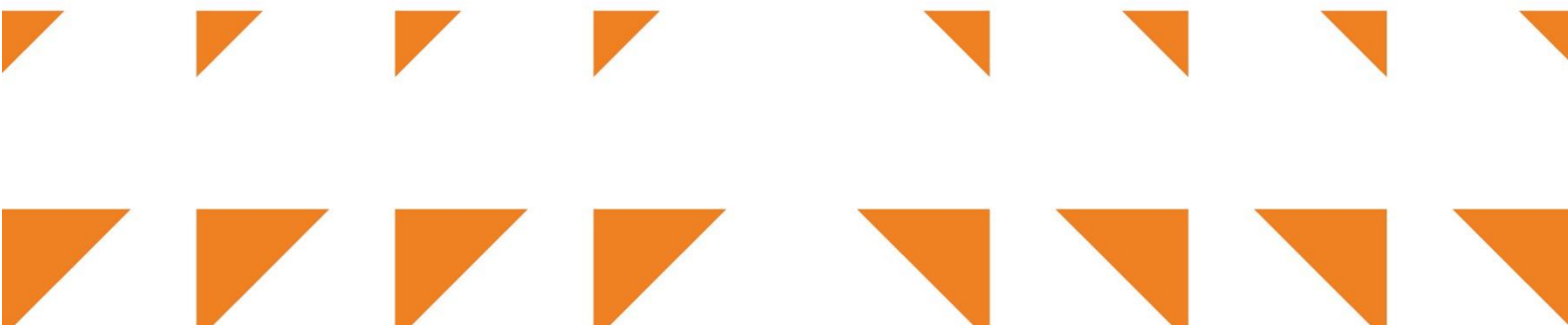




Katherine
Local Emergency Plan



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1. Document control

1.1. Governance

Document title	Katherine Local Emergency Plan
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1.2. Version history

Date	Version	Author	Summary of changes
22/12/2014	1	John McRoberts	First version
23/11/2015	2	Reece P Kershaw	Reviewed and updated
30/12/2016	3	Kate Vanderlaan	Reviewed and updated
03/12/2018	4	Travis Wurst	Reviewed and endorsed by the Regional Controller, as the Territory Controller's delegate
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05/11/2020	6	Travis Wurst	Reviewed and endorsed by the Regional Controller, as the Territory Controller's delegate
13/01/2022	7	Janelle Tonkin	Reviewed and endorsed by the Regional Controller, as the Territory Controller's delegate
20/06/2023	8	Travis Wurst	Reviewed and endorsed by the Regional Controller, as the Territory Controller's delegate
19/06/2024	9	Matthew Hollamby	Reviewed and endorsed by the Regional Controller, as the Territory Controller's delegate
11/03/2025	10	Peter Malley	Reviewed and endorsed by the Regional Controller, as the Territory Controller's delegate

Disclaimer: Every effort has been made to ensure that the information contained within this plan is accurate and where possible reflects current best practice. However, the Northern Territory Emergency Service does not give any warranty or accept any liability in relation to the content of material contained in the document.

2. Acknowledgement of Country

The Northern Territory Fire and Emergency Services (NTFES) and the Northern Territory Police Force (NTPF) acknowledges the First Nations people throughout the Northern Territory (NT), from the red sands of Central Australia to the coastal people in the Top End.

We recognise their continuing connection to their lands, waters and culture. We also pay our respects to the Aboriginal and Torres Strait Islander people with whom we work and who we serve and protect.

We pay our respects to the Aboriginal and Torres Strait Islander cultures, and to their leaders past, present and emerging.

3. Introduction

3.1. Purpose

The purpose of this Plan is to describe the emergency management arrangements for Katherine Locality (the Locality).

3.2. Application

This Plan applies to the Locality.

3.3. Key considerations

The *Emergency Management Act 2013* (the Act) is the legislative basis for emergency management across the NT. The Act reflects an all hazards approach to emergency and disaster events, natural or otherwise. It provides for the adoption of measures necessary for the protection of life and property from the effects of such events.

The Act defines the emergency management structures, roles and responsibilities for the NT and, in conjunction with the Territory and Regional Emergency Plan(s), form the basis for this Plan.

This Plan:

- confirms appointment of a Local Emergency Controller
- confirms establishment of the Local Emergency Committee (LEC)
- confirms appointment of a Local Recovery Coordinator
- confirms establishment of a Local Recovery Coordination Committee
- assesses hazards most likely to affect the community
- specifies control and coordination arrangements for mobilisation of local, and if necessary, regional resources
- identifies roles and responsibilities of key stakeholders
- details specific emergency response procedures for the higher risk situations

4. Locality context

This Plan complements the Northern Regional Emergency Plan¹ as it relates to the Locality. For further information on the hierarchy of plans, refer to the Territory Emergency Plan². The Locality covers approximately 22,500 square kilometres (km) and is located approximately 312 km southeast of Darwin and forms part of the Northern Region, as defined by the Territory Emergency Plan.

To obtain more information about this Locality, Bushtel³ is the central point for information about the remote communities of the NT, their people and cultural and historical influences.

The Locality population fluctuates between some 6,000 to 10,000 persons, the main population centre being the town of Katherine.

