (this process may be formally documented and recorded, depending on the severity of the event).

- A Recovery Coordinator has been appointed (if necessary and dependent on the scale of impact).

- There has been agreement between NSW SES and/or EOCON and relevant recovery agency, SERCON, and/or appointed Recovery Coordinator to accept the handover.

Strategy:	Actions to achieve the strategy (or outcome):
Arrangements for the transition from response operations to relief and recovery will be conducted by NSW SES, Supporting Agencies and Functional Areas, as outlined in the EMPLAN and further detailed in the NSW Recovery Plan.	1 NSW SES will undertake relief activities, including "make safe" works to ensure that it is safe to commence the transition to formal recovery arrangements. 2 NSW SES provides relevant operational documents and reports including damage assessment data to the SERCON, appointed Recovery Coordinator, the NSW Reconstruction Authority or relevant recovery agency. Spatial data can be provided via the EICU. a. As the single coordination point, EICU processes, collates and distributes spatial damage assessment data to Supporting Agencies and Functional Areas to inform transition from response to recovery and immediate relief activities. 3 NSW SES will provide information about continuing response activities (including relief), guidance on mitigation strategies and general advice and assistance, as requested. 4 NSW SES will provide appropriate representation at Local, Regional, or State Recovery Committees.

Recovery

6   Recovery

The arrangements for recovery operations in NSW are outlined in the EMPLAN and further described in the NSW Recovery Plan.

Recovery is the process of returning an affected community to its proper level of functioning after an emergency. It will generally commence simultaneously with the response phase and continues after the response phase is complete and the area is deemed to be safe.

Recovery operations will be initiated and conducted as outlined in the EMPLAN and as further detailed in the NSW Recovery Plan.

6.1   NSW SES Recovery Role

Strategy:	Actions to achieve the strategy (or outcome):
Support recovery operations and established Recovery Committees.	1 NSW SES will provide representation to Recovery Committees as required and may have an ongoing role in the recovery phase.
	2 NSW SES roles on Recovery Committees may include providing information about any continuing response, guidance on mitigation strategies and general advice and assistance to the committee as a subject matter specialist.
	3 The Recovery Committee will develop a recovery and public information plan to support the needs of the community.
	4 NSW SES will provide information to the NSW Reconstruction Authority to support applications to Treasury for _Disaster Recovery Funding Arrangements 2018 (DRFA)_.

Logistics and Finance

7   Logistics and Finance

Logistics and financial arrangements are described in detail in the EMPLAN Part 10.

Strategy:	Actions to achieve the strategy (or outcome):
Coordinate resources and logistics support to ensure operational effectiveness.	1 NSW SES may request resources and logistics support directly from a supporting emergency service or Functional Area. If it is likely that state resources will be exhausted or are insufficient for tasks, liaison with the SEOCON and/or NRSC will occur to determine the need for access to Interstate or Commonwealth assistance. In catastrophic event international assistance may be sought through the NEMA.
	2 NSW SES will direct the booking of accommodation and travel arrangements for agencies providing logistics support.
	3 NSW SES may deploy additional resources to NSW SES Units and other Supporting Agencies if resources are deemed insufficient or likely to be exhausted within the Area of Operations. Supporting Emergency Services Organisations may be placed under the control of NSW SES.
	4 NSW SES will provide transport options to and from impact areas and staging areas for residents and essential workers that are isolated by flooding or the effects of flooding.
	5 In the post-impact phase, NSW SES will provide consumable operational stores such as sandbags, tarpaulins, rope and plastic to other agencies and the community.
	6 In the response phase, NSW SES will coordinate the acquisition and utilisation of major equipment such as cranes, elevated work platforms and heavy machinery, unless specifically authorised separately.
	7 NSW SES will develop and manage an ILU when required.
Coordinate specialist logistics support.	1 NSW SES may engage professional arboriculture services to assist with damage response tasks in accordance with NSW SES procedures.
	2 NSW SES may engage electricians to disable photovoltaic arrays, where damage inhibits effective response.
	3 NSW SES may engage a contractor or other agency to conduct any other specialist support that is required to ensure an effective response.
	4 Engineering Services Functional Area may assist with the supply of goods and services as requested by NSW

	SES, and where required, in consultation with the Transport Services Functional Area.

Appendices

8   Appendices

8.1   Appendix A – Roles and Responsibilities

The following roles and responsibilities are in addition to the roles and responsibilities described in the EMPLAN and relate to Floods.

Agency/Functional Area	Roles and responsibilities
Aboriginal Affairs NSW	• Advocate for the voices of Aboriginal and Torres Strait Islander people and communities are represented in flood risk management. — **Note:** Aboriginal Affairs NSW should not be considered the single source of information or be a substitute for direct consultation or engagement with local Aboriginal and Torres Strait Islander communities or people. • Aboriginal Affairs NSW can provide guidance on engaging with Aboriginal communities, Local Aboriginal Land Councils and Aboriginal community-controlled organisations to other Supporting Agencies and Functional Areas.
Agricultural and Animal Services Functional Area	The roles and responsibilities for the Agricultural and Animal Services are outlined in the *Agricultural and Animal Services Supporting Plan*.
Australian Government Bureau of Meteorology (Bureau)	**Preparation** • Maintain, coordinate, and deliver operational 24 hour weather forecast and flood warning services to the NSW community in line with the Intergovernmental Agreement on the Provision of Bureau of Meteorology Hazard Services to the States and Territories and the Bureau's Service Level Specification for Flood Forecasting and Warning Services for NSW and the ACT. • Develop warning systems in consultation with the NSW SES and other state and local agencies. • Provide advice to Local Governments Councils to support the development of flash flood warnings and systems and procedures. • Assist NSW SES with the development of scenarios for use in the exercising of this plan. • Undertake community engagement activities and contribute to similar community engagement and capacity building programs undertaken by NSW SES. • Adhere to the requirements as outlined in the service level agreement between NSW SES and the Bureau. **Response** • Collect, collate and analyse rain and river data. • Provide near real time rainfall and river level data. • Act as the flood prediction agency in non-flash flood catchments in accordance with the Bureau's Service Level Specification for NSW.