The population centres within the Locality are estimated as follows:

- Katherine 9,643
- Binjari 282
- Rockhole 108

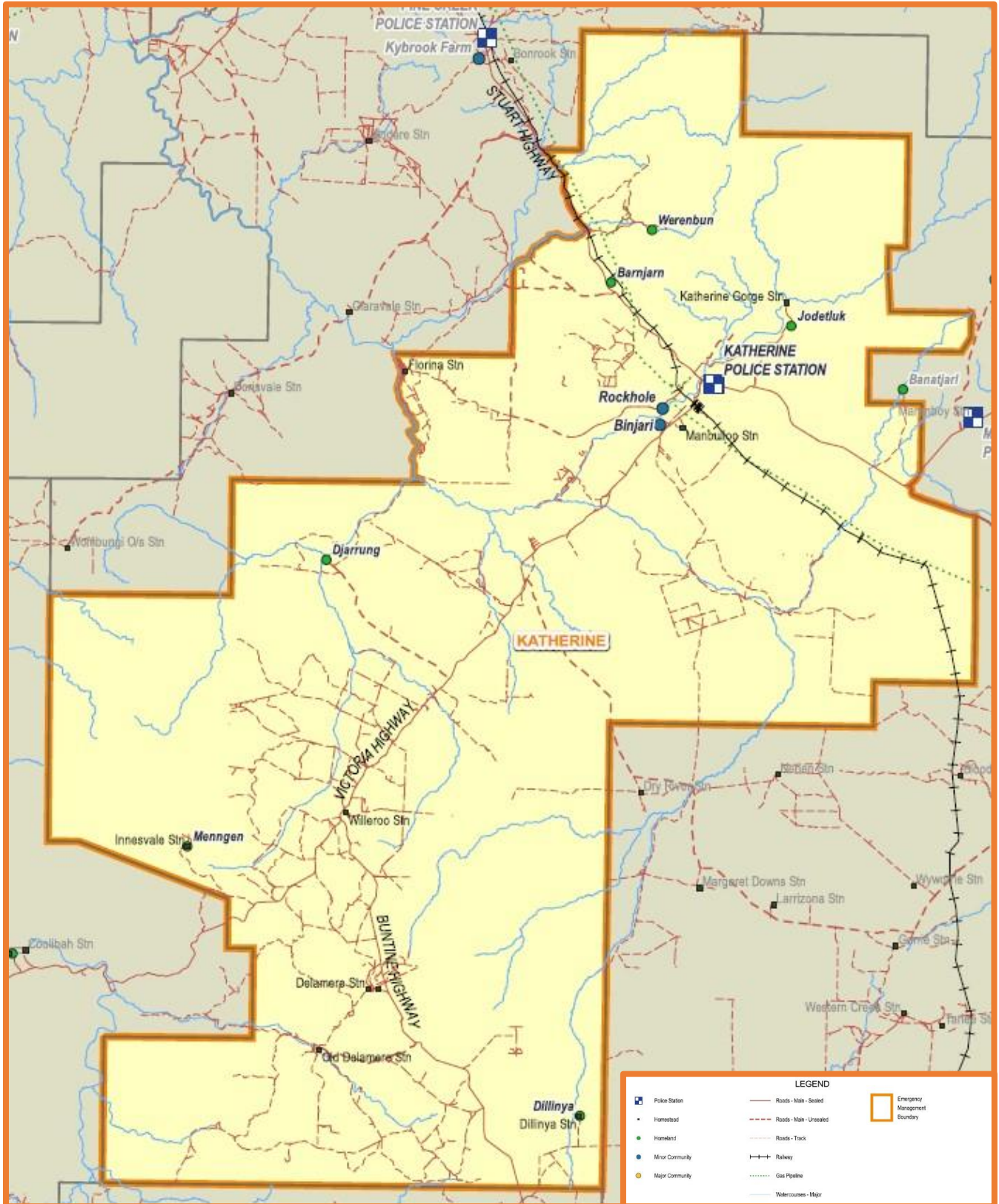
Homelands:

- Barnjarn 8
- Delamere Station not recorded
- Dillinya not recorded
- Djarrung 5
- Florina Station not recorded
- Jodetluk 21
- Katherine Gorge Station not recorded
- Manbullo Station not recorded
- Menngen 43
- Old Delamere Station not recorded
- Werenbun 20
- Willeroo Station not recorded

¹ More information can be found at: <https://www.pfes.nt.gov.au/emergency-service/publications>

² More information can be found at: <https://www.pfes.nt.gov.au/emergency-service/emergency-management>

³ More information can be found at: <https://bushtel.nt.gov.au/>



4.1. Climate and weather

The Locality experiences similar weather conditions which occur throughout the Top End of the NT. There is a distinct Wet Season (October to April) and Dry Season (May to September). Compared to Darwin, temperatures tend to be slightly higher during the Wet Season and slightly lower during the Dry Season. The Locality's average rainfall is approximately 1,141 millimetres (mm).

4.2. Geography

The Locality ranges from river flats to the rugged terrain of the Arnhem Land escarpment, the highest point of which is approximately 450 metres (m) above sea level. Limestone outcrops predominate throughout the northern part of the Locality. The Locality is drained by a number of rivers and creeks, of note these are:

- Fergusson River
- Katherine River
- Edith River
- King River
- Flora River
- Maud Creek
- Leight Creek
- Tindal Creek.

4.3. Sacred sites

The Aboriginal Areas Protection Authority (AAPA) is a statutory body established under the *Northern Territory Aboriginal Sacred Sites Act 1989* and is responsible for overseeing the protection of Aboriginal sacred sites on land and sea across the NT.

A sacred site is defined by the *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth) as being 'a site that is sacred to Aboriginals or is otherwise of significance according to Aboriginal tradition.' Sacred sites are typically landscape features or water places that are enlivened by the traditional narratives of Aboriginal people.

AAPA requests notification of any action that may have affected a sacred site. For more information on sacred sites relevant to this Locality or to report an action that may have affected a sacred site, contact AAPA on (08) 8999 4365 or via email at enquiries.aapa@nt.gov.au.

4.4. Sites of conservation

The Yinberrie Hills and the Western Arnhem Plateau are sites of conservation significant for this Locality. For further information about these sites contact the Department of Lands, Planning and Environment (DLPE)⁴.

4.5. Tourism

Tourism is a major economic contributor to the Locality, particularly throughout the months of May to October.

⁴ More information can be found at: <https://nt.gov.au/environment/environment-data-maps/important-biodiversity-conservation-sites/conservation-significance-list>

4.6. NT and local government

This Locality sits within the Big Rivers Boundary, with most NT Government (NTG) agencies having a presence in the Locality. Services are provided to regional and remote areas outside the Katherine municipality under the auspices of the Big Rivers Regional Coordination Committee. Local government in the Locality is provided by the Katherine Town Council (KTC).

The Royal Australian Air Force (RAAF) Base Tindal operates approximately 15 km southeast of Katherine, with approximately 1,000 members including families. The Katherine airport is owned by RAAF base Tindal who provide air and land space to private owners.

4.7. Building codes

Buildings and construction in the Locality are subject to the *Building Act 1993* and the *Building Regulations 1993*.

4.8. Land use

The Katherine Land Use Plan⁵ was introduced into the NT Planning Scheme in June 2014, and provides the framework for the future development of land in the Locality.

Katherine has the following land usage:

- residential
- commercial
- industrial
- environmental management

4.9. Homelands

Homelands are typically located on Aboriginal land, which is held by the Aboriginal Land Trusts established under the *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth). There are also some homelands that are located on Community Living Areas or parcels of land within national parks. Assets on homelands are owned by the underlying leaseholder, which for the majority of homelands is the relevant Aboriginal Land Trust. Generally, homelands are not subject to the NTG leasing or part of the NT's remote public housing system.

The homeland service provider for this Locality is Ngaliwurru Wuli Association, Jawoyn Association and Kalano Community Association Inc. Homeland service providers contribute to the delivery of housing, municipal and essential services, including fire breaks, where funding allows. Homeland service providers do not deliver emergency services. Land councils and local ranger groups within the Locality may provide land management activities on Aboriginal land, such as back burning, installing firebreaks and other mitigation works.

4.10. Power generation and distribution

The Locality is serviced by 3 power stations, Channel Island Power Station, Weddell Power Station and the Katherine Power Station.

4.11. Water services

90% of the Katherine water supply is obtained from the Katherine River, with the remaining 10% being sourced from groundwater for water quality. The water is distributed from the Katherine Water Treatment Plant, the PFAS water treatment plant will supply the required water supply should the surface water plant be offline. Remote outstations and pastoral properties are serviced by independent bores and/or river pumps.

⁵ More information can be found at: https://nt.gov.au/_data/assets/pdf_file/0003/228990/katherine-land-use-plan-200512.pdf

4.12. Health infrastructure

The Katherine Hospital has the capacity to provide emergency medical aid in addition to routine health treatment. Serious medical cases are required to be evacuated to Darwin. Patients can be evacuated either via road or air.

The Katherine Ambulance Centre has been designed and constructed with a capacity for the establishment of an 8 – 11 bed emergency facility that can accommodate a range of medical activities. Additionally a temporary morgue can also be located at the Ambulance Centre.

RAAF Base Tindal has a health centre providing a front line emergency response for the base and care to the Australian Defence Force (ADF) members.

4.13. Medically vulnerable clients

A list of medically vulnerable people for Katherine is held by the Medical Group. This list incorporates vulnerable clients who require emergency power for respirators and/or those who are oxygen dependent. In a disaster or emergency situation where a medically vulnerable person attends an evacuation centre, their carer retains responsibility for their care. The Medical and Welfare Group identified an area at the MacFarlane Primary School as an evacuation centre site for this group.

There are 3 residential aged care facilities in Katherine, namely:

- Rocky Ridge Nursing Home (Australian Rural and Remote Community Services) provides aged care, with 30 residential high care places, and 5 residential low care places.
- Katherine Hostel (Frontier Services) provides 15 residential high care places and 5 residential low care places.
- Kalano Aged Care (Australian Red Cross NT) provides 18 residential low care places.

4.14. Emergency service infrastructure

The Locality has the following emergency service infrastructure:

- police station and cells
- NT Fire and Rescue Service (NTFRS) station, inclusive of Auxiliary and Volunteer staff
- NT Emergency Service (NTES) and Volunteer Unit
- Katherine Hospital
- St John Ambulance and Volunteer staff

4.15. Roads

All major roads in the Locality are sealed and prone to flooding during the Wet Season. It is noted that all roads throughout the area are prone to wandering stock and native animals. The major roads in the Locality being:

- Stuart Highway, this is an all-weather surfaced road which is the main interstate access route.
- Victoria Highway, this sealed road is the main access route to Western Australia linking Katherine and Kununurra. Halls Creek is also accessible via the Buntine Highway. The Buntine Highway is sealed from the Victoria Highway to Kalkarindji, however, onwards is unsealed.
- Nitmiluk (Gorge Road), this road is sealed throughout and carries a large volume of traffic during the Dry Season. The road is subject to frequent closure due to flooding.
- Florina Road, this road joins Zimin Drive to the Stuart Highway 3-4 km northwest of Katherine and services Katherine's farming areas and is also subject to flooding in numerous places.

During the Wet Season, all roads may be subject to inundation at various creek/river crossings and low-lying areas.