	• Provide weather and flood information directly to NSW SES, SEMC and other relevant agencies. • Provide NSW SES with intelligence that conveys the development and progression of flood events. • Provide more information on flood warnings at *http://www.bom.gov.au/nsw/warnings/* • Formulate, issue and publish official forecasts and warnings in consultation with NSW SES and include NSW SES safety messages within warnings. • Adhere to the requirements as outlined in the service level agreement between NSW SES and the Bureau.
Dams Safety NSW	**Preparation** • Maintain a list of declared dams and their risk status and provide to NSW SES when updated. • Participate as an observer in dam failure exercises and workshops with NSW SES and declared dam owners. • Monitor declared dam owners' compliance with legislation and the *Dams Safety NSW Guideline – Emergency plans*. **Response** • Establish and maintain communication with NSW SES and declared dam owners when a dam operator issues an Amber and/or Red Alert. • Maintain communication with NSW SES during a dam safety emergency. • Advise NSW SES when it has taken over control of dam operations.
Declared Dam Owners	**Preparation** • Contribute to community engagement and capacity building programs undertaken by NSW SES. • Provide NSW SES with information necessary for response planning and warning distribution. • Assist NSW SES to identify correlations between water level and/or discharges at the dam for use in flood response operations (warning and evacuation). • Consult with NSW SES in the development of Dam Emergency Plans, including the development of dam failure alerts in accordance with Dams Safety NSW Guideline. • Engage NSW SES in relation to assessment studies regarding the consequences of dam failure. • Provide copies of Dam Emergency Plans and spatial data to NSW SES. • Involve NSW SES in desktop and practical dam safety emergency exercises.

	Response - Where water level monitoring or other instrumentation allows, provide NSW SES with flood advice as per pre-agreed thresholds for use in downstream flood response operations (warnings). - Notify NSW SES of potential or actual dam failures in accordance with the Dam Emergency Plan and Dams Safety NSW Guideline. - Close at-risk camping grounds / recreational areas within their managed areas. - In the case of declared dams whose risks are intolerable, assist NSW SES in planning to warn and evacuate people at risk of dam failure and maintain and operate any special dam failure warning systems and/or automatic telemetered monitoring devices to assist with early detection of incidents which are installed until such time that the risks have been lowered to an acceptable level. **Owners of gated dams:** - Provide all available information to the Bureau and NSW SES on storage levels and actual and prospective water releases and their likely impacts on downstream river levels. - Advise the downstream community of prospective and actual water releases, except in those circumstances where the Bureau would issue flood warnings. - Where possible actively work with NSW SES and the Bureau to reduce the impacts of flooding on communities through management of water releases within identified safe parameters and within statutory licencing provisions under the *Water Management Act 2000* (NSW) and *Water NSW Act 2014* (NSW).
Department of Climate Change Energy Environment and Water - Biodiversity Conservation and Science Division (DCCEEW - BCS)	**Prevention** - Oversee the delivery of both the NSW Flood Prone Land Policy through the Floodplain Management Program and the NSW Coastal Management Framework. This includes technical support and financial assistance to councils with the identification of flood and coastal risks, the preparation and implementation of Flood Risk Management Plans and Coastal Management Programs, and associated mitigation and management actions. - DCCEEW BCS also provide technical support on flood and coastal risk management to other agencies. This includes providing an understanding flood and coastal mitigation works such as flood and coastal warnings systems and levees, and flood and coastal management advice to inform land use planning. - Work with NSW SES on the Flood Data Access Program to improve the provision of flood information through the *NSW Flood Data Portal*. - Assist DCCEEW Water in the preparation of rural floodplain management plans under the *Water Management Act 2000* (NSW). - Provision of strategic technical advice to support flood risk management.

	• Provision of strategic input into the management of the NSW flood gauge warning network to support warnings to NSW communities.
	Preparation
	• Assist NSW SES in the exercising of Flood Emergency Sub Plans.
	• Advise NSW SES about conditions which may lead to coastal hazards or retarded river drainage near the coast.
	Response
	• Provide technical advice on flood risks and coastal hazards to NSW SES on request.
	• Work with the relevant local council and NSW SES to collect flood related data during and after flood events.
	Recovery
	• Support recovery committees as required.
Department of Climate Change Energy Environment and Water (DCCEEW Water)	**Prevention** • Responsible for the management of the state's surface water and groundwater resources and reports to the NSW Government for water policy and the administration of key water management legislation, including the *Water Management Act 2000* (NSW) and *Water Act 1912* (NSW) and corporate flood work licencing under the *Water Management Act 2000* (NSW). • Manage the approval process for controlled activities (works that have the potential to affect the quantity or flow of water in a water course) under the *Water Management Act 2000* (NSW). • Develop rural Floodplain Management Plans under the *Water Management Act 2000* (NSW) in partnership with the DCCEEW BCS. • Management of the state government's water level gauges for the flood warning network in tidal areas in NSW (Manly Hydraulic Laboratory (MHL) operates this system as a service provider on behalf of DCCEEW BCS). • Provide advice to NSW SES in relation to the operation of Hunter Valley Flood Mitigation Scheme.
Department of Communities and Justice - Housing	**Response** • Assist NSW SES with the response to damaged public housing.
Department of Defence	Arrangements for Defence Assistance to the Civil Community are detailed within the EMPLAN.
Department of Planning, Housing, and Infrastructure	**Prevention** • Provision of strategic technical advice to support emergency management considerations in land use planning.
Education Services Functional Area	**Preparation** • Ensure each school and education facility liable to flood impacts has an emergency management plan (that is accessible locally and from a central incident management team), that includes local

	response procedures for flood events and information on communicating with parents and carers.
	• Contribute to community engagement and capacity building programs undertaken by NSW SES.
	• Liaise with NSW SES and Transport for NSW, if appropriate, arrange for the early release of students whose travel arrangements are likely to be disrupted by flooding and/or road closures and transport disruptions.
	Response
	• Disseminate official warnings and related weather information to all schools across the NSW Education sector.
	• Assist NSW SES with coordination of early notification to all schools across the NSW Education sector where schools, staff and students are likely to be impacted or expected to be impacted by flood or associated flood events.
	• Provide a Liaison Officer to the SEOC or the NSW SES SCC as required.
	• In consultation with NSW SES, act on the advice provided regarding temporary ceasing operations of schools across the NSW Education sector.
	• Coordinate situation reports and/or updates for all schools during a flood related incident through to the SEOC.
	• Assist with the coordination of the evacuation of schools and the immediate welfare of students until returned to the appropriate carer.
	Recovery
	• Support schools to return to normal operations as soon as practicable.
	• Provide education continuity for students unable to learn face to face due to flood impacts.
	• Participate in After Action Reviews as required, pending capability.
Energy and Utility Services Functional Area	The roles and responsibilities for the Energy and Utility Services Functional Area are outlined in the *NSW Energy and Utility Services Supporting Plan (EUSPLAN)*.
Engineering Services Functional Area	The roles and responsibilities for the Engineering Services Functional Area are outlined in the *NSW Engineering Services Functional Area Supporting Plan (EngPLAN)*.
Environmental Services Functional Area	The roles and responsibilities for the Environmental Services Functional Area are outlined in the *Environmental Services Functional Area Supporting Plan (EnviroPlan)*. Additionally, the Environmental Services Functional Area has roles and responsibilities that are outlined in the *NSW Hazardous Materials/Chemical, Biological, Radiological, Nuclear Emergency Plan*.

Fire and Rescue NSW (FRNSW)	**Preparation** • Contribute to NSW SES reviews into plans, policies and procedures as required. • Participate in NSW SES briefings, training and exercises as required. • Identify and notify NSW SES of any locations at risk of fire or hazardous materials that pose a significant threat to surrounding populations during flooding events for incorporation into NSW SES flood intelligence and planning. **Response** • Meet the agreed arrangements described in any NSW SES and FRNSW Memorandum of Understanding or Mutual Aid Agreement. • Provide Incident Management personnel and Liaison Officers to the NSW SES as required. • Advise NSW SES of flood related jobs received by FRNSW. • Provide support to NSW SES in response to flood emergencies across the state. • Assist with flood rescue operations as required • Assist NSW SES with the dissemination of official warnings and related information. • Assist NSW SES with evacuation of at-risk communities. • Assist NSW SES with the warnings and monitoring of facilities at risk of fire or hazardous material due to flood impact. • Assist NSW SES with the monitoring and reconnaissance of flood prone areas. • Provide Land Rescue Operators as required – Road Crash Rescue / General Land Rescue / Vertical Rescue. • Provide Flood Rescue Operators as required - Land Based Flood Rescue, On Water Flood Rescue, In Water Flood Rescue and Over Water Flood Rescue. • Provide Urban Search and Rescue first responders and technicians as required. • Conduct hazardous materials (HAZMAT) operations as required. • Recommend activation of the NSW Hazardous Materials/Chemical, Biological, Radiological, Nuclear Emergency Plan Sub Plan if required. • Washdown and decontamination of Flood Rescue Operators and equipment as required. • Assist NSW SES with the resupply of isolated communities and/or properties. • Assist NSW SES with property protection tasks including sandbagging.