4.16. Airports

The table below lists the airstrips in the Locality:

Name of the strip	Datum	Certified Aerodrome	Details (type, length, etc.)	Operator of the strip
Tindal (licensed)	14°31.3'S 132°23.0'E	No	Sealed 2713 m x 45 m	RAAF
Manbulloo (unlicensed)	14°36.0'S 132°11.0'E	No	Sealed 1500 m x 50 m	Privately owned
Delamere (unlicensed)	15°37.0'S 131°38.0'E	No	Red silt sand 1500 m x 30 m	Privately owned

4.17. Rail infrastructure

The Darwin to Adelaide Railway transits through the NT terminating in the vicinity of East Arm Port. At least 12 trains use the line each week, carrying either passengers or a variety of freight including hazardous chemicals/materials. Rail maintenance crews also operate various vehicles on the line at different times. In the event of a major incident, many railway authorities have response capabilities and can provide specialised assistance, advice and support.

The various railway organisations are:

Organisation	Function
Australasian Railway Corp	Managed by both the NT and South Australian Governments
One Rail (Previously Genesee & Wyoming Inc.)	Rail operator
Great Southern Railway	Passenger service operator (once per week)
Australian Southern Railroad	Train control operator of freight trains
Pacific National	Locomotive operator, including locomotive crews and terminal operators
BJB Joint Venture	Track maintenance
Evans Deacon Industries	Maintenance of rolling stock

All contact with these authorities is to be through the Regional Controller.

4.18. Telecommunication

Telecommunications are available across the Katherine township via a combination of landline, mobile and satellite.

4.19. Local radio stations

Katherine, has the following broadcasts:

- 106.1 FM Australian Broadcasting Corporation (ABC) Local Radio
- 105.3 FM ABC News Radio
- 101.3 FM 8KTR Katherine Community Radio

5. Prevention

5.1. Emergency risk assessments

The Katherine LEC are responsible for undertaking appropriate activities to prevent and mitigate the impact of emergencies in their Locality.

5.2. Disaster hazard analysis and risk register

The Territory Emergency Management Council (TEMC) have identified 30 hazards that may pose a risk across the NT, which have been allocated to designated Controlling Authorities and Hazard Management Authorities.

Many hazards require specific prevention and mitigation measures, an annual risk assessment (rated against the National Emergency Risk Assessment Guidelines) is undertaken by the LEC and determines which hazards pose a greater risk to the Locality.

The following hazards were identified as posing a low to high risk to the Locality, with further advice provided within **Annex C**:

- air crash
- bushfire (within Fire Protection and Management Zones)
- fire (within Gazetted Area)
- flooding
- rail crash
- road crash

Hazard	Overall consequence	Overall likelihood	Risk rating
Bushfire (within Fire Protection and Management Zones)	Minor	Likely	Medium
Fire (within Gazetted Area)	Moderate	Unlikely	Medium
Flooding	Major	Unlikely	High
Rail crash	Moderate	Rare	Medium
Road crash	Moderate	Unlikely	Medium

The remaining hazards were identified as posing a low to very low risk to the Locality by the LEC, and any queries regarding the response to these hazards should be directed through the Local Controller:

Hazard	Overall consequence	Overall likelihood	Risk rating
Air crash	Minor	Unlikely	Low
Coastal marine incident	Not applicable	Not applicable	
Cyber attack (NTG enterprise ICT environment only)	Minor	Extremely Rare	Very Low
Cyclone	Moderate	Extremely Rare	Low
Dam safety	Not applicable	Not applicable	
Earthquake	Minor	Extremely Rare	Very Low
Emergency animal disease	Moderate	Extremely Rare	Low
Emergency aquatic animal disease	Minor	Extremely Rare	Very Low
Emergency marine pest	Minor	Extremely Rare	Very Low
Emergency plant pest or disease	Minor	Extremely Rare	Very Low

Hazard	Overall consequence	Overall likelihood	Risk rating
Hazardous material	Moderate	Very Rare	Low
Heatwave	Minor	Unlikely	Low
Human disease	Moderate	Extremely Rare	Low
Invasive animal biosecurity	Minor	Extremely Rare	Very Low
Invasive plant biosecurity	Minor	Extremely Rare	Very Low
Major power outage	Minor	Unlikely	Low
Marine oil spill (inside the port)	Not applicable	Not applicable	
Marine oil spill (outside the port)	Not applicable	Not applicable	
Space weather	Minor	Extremely Rare	Very Low
Storm and water damage	Minor	Unlikely	Low
Storm surge	Not applicable	Not applicable	
Structural collapse	Minor	Extremely Rare	Very Low
Terrorism	Minor	Extremely Rare	Very Low
Tsunami	Not applicable	Not applicable	
Water contamination (potable)	Moderate	Very Rare	Low

5.3. Hazard specific prevention and mitigation strategies

Prevention and mitigation relates to measures to reduce exposure to hazards and reduce or eliminate risk. Actions include identifying hazards, assessing threats to life and property, and from these activities, taking measures to reduce potential loss of life and property damage.

The cornerstone of mitigation is guided and coordinated risk assessments, which should involve all potentially affected members of a community. Strategies are developed based on a thorough understanding of hazards identified in emergency risk planning and their interaction with all aspects of society.

Specific prevention and mitigation strategies for identified hazards can be found at **Annex C**.

6. Preparedness

Arrangements to ensure that, should an emergency occur, all resources and services that are needed to provide an emergency response and or recovery can be efficiently mobilised and deployed.

6.1. Planning

NT emergency plans⁶ are required by the Act and are maintained at a Territory, regional and local level. Arrangements in plans aim to be flexible and scalable for all hazards. The planning process enables agreements to be reached between people and organisations in meeting communities' needs during emergencies. The plan becomes a record of the agreements made by contributing organisations to accept roles and responsibilities, provide resources and work cooperatively.

The Regional Controller is responsible for the annual review of operations and the effectiveness of the Local Emergency Plan, supported by the LEC and the NTES Planning and Preparedness Command.

6.2. Emergency resources and contacts

The Local Controller is responsible for maintaining the emergency resource register and LEC contact lists. Local emergency management stakeholders are to advise the Local Controller of changes to resource holdings, operational response capabilities and key personnel contacts. Emergency resource and LEC contact lists for each locality are available on Web-based Emergency Operations Centre (WebEOC).