	• Provide resources for pumping flood water out of buildings and from low-lying areas.
	• Provide trained staff to support a Joint Intelligence Unit, if established by NSW SES, including Remotely Piloted Aircraft System (RPAS) pilots to assist with field observations and rescue operations.
	• Assist NSW SES to undertake damage assessment including structural collapse risks and recommend activation of the _Major Structure Collapse Emergency Sub Plan_ if required.
	• Coordinate the pre-deployment of fire resources to communities within NSW Fire Districts to maintain fire suppression capability and advise NSW SES.
	• Coordinate the deployment of the FRNSW Bulk Water Transfer Systems to locations as requested by NSW SES.
	• Provide high clearance vehicles, remote area rescue resources and operators as requested by NSW SES.
	• Provide deployable and remotely powered emergency communications cells and operators for emergency services communication and public networks as required.
	• Provide rescue boats with trained Flood Rescue Operators as requested by NSW SES.
	Recovery • Assist with clean-up operations. • Participate in After Action Reviews as required.
Floodplain Management Australia (FMA)	**Prevention** • Promote sound and responsible floodplain management, and to make representations on behalf of Local Government Councils at state and federal levels.
Forestry Corporation of NSW	**Preparation** • Assist NSW SES with identification of road infrastructure in State Forests at risk of flooding. **Response** • Assist NSW SES with the communication of warnings and information provision to the public through variable message signs and other appropriate means. • Close and direct people to leave camping grounds, visitor areas, and recreational nodes at risk of flooding in State Forest managed areas. • Close and reopen Forestry Corporation of NSW roads when affected by flood waters and advise NSW SES of their status. • Manage traffic on Forestry Corporation of NSW roads. • Facilitate the safe reliable access of emergency resources on Forestry Corporation of NSW roads.

Health Services Functional Area	The roles and responsibilities for the Health Services Functional Area are outlined in the *NSW Health Services Functional Area Supporting Plan (NSW HEALTHPLAN)*.

Local Government Councils	**Prevention**
	
	• Manage flood risk in service areas as outlined in the Flood Risk Management Manual. Some Local Government Councils may own and operate flood warning gauges and networks. The agreed responsibilities of Local Government Councils are listed in NSW SES Local Flood Emergency Sub Plans.
	
	• Where there is flash flood risk, refer planning proposals to NSW SES.
	
	• Contribute to community engagement and capacity building programs undertaken by NSW SES.
	
	• Provide NSW SES with copies of Coastal Management Programs to assist with emergency planning and intelligence development.
	
	• Assist NSW SES in planning for floods within their respective local government boundaries.
	
	Preparation
	
	• Maintain a plant and equipment resources list for the council area.
	
	• Provide advice to the community about the size and type of trees and shrubs to be planted near homes and advice about existing trees that may be dangerous.
	
	• Assist NSW SES with community awareness programs to ensure people in locations potentially threatened by flooding understand the threat and its management.
	
	• Contribute to community engagement and capacity building programs undertaken by NSW SES.
	
	Response
	
	• Assist NSW SES with the dissemination of official warnings and related information.
	
	• At the request of the NSW SES Incident Controller, deploy personnel and resources for flood related activities.
	
	• Provide information on the status of critical infrastructure.
	
	• In the event of an evacuation, assist with making facilities available for domestic animals of evacuees.
	
	• Subject to the availability of council resources, assist NSW SES with flood damage operations including:
	
	  — The conduct of reconnaissance of at-risk areas to identify flood damage.
	
	  — Traffic management on council managed roads.
	
	  — Provide assistance to the local NSW SES unit (plant, equipment, and personnel, including headquarters staff where able and as requested).

	— Remove tree and other debris from council managed roads and council managed public land during flood damage clean-up operations in consultation with NSW SES. — Close and reopen council managed roads (and other roads nominated by agreement with Transport Services Functional Area) and advise NSW SES, the NSWPF and people who contact the council for road information. • Assist NSW SES with the protection of readily moveable household and business contents in areas where coastal storms (likely to result in beach erosion and/or coastal inundation) are forecast or occurring. • Local Government Council is responsible for the activation of any Coastal Zone Emergency Action Sub Plan. NSW SES is not responsible for planning or conduct of emergency beach protection works or other physical mitigation works. **Recovery** • Provide for the management of health hazards associated with flooding, including removing debris and waste. • Ensure premises are fit and safe for reoccupation and assess any need for demolition. If resources are unavailable, additional resources may be requested from Public Works Authority. • Conduct impact assessments.
Manly Hydraulics Laboratory (MHL)	**Preparation** Act as a service provider for operations of gauges and warning systems for DCCEEW BCS, other state agencies and councils. In this role MHL: • Provides the Bureau and NSW SES with real-time access to data from stream and rain gauges. • Provides real-time offshore ocean data when storm surge conditions exist. • Provides NSW SES with information about new gauge locations. • Provide NSW SES with historical gauging station data. • Collects and maintains flood data including data relating to flood heights, velocities and discharges. • Consults with the NSW & ACT FWCC which includes NSW SES, DCCEEW BCS, and the Bureau, prior to changes to gauge locations and datum.
Marine Rescue NSW (MRNSW)	**Preparation** • Contribute to community engagement and capacity building programs undertaken by NSW SES. • Contribute to NSW SES reviews into plans, policies, and procedures as required. • Participate in NSW SES briefings, training and exercise as required. **Response**