6.3. Training and education

The Act provides the legislative requirement for those involved in emergency management activities to be appropriately trained. Training and education activities are undertaken to ensure agencies are familiar with and understand the NT emergency management arrangements, as well as the relevant controlling and hazard management authorities for identified hazards.

The NTES Learning and Development Command is responsible for emergency management training across the NT. Online and face to face training is scheduled throughout the year. For further information contact the NTES Learning and Development Command via email at Training.EMTU@pfes.nt.gov.au.

6.4. Community education and awareness

Effective and ongoing community education and preparedness programs that emphasise to communities the importance of practical and tested emergency plans and safety strategies is essential. Empowering communities to act in a timely and safe manner will minimise the loss of life, personal injury and damage to property and contribute to the effectiveness of any warning system.

List of available activities and initiatives but are not limited to within the area:

- NTES hazard briefings
- NTES Paddy Program
- NTFRS Smart Sparx Program
- St Johns Ambulance First Aid in Schools Program

6.5. Exercises

Local level exercises are a key measure for testing the effectiveness of the local emergency plan and should involve all relevant stakeholders. Exercises ensure that the plan is robust and understood, and that capabilities and resources are adequate. Exercises are conducted if arrangements with the plan have not been enacted since the last review, or substantial changes have occurred, including:

- legislative changes

⁶ More information can be found at: <https://pfes.nt.gov.au/emergency-service/publications>

- major changes have occurred in the areas of key personnel, positions or functions across prevention, preparedness, response and recovery
- new or emerging hazards/risks have been identified

The NTES Planning and Preparedness Command have developed resources that outlines the process to develop the exercise concept in designing, planning, conducting, facilitating, participating or evaluating exercises. The Local Controller can request an exercise by emailing the request through to EmergencyManagementPlanning@pfes.nt.gov.au.

7. Response

Actions taken in anticipation of, during and immediately after an emergency to ensure that its effects are minimised and that people affected are given immediate relief and support.

7.1. Control and coordination

Arrangements for response are based on pre-agreed roles and responsibilities for stakeholders. When the scale and complexity of an event is such that resources of the community are depleted a number of arrangements are in place to seek assistance from the region, the Territory and/or the Australian Government. Pathway for assistance is through the Regional Controller.

7.2. Local Emergency Controller

In accordance with section 76 of the Act, the Territory Controller or their delegate (section 112 of the Act) can appoint a Local Emergency Controller (Local Controller). The Local Controller is the Superintendent of Katherine Police Station. The Local Controller is subject to the directions of the Regional Controller. The powers, functions and directions of the Local Controller can be found in sections 77, 78 and 79 of the Act.

7.3. Local Emergency Committee

In accordance with section 80 of the Act, the Territory Controller has established a Katherine Local Emergency Committee (LEC). The Local Controller is Chair of the LEC and remaining membership consists of representatives from NTG and non-government entities within the Locality. Division 11 of the Act specifies the establishment, functions, powers; membership and procedure requirements of a LEC.

7.4. Emergency Operations Centre/Local Coordination Centre

NT emergency management arrangements	Controlling authority arrangements
Emergency Operations Centre (EOC) (Territory and Regional level)	Incident Control Centre (ICC)
Local Coordination Centre (LCC) (Local level)	Incident Control Point (ICP)

LCCs are established as required by Local Controllers to provide a central focus to the management, control and coordination of emergency operations in the Locality. When activated, the functions of the LCCs are:

- information collection and dissemination
- preparation and issue of official warnings and advice to the public
- coordination of the provision of resources required in the locality
- submitting requests for resources through the Regional Controller to the Territory EOC where applicable
- dissemination of information to the media and general public

The LCC for this locality is the Katherine Police Station. The Regional EOC is located in Darwin at the Peter McAulay Centre. Agencies and functional groups may establish their own coordination centres to provide the focal point for the overall control and coordination of their own agency resources. Liaison Officers from functional groups and support agencies will attend the EOC as required.

ICCs will be established as required by a controlling authority to provide an identified facility for the management of all activities necessary for the resolution of an incident.

An ICP is normally located near the incident in its early stages but may be relocated to an ICC where more permanent and convenient facilities and services are available.

7.5. WebEOC

WebEOC is a critical information management system used throughout the NT for emergency management activities. The system is owned and maintained by NTPF and NTFES. The online platform is used for the coordination of multi-agency response to, and recovery from, an emergency event. WebEOC also enables real-time information sharing across all agencies involved in emergency management activities.

7.6. Situation reports

It is essential for effective control and coordination of emergency management operations that the Local Controller is able to gather and collate relevant information relating to the emergency from regular, concise and accurate situation reports (SITREPs).

LEC members are to provide SITREPs at agreed times to enable the preparation of a consolidated report which will be distributed to all committee members and other relevant authorities. This may be achieved through WebEOC.

7.7. Activation of the Plan

This plan has 5 stages of activation and are designed to ensure a graduated response to hazardous events, reducing the possibility of under or over reaction by the emergency management agency.

The stages are:

Stage 1	Alert	This stage is declared when the Local Controller receives warning of an event which, in their opinion, may necessitate an emergency management response
Stage 2	Standby	This stage is declared when the Local Controller considers an emergency operation is imminent. During this stage passive emergency measures are commenced.
Stage 3	Activation	This stage is declared when active emergency measures are required.
Stage 4	Stand-down response operations and transition to Recovery	Stage 4 occurs when the Local Controller and Local Recovery Coordinator agree to transition to recovery (if required) in accordance with the transitional arrangements of this Plan.
Stage 5	Recovery	This stage is called if ongoing recovery operations and coordination is required.

The stages identified provide for a sequential response. However, it may be necessary because of the degree of warning and speed of onset of an event, for the Local Controller to skip the actions required under stage 1 or 2.

7.8. Stakeholder notifications

Upon activation of the Plan the following personnel are to be advised as a matter of urgency:

- all available members of the LEC
- Northern Regional Controller
- NTES Territory Duty Officer (TDO)

7.9. Official warnings and general public information

Official warnings and general public information will be broadcast to the Locality through the following means:

- radio broadcast
- television news broadcast
- Secure NT website and social media broadcasts and updates

Official warnings are issued by the Bureau of Meteorology (the Bureau), Geoscience Australia, NTPF, NTFES and controlling authorities.

Emergency Alert is a national telephony-based emergency warning system that can deliver warning messages to landlines and mobile handsets based on the service address and mobile handsets based on the last known location of the device. Authority to utilise the Emergency Alert may be given by virtue of the pre-approval of a hazard specific emergency plan or under the Territory Emergency Plan.

The approval for the release of an emergency alert message can only be authorised by one of the following:

- Territory Controller
- Chief Officer, NTES
- Regional Controller
- Chief Fire Officer, NTFRS
- Deputy Chief Fire Officer, NTFRS
- Executive Director, BFNT
- Chief Fire Control Officer, BFNT

The Standard Emergency Warning Signal (SEWS) is an audio alert signal (wailing siren) which may be broadcast on public media to draw attention to the fact that an urgent safety message is about to be made. Generally, SEWS is only played before announcements concerning significant emergencies where emergency management arrangements should be activated as a result.

Control and hazard management authorities may have pre-planned use of SEWS for non-weather related events, through a pre-approved hazard-specific emergency plan.

The approval for the release of a SEWS message can only be authorised by one of the following:

- Territory Controller
- Chief Officer, NTES
- Manager Hazard Preparedness and Response NT (the Bureau) (for weather and flood-related events)

Warning and information messages for general public are authorised by the Regional or Incident Controller. The dissemination of such emergency warnings and information is to be by whatever means are appropriate and available at the time.

7.10. Australasian Inter-Service Incident Management System

The Australasian Inter-Service Incident Management System (AIIMS)⁷ is a robust incident management system that enables the seamless integration of activities and resources of a single agency or multiple agencies when applied to the resolution of any event.

7.11. Closure of schools

The decision to close schools due to an impending threat will be made by the Chief Minister on advice from the TEMC. When the nature of an event demands an immediate response, local authorities will take the appropriate steps to ensure the safety to the public. This action may include the temporary closure of a school to begin preparations, pending formal closure of the school by the Chief Minister for the remainder of the event.

The decision to reopen schools will be made by the Chief Minister on advice from the Chief Executive, Department of Education (DET).

7.12. Closure of government offices

The decision to close government offices due to an impending threat will be made by the Chief Minister on advice from the TEMC. When the nature of an event demands an immediate response, local authorities should take all appropriate steps to ensure public safety and the protection of property.

The decision to reopen government offices will be made by the Chief Minister on advice from the TEMC.

All NTG agencies are to have an emergency preparedness plan which sets out their processes for closing down their offices once approval has been given. This should have clearly articulated employee guidelines to ensure employees know when they are authorised to leave and are required to return to work.

7.13. Emergency shelters or strong buildings

Emergency shelters and places of refuge are buildings or structures that provide people with a place of protection and shelter during a disaster or emergency event such as a cyclone, flood or fire.

The recognised emergency shelters within the Locality are:

Shelter(s)	People capacity
Katherine Showgrounds (managed by KTC)	180 (not to be used in flood)
Katherine High School	400
MacFarlane Primary School	175 (utilised for vulnerable clients and their carers)
Casuarina Primary School	280
Katherine Rural College	350

The DET in conjunction with the NTPF and the shelter owners are responsible for the management of emergency shelters during an emergency event.

The responsibilities of the emergency shelter manager are:

- the provision of personnel to staff and operate the emergency shelters at such times as they are activated

⁷ More information can be found at: <https://pfes.nt.gov.au/emergency-service/publications>

- the maintenance of effective liaison with other stakeholders with responsibilities relating to shelters, in particular the NTPF

Emergency shelters are opened under the direction of the Territory or Regional Controller in consultation with the Shelter Group (DET). Emergency shelters will not normally operate for more than 48 hours.

The timing of the opening of emergency shelters will be dependent upon the severity of the impending incident, the numbers to be sheltered, the time of day the incident is expected to impact and the period of time the emergency shelters are likely to be occupied. The announcement that emergency shelters are open in the Locality will be made by radio broadcast and social media, and will include emergency shelter rules such as no pets or alcohol being permitted in shelters. It is up to the discretion of the local shelter manager if food will be provided.

7.14. Evacuation

Evacuation is a risk management strategy that can be used to mitigate the effect of an emergency or disaster on a community. It involves the movement of people to a safer location and their return. The decision to evacuate a community, including establishing an evacuation centre, is not taken lightly as it represents significant resource and financial implications.