	• Meet the agreed arrangements described in any NSW SES and MRNSW Memorandum of Understanding.
	• Provide Incident Management personnel and Liaison Officers to the NSW SES as required.
	• Advise NSW SES of flood related jobs received by MRNSW.
	• Disseminate official warnings and related weather information to boaters through the NSW marine radio network.
	• Consider and act on the advice of NSW SES regarding the warning and evacuation of exposed MRNSW facilities and assets.
	• Assist NSW SES with the dissemination of official warnings and related information.
	• Assist NSW SES with evacuation of at-risk communities.
	• Assist NSW SES and NSWPF with the provision of trained members to support flood operations, including Land Based and On Water Flood Rescue Operators and vessels, as required.
	• Assist with search and rescue operations from ocean/coastal waterways.
	• At the direction of the NSWPF Marine Area Command assist in the identification and recovery of vessels.
	• Assist NSW SES with monitoring and reconnaissance of flood prone areas.
	• Assist NSW SES to undertake damage assessments.
	• Support NSWPF by providing suitable MRNSW facilities as Search and Rescue Coordination Centres and/or operations centres.
	• Assist NSW SES with flood rescue support operations and the resupply of isolated communities and/or properties.
	Recovery
	• Participate in After Action Reviews as required.
Maritime Combat Agencies	**Preparation**
	• Contribute to NSW SES reviews into plans, policies, and procedures as required.
	• Participate in NSW SES briefings, training, and exercises as required.
	• Identify and notify NSW SES of locations that pose navigational hazards for flood rescue operations for incorporation into NSW SES flood intelligence and planning.
	Response
	• Meet the agreed arrangements described in any NSW SES and NSW Maritime Memorandum of Understanding or Mutual Aid Agreement.
	• Provide Incident Management personnel and dedicated Maritime Liaison Officers to the NSW SES as required.

	• Advise NSW SES of flood related requests received by NSW Maritime.
	• When requested by NSW SES, provide support including trained rescue operators to NSW SES in response to flood emergencies across the state.
	• Provide vessel operators and emergency and pollution response vessels, including access to large landing barges and other suitable vessels as required.
	• Assist NSW SES with the dissemination of official warnings and related information.
	• Consider and act on the advice of NSW SES regarding the warning and evacuation of NSW Maritime facilities and assets.
	• Assist NSW SES with evacuation of at-risk communities.
	• Provide advice on closure of flood affected waterways and assist NSW SES with the warnings associated with boating safety.
	• Conduct waterways management operations, including making safe sunken vessels arising from floods.
	• Undertake harbour clearing services to remove obstacles causing obstruction in Sydney Harbour.
	• Activation of the *NSW Coastal Waters Marine Pollution Plan Sub-Plan* if required.
	• Assist NSW SES with the resupply of response specific operations and isolated communities and/or properties.
	• Provide trained staff to support a Joint Intelligence Unit, if established by NSW SES, including tracking and tasking of NSW Maritime resources (personnel, vessels and vehicles).
	• Coordinate Port Authority of NSW assistance.
	Recovery
	• Assist with aerial surveillance and mapping of flood debris and impacts, including limited clean-up operations.
	• Participate in After Action Reviews as required.
National Emergency Management Agency (NEMA)	**Response**
	• Provide assistance to NSW SES in a catastrophic event, as requested.
NSW Ambulance	The roles and responsibilities for NSW Ambulance are outlined in the *NSW Health Services Functional Area Supporting Plan (NSW HEALTHPLAN)*.
	Roles and responsibilities in addition to the Supporting Plan are:
	Preparation
	• Contribute to NSW SES reviews into plans, policies and procedures as required.
	• Participate in NSW SES briefings, training and exercises as required.

	Response
	• Meet the agreed arrangements described in any NSW SES and NSW Ambulance Memorandum of Understanding.
	• Provide Incident Management personnel and Liaison Officers to the NSW SES as required.
	• Provide Rescue Operators as required.
	Recovery
	• Participate in After Action Reviews as required.
NSW Food Authority	The roles and responsibilities for the NSW Food Authority are outlined in the *Food Safety Emergency Sub Plan*.
NSW National Parks and Wildlife Services (NPWS)	**Preparation**
	• Assist NSW SES with identification of road infrastructure in National Parks at risk of flooding.
	Response
	• Assist NSW SES with the communication of warnings and information provision to the public through variable message signs and other appropriate means.
	• Close and direct people to leave camping grounds, visitor areas and recreational nodes at risk of flooding in NPWS managed areas.
	• Close and reopen NPWS roads when affected by flood waters and advise NSW SES of their status.
	• Facilitate the safe reliable access by emergency resources on NPWS managed roads.
	• Provide a Liaison Officer to the NSW SES Incident Control Centre, SCC or EOC as required.
	Recovery
	• Participate in After Action Reviews as required.
NSW Police Force (NSWPF)	**Preparation**
	• Participate in NSW SES briefings, training and exercises as required.
	• Contribute to NSW SES reviews into plans, policies and procedures as required.
	Response
	• Provide Liaison Officers to NSW SES as required.
	• Advise NSW SES of flood related jobs received by the NSWPF.
	• Assist NSW SES with the dissemination of official warnings and related information.
	• Assist NSW SES with evacuation of at-risk communities.
	• Assist NSW SES with monitoring and reconnaissance of flood prone areas.

	• Restrict access to areas affected by floods. • Coordinate flood rescue incidents outside of a FRAO. • Conduct road and traffic control operations in conjunction with NSW SES, Local Government Councils and/or Transport Services Functional Area. • Coordinate search operations. • Provide Rescue Operators as required. • Provide available rescue resources as required. • Coordinate security of supply lines, evacuated and damaged areas. • Manage Disaster Victim Registration and Disaster Victim Identification. • Operate the Public Information and Inquiry Centre, if requested or otherwise needed during flood events. **Recovery** • Participate in After Action Reviews as required.
NSW Reconstruction Authority	The roles and responsibilities for the NSW Reconstruction Authority are outlined in the *NSW Reconstruction Authority Act 2022* (NSW), the NSW Recovery Plan and the EMPLAN. Roles and responsibilities in addition to this legislation are: **Preparation** • Contribute to NSW SES reviews into plans, policies, and procedures as required. • Contribute to community engagement and capacity building programs undertaken by NSW SES. **Response** • Provide Liaison Officers to NSW SES as required. **Recovery** • Participate in After Action Reviews as required.
NSW Rural Fire Service (NSW RFS)	**Preparation** • Contribute to NSW SES reviews into plans, policies, and procedures as required. • Participate in NSW SES briefings, training and exercises as required. • Identify and notify NSW SES of any locations at risk of fire within prescribed Rural Fire Districts that pose a significant threat to surrounding populations during flooding events, for incorporation into NSW SES flood intelligence and planning. **Response** • Meet the agreed arrangements described in any NSW SES and NSW RFS Memorandum of Understanding.