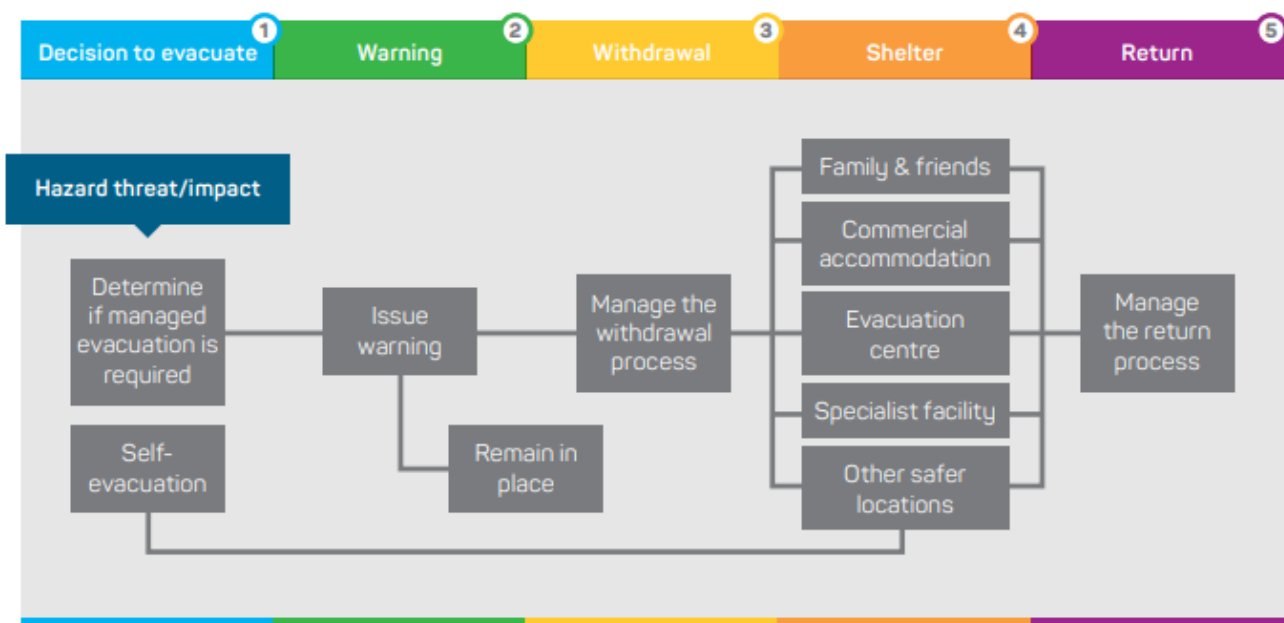
Evacuation of the Locality will be considered as a last resort. Where an evacuation is required the TEMC, in consultation with the Regional Controller, Local Controller and the LEC, will arrange emergency accommodation and transport, as necessary, through the relevant functional group/s.

An evacuation guideline for the Locality can be found at **Annex D**.

Evacuation is a complex process that has 5 distinct steps:

1. decision
2. warning
3. withdrawal
4. shelter
5. return

Each step is linked and must be carefully planned and carried out in order for the entire process to be successful. Given an evacuation centre will only be opened as a part an evacuation, it is vital to have an understanding of the 5-step process.



Source: Australian Institute of Disaster Resilience, Evacuation Handbook, 2017

7.15. Identified evacuation centres

An evacuation centre is designed to accommodate people for short to medium periods of approximately 4 to 6 weeks, although this figure may vary.

An evacuation centre will provide some or all of the following services:

- meals
- beds
- linen
- personal support
- medical services (or access to them)
- assistance accessing finances and recreational activities

An evacuation centre implies the provision of these services in contrast to an emergency shelter, in which people are expected to be self-sufficient.

For further information on evacuation centres/shelters management, refer to the NT Evacuation Centre Field Guide available on WebEOC.

7.16. Register.Find.Reunite Registration and inquiry system

The Australian Red Cross, in partnership with the Australian Government Attorney-General's Department, has developed an improved system to help reunite families, friends and loved ones separated by an emergency. This system is called Register.Find.Reunite⁸.

This system can be activated by either the Territory or Regional Controller without the national system being activated, in consultation with the NTPF and the Welfare Group in the first instance.

7.17. Impact assessment

Immediately after an emergency event, there is a need to identify and assess impacts to inform short and long-term recovery priorities. Comprehensive assessment of all impacts is a vital component of emergency response activities. Guidelines for the conduct of rapid assessments in the NT, including the establishment of dedicated Rapid Assessment Teams (RATs) to collect data in the field, have been developed.

The Survey, Rescue and Impact Assessment Group, led by the NTPF, is responsible for coordinating rapid impact assessments. At the local level, local controllers or an Incident Controller if appointed, should contact the Survey, Rescue and Impact Assessment Group lead to discuss impact assessments if deemed appropriate.

⁸ More information can be found at: <https://register.redcross.org.au/>

8. Recovery

The coordinated process and measures for supporting emergency-affected communities in the reconstruction of physical infrastructure and restoration of the social, economic and natural environments.

8.1. Local Recovery Coordinator and Coordination Committee

When a region and/or locality has been affected by an event, the Regional Recovery Coordinator may appoint a Local Recovery Coordinator in accordance with section 87 of the Act. The responsible agency for Recovery is the Department of the Chief Minister and Cabinet (CM&C). The Local Recovery Coordinator will establish a Local Recovery Coordination Committee (LRCC) drawing from membership of the LEC and other relevant members of the community as needed. The Local Recovery Coordinator reports directly to the Regional Recovery Coordinator.

LRCC functions, powers and directions are established in Division 12 and 13 of the Act respectively.

8.2. Transitional arrangements

The transition from response to recovery coordination reflects the shift from the protection of life and supporting the immediate needs of the community to establishing longer term, more sustainable support structures.

The transition to recovery coordination occurs after the completion of the transition checklist and at a time agreed by the Territory Controller and Territory Recovery Coordinator in accordance with the Territory Emergency Plan.

Transition will occur when the Territory Recovery Coordinator is satisfied that the following has occurred:

- the Territory Controller has briefed the TEMC and the Territory Recovery Coordinator
- the Regional Controller has briefed the Regional Recovery Coordinator
- where there is significant changeover of personnel, the EOC planning operations and logistics sections have briefed incoming recovery planning, operations and logistics staff.