	• Provide Incident Management personnel and Liaison Officers to NSW SES as required.
	• Provide operational command centres and command points.
	• Provide Rescue Operators as required.
	• Provide rescue boats with trained Flood Rescue Operators as requested by NSW SES.
	• Provide available rescue resources as required.
	• Provide trained staff to support a Joint Intelligence Unit, if established by NSW SES.
	• Provide aviation support, management and advice as requested through the State AirDesk.
	• Provide speciality aircraft and appropriately trained personnel to perform helicopter rescue operations functions as required.
	• Provision of aerial intelligence platforms (camera, Forward Looking InfraRed (FLIR), etc).
	• Provide logistics support including heavy transport and base camps.
	• Assist NSW SES to undertake Damage Assessments.
	• Advise NSW SES of flood related jobs received by the NSW RFS.
	• Assist NSW SES with the dissemination of official warnings and related information.
	• Assist NSW SES with evacuation of at-risk communities.
	• Assist NSW SES with monitoring and reconnaissance of flood prone communities.
	• Assist NSW SES with property protection tasks including sandbagging.
	• Assist NSW SES with resupply of isolated communities and/or properties.
	• Washdown and decontamination of Flood Rescue Operators and equipment as required.
	• Provide resources for pumping flood water out of buildings and from low-lying areas.
	• Provide back-up radio communications.
	• Assist with clean-up operations, including the hosing out of flood affected properties while avoiding silt and debris entering the storm water system.
	• Deploy resources to communities within Rural Fire Districts where access is expected to be lost in consultation with NSW SES.
	• Provide access to areas/ properties isolated by flood damage.
	• Coordinate the deployment of fire resources to communities within Rural Fire Districts to maintain fire suppression capability in consultation with the NSW SES.
	Recovery

	• Assist with clean-up operations. • Participate in After Action Reviews as required.
Public Information Services Functional Area	The roles and responsibilities for the Public Information Services Functional Area are outlined in the _Public Information Functional Area Services Supporting Plan_.
Spatial Services, Emergency Information Coordination Unit (EICU)	The roles and responsibilities for the Spatial Services, Emergency Information Coordination Unit (EICU) Supporting Function are outlined in the EMPLAN. Roles and responsibilities in addition to the EMPLAN are: **Response** • Assist NSW SES with the NSW Evacuation Doorknocking Application. • Assist NSW SES with the distribution of intelligence and data to agencies listed within this plan and the EMPLAN. • Assist NSW SES by providing Geographic Information System trained staff and equipment to assist with establishment of a Joint Intelligence Unit if requested. **Recovery** • Assist NSW SES with the capture of Post-Catastrophe Aerial Imagery by Spatial Services aircraft, and tasking through Remote Sensing Services and Equipment (ReSSE) Prequalification Scheme, when requested by NSW SES.
State Emergency Operations Centre (SEOC) / State Emergency Operations Controller (SEOCON)	**Response** • Distribute NSW SES operational updates to the SEOCON, SEMC members and Australian Government. • Monitor flood operations. • Consider requests for state or Commonwealth assistance. • Coordinate the establishment of a Major Evacuation Centre in accordance with Major Evacuation Centre Guidelines if required. • Facilitate requests for the Public Inquiry and Information Centre to be stood up. • If requested, coordinate support to the NSW SES and/or other agencies.
Surf Life Saving NSW (SLSNSW)	**Preparation** • Contribute to community engagement and capacity building programs undertaken by NSW SES. • Contribute to NSW SES reviews into plans, policies and procedures as required. • Participate in NSW SES briefings, training and exercises as required. **Response**

	- Provide Incident Management personnel and Liaison Officers to the NSW SES as required. - Distribute advice contained in the Bureau's weather warnings to people on SLSNSW patrolled beaches when dangerous surf conditions are predicted. - Advise NSW SES of flood related jobs received by SLSNSW. - During a storm or flood event, report significant beach closures to NSW SES, in consultation with Local Government Councils. - Assist NSW SES with the dissemination of official warnings and related information. - Assist NSW SES with the evacuation of at-risk communities. - Assist NSW SES and NSWPF with the provision of trained members and equipment to support flood operations. - Assist with search and rescue operations from ocean/coastal waterways. - Assist NSW SES with monitoring and reconnaissance of flood prone areas. - Assist NSW SES with the resupply of isolated communities and/or properties. - Assist with property protection tasks including sandbagging. - Provide trained staff to support a Joint Intelligence Unit, if established by NSW SES, including RPAS pilots to assist with field observations. **Recovery** - Participate in After Action Reviews as required.
Telecommunications Services Functional Area	The roles and responsibilities for the Telecommunications Services Functional Area are outlined in the *NSW Telecommunications Services Functional Area Supporting Plan (TELCOPLAN)*.
Transport Services Functional Area	The roles and responsibilities for the Transport Services Functional Area are outlined in the *Transport Services Functional Area Supporting Plan*. Roles and responsibilities in addition to the Supporting Plan are: - Keep NSW SES informed of the status of transportation sector utilities and infrastructure. - Provide ongoing information to NSW SES, other emergency management partners and external audiences about the status of state, regional and local roads across the state through Live Traffic NSW. - Wherever possible, maintain state road access and egress routes to enable the evacuation of at-risk communities by NSW SES. - When requested, help NSW SES to facilitate evacuations through the provision of transport route information.

	• When requested, help NSW SES to coordinate resources and logistics support to and from impact areas and staging areas through the provision of transport route information. • When requested by NSW SES or Education Services Functional Area, provide advice on school travel arrangements and any related transport disruptions. • Receive requests via the Functional Area Coordinator to provide Liaison Officers to NSW SES Incident Control Centres, the NSW SES SOC and/or SCC and/or EOCs as required. • Assist NSW SES and the Public Information Functional Area Coordinator with the communication of flood warnings and information provision to the public (e.g., via Variable Message Signs and Transport for NSW's social media channels). • Support the operation of a Joint Media Information Centre when activated by NSW SES. • At the tail end of the response phase and in the early recovery phase, engage with NSW SES and the NSW Reconstruction Authority to prioritise transport network repair and status of communities requiring resupply where required. • Coordinate the provision of information about the assessment and restoration of transport network infrastructure. • Where notified of a hazard or requested by NSW SES, coordinate the assessment of damage and subsequent clearing of debris on transportation sector infrastructure, such as the state road network, to facilitate their re-opening. • When requested, support NSW SES and Engineering Services Functional Area with the supply of goods and services.
VRA Rescue NSW (VRA)	**Preparation** • Contribute to NSW SES reviews into plans, policies and procedures as required. **Response** • Meet the agreed arrangements described in any NSW SES and VRA Memorandum of Understanding. • Provide Incident Management personnel and Liaison Officers to NSW SES as required. • Provide Rescue Operators as required. • Assist NSW SES with the dissemination of official warnings and related information. • Assist NSW SES with evacuation of at-risk communities. • Assist NSW SES with the monitoring and reconnaissance of flood prone areas. • Assist NSW SES with the resupply of isolated communities and/or properties. • Assist NSW SES with property protection tasks including sandbagging.

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	• Assist NSW SES to undertake damage assessment. • Assist with search and rescue operations. • Provide flood damage response teams to assist NSW SES. **Recovery** • Participate in After Action Reviews as required.

WaterNSW	In addition to responsibilities for declared dam owners:
	
	Preparation
	
	• Management of the state government's water level gauges for the flood warning network in non-tidal areas in NSW.
	
	• Provide to NSW SES and the Bureau:
	
	  — Flow rating tables (tabular form) for river height gauges.
	
	  — Real-time or near real-time access to river height gauges and height data for the development of official flood warnings.
	
	  — Real-time or near real-time advice and information from dams and hydrometeorological stations during floods.
	
	• Provide NSW SES with information about new gauge locations.
	
	• Provide NSW SES with access to historical gauging station data (i.e., Date, Time, Height (m) and Discharge (Ml/d)).
	
	• Collect and maintain flood data including data relating to flood heights, velocities and discharges.
	
	• Consult with the NSW & ACT FWCC which includes NSW SES and the Bureau prior to changes to gauge locations and datum.
	
	• Maintain WaterNSW Flood Incident Management Protocols.
	
	• WaterNSW is responsible for managing non-corporate flood work licencing under the _Water NSW Act 2014_ (NSW), _Water Management Act 2000_ (NSW).
	
	Response
	
	• Close at-risk camping grounds / recreational areas within their managed areas.
	
	• Convene a regular briefing with the Bureau, WaterNSW dam operators and NSW SES in the pre-flood stage and during flood operations or other incidents to enable the rapid exchange of information between agencies.

Welfare Services Functional Area	The roles and responsibilities for the Welfare Services Functional Area are outlined in the _Welfare Services Functional Area Supporting Plan_.

8.2   Appendix B – Glossary

Readers should refer to EMPLAN Annexure 11 – Definitions. Additional terms not found in the EMPLAN are defined in the _NSW State Plan Glossary_.

8.3 Appendix C – Abbreviations

ACT	Australian Capital Territory
ACT SES	ACT State Emergency Service
AFAC	Australasian Fire and Emergency Services Authorities Council
AIDR	Australian Institute Disaster Resilience
AIIMS	Australasian Inter-service Incident Management System
AWS	Australian Warning System
Bureau	Australian Government Bureau of Meteorology
CMG	Consequence Management Guide(s)
CWN	Call-when-needed (aircraft)
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DCCEEW BCS	Department of Climate Change, Energy, the Environment and Water – Biodiversity Conservation and Science Division
DCCEEW Water	Department of Climate Change, Energy, the Environment and Water – Water
DRFA	Disaster Recovery Funding Arrangements 2018
EICU	Spatial Services, Emergency Information Coordination Unit
EMPLAN	Emergency Management Plan
EOC	Emergency Operations Centre(s)
EOCON	Emergency Operations Controller
FERCC	Flood Emergency Response Classification of Communities
FLIR	Forward Looking InfraRed
FMA	Floodplain Management Australia
FRAO	Flood Rescue Area of Operations
FRNSW	Fire and Rescue NSW
HAZMAT	Hazardous Materials
ICEMS	Inter-CAD Electronic Messaging System
ICOLL	Intermittently Closed and Opening Lakes and Lagoons

ILU	Interstate Liaison Unit
LEMC	Local Emergency Management Committee
MHL	Manly Hydraulics Laboratory
MOU	Memorandum(s) of Understanding
MRNSW	Marine Rescue NSW
NEMA	National Emergency Management Agency
NPWS	NSW National Parks and Wildlife Service
NRSC	National Resourcing Sharing Centre
NSW	New South Wales
NSW & ACT FWCC	The NSW and the ACT Flood Warning Consultative Committee
NSWPF	NSW Police Force
NSW RFS	NSW Rural Fire Service
NSW SES	NSW State Emergency Service
OMS	Operational Management System
PMF	Probable Maximum Flood
ReSSE	Remote Sensing Services and Equipment
RPAS	Remotely Piloted Aircraft System
SCC	State Command Centre
SDMP	State Disaster Mitigation Plan
SEMC	State Emergency Management Committee
SEOC	State Emergency Operations Centre
SEOCON	State Emergency Operations Controller
SERCON	State Emergency Recovery Controller
SERM Act	State Emergency and Rescue Management Act 1989 (NSW)
SES Act	State Emergency Service Act 1989 (NSW)
SLSNSW	Surf Life Saving NSW
SOC	State Operations Centre
VRA	VRA Rescue NSW

8.4 Appendix D – NSW SES Resupply Flowchart
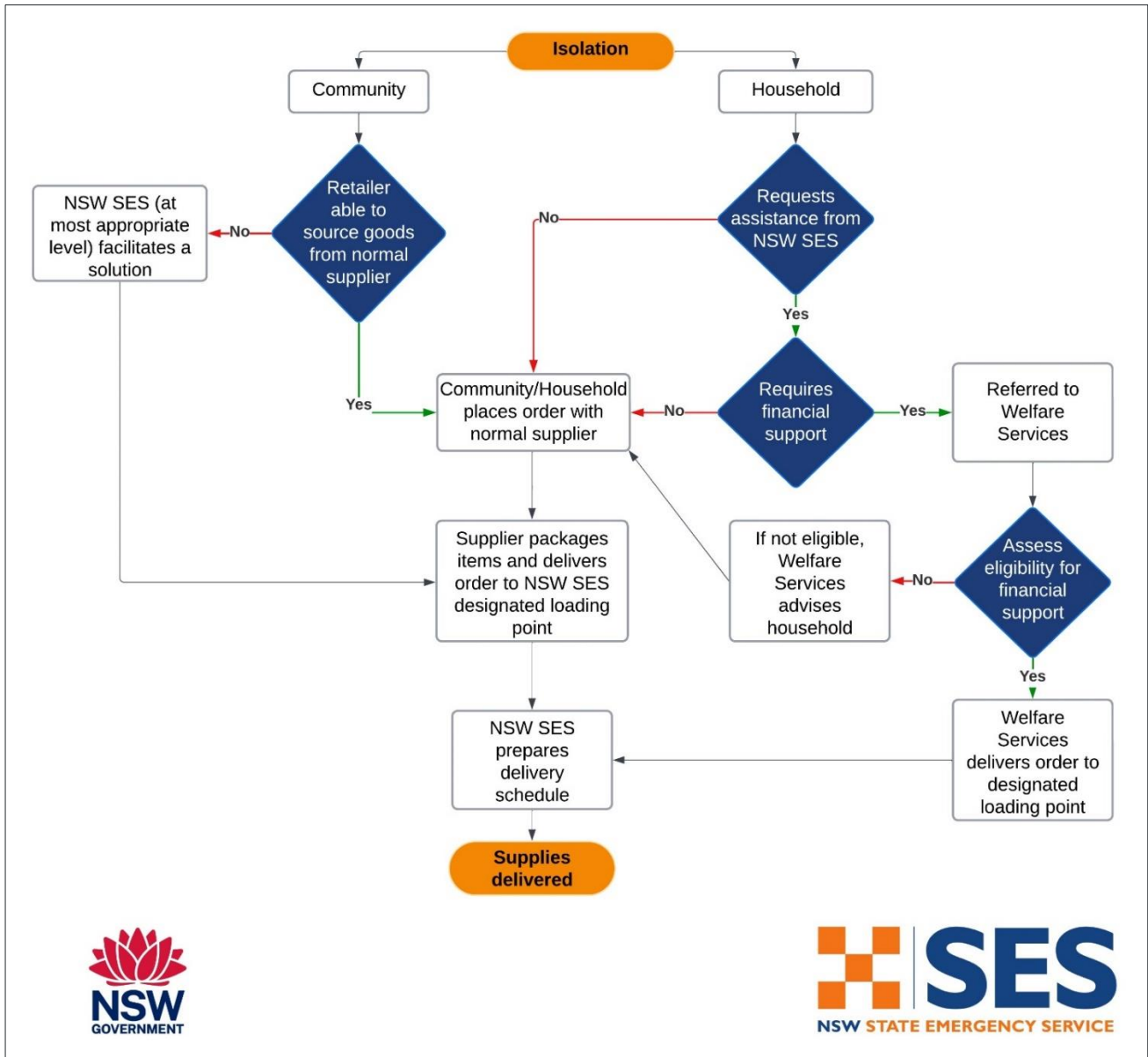
8.5 Appendix E – References

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