The Regional Recovery Coordinator will ensure all functional group leaders, agencies, support groups and other relevant stakeholders are notified prior to the transition to recovery. This notification is to include changes to relevant contact details and other pertinent information.

An example of response and recovery activities can be found at **Annex E**.

9. Debrief

Debrief processes embed continuous improvement into the delivery of emergency management activities. Consistent approaches to lessons learned encourage adaptability, and flexibility across all levels of government. Sharing of knowledge and experiences throughout emergency events assists with ongoing continuous improvement of people and organisations involved.

The NTG implements a lessons learned approach recognising the positive impact on organisational culture commensurate with increasing opportunities to achieve emergency management goals. Whilst lessons learned often begins in one agency through an internal debrief process, those lessons learned are transferable across multi-agencies.

During any operational response, personnel involved are encouraged to record activities where there are lessons to be learned. Activities can include decision making and consequential responses. Where decisions are made by an Incident Controller, Incident Management Team member or a functional group member, those decisions should be recorded in a Decision Log (WebEOC). Decision Logs can be referred to as part of the debrief process.

10. Related references

The following references apply:

- *Aboriginal Land Rights (Northern Territory) Act 1976 (Cth)*
- *Building Act 1993*
- *Building Regulations 1993*
- *Emergency Management Act 2013*
- National Disaster Risk Assessment Guidelines
- National Disaster Risk Reduction Framework
- Northern Regional Emergency Plan
- Rapid Assessment Team Guidelines
- Territory Emergency Plan
- Transition to Recovery Checklist

11. Annexures

Annex A Functional groups - roles and responsibilities

Annex B Functions table

Annex C Prevention, mitigation strategies and action plans for identified hazards

Annex D Evacuation guideline

Annex E Summary of response and recovery activities

11.1. Annex A: Functional groups - roles and responsibilities

Functional group	Local contact
Animal Welfare	Department of Agriculture and Fisheries (DAF)
Critical Goods and Services	Department of Trade, Business and Asian Relations (DTBAR)
Digital and Telecommunications	Department of Digital and Corporate Communications (DCDD)
Emergency Shelter	DET
Engineering	Department of Logistics and Infrastructure (DLI)/KTC
Industry	DTBAR
Medical	DOH/Big Rivers Region
Public Health	DOH/Big Rivers Region
Public Information	CM&C
Public Utilities	Power and Water Corporation (PAWC)
Survey, Rescue and Impact Assessment	NTPF/NTFES
Transport	DLI
Welfare	Department of Children and Families (DCF)

Full details of functional group roles and responsibilities are detailed in the Territory Emergency Plan.

11.2. Annex B: Functions table

Emergency response and recovery functions with identified agencies/organisation/provider
During an event some of these functions may be needed at a local level.

Functions	Agency/organisation/provider responsible
Animal/livestock management	DAF
Anti-looting protection	NTPF
Banking services	DTBAR
Broadcasting: What radio stations provide announcements?	DCDD
Clearing of essential traffic routes	DLI
Clearing storm water drains	DLI
Clothing and household Items	DCF
Community clean up	KTC
Control, coordination and management	Designated control authority
Coordination to evacuate public	As identified in local emergency plan
Critical Goods and Services (protect/resupply) <ul style="list-style-type: none"> • food • bottle gas • camping equipment • building supplies 	DTBAR
Damaged public buildings: Coordination and inspections	DLI
Disaster Victim identification capability	NTPF
Emergency Alerts	NTPF/NTFES/BFNT
Emergency food distribution	DCF
EOC, including WebEOC	NTPF/NTFES
Emergency shelter staff, operations and control	DET/NTPF/NTFES
Evacuation centre - Staffing, operations and control	DCF

Functions	Agency/organisation/provider responsible
Financial Relief/assistance Disaster Recovery Funding Arrangements	DCF
Identification of suitable buildings for shelters	LEC
Interpreter services	Aboriginal Interpreter Service
Management of expenditure in emergencies	Controlling authority and any activated Functional Groups at the direction of the controlling authority
Medical services	Big Rivers Region/DoH
Network communications (IT): Responders / Public Maintenance and restoration of emergency communication	Working Group set up to identify
Power: Protection and restoration:	PAWC
Public messaging during response and recovery	Hazard management authority/CM&C
Public/Environmental Health (EH) management <ul style="list-style-type: none"> all EH functions including water & food safety disease control 	DoH
Rapid Impact Assessment	NTPF/NTFES
Recovery coordination	CM&C
Repatriation	As detailed in local emergency arrangements
Restoration of public buildings	DLI
Restoration of roads and bridges (council/territory) excluding railways	DLI/KTC
Road management and traffic control including public Information on road closures	DLI/KTC
Sewerage: Protection and restoration	PAWC
Survey	NTPF/NTFES
Traffic Control	NTPF/DLI
Transport : Commercial and Public airport/ planes, automobiles, buses	DLI

Functions	Agency/organisation/provider responsible
Vulnerable Groups	DCF
Waste management <ul style="list-style-type: none">• collection• disposal of stock	DLI/KTC
Water (including drinking water): Protection and restoration	PAWC

11.3. Annex C: Prevention, mitigation strategies and action plans for identified hazards

11.3.1. Air crash

	Hazard	Controlling authority	Hazard management authority
	Air crash	NT Police Force	NT Fire and Emergency Services (NT Fire and Rescue Service)

Air crash means an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

Aircraft movements across the NT include commercial air transport and general aviation. Personnel involved with aircraft accidents are advised to obtain and read a copy of the Australian Transport Safety Bureau Civil and Military Aircraft Accident Procedures for Police Officers and Emergency Services Personnel⁹.

In the NT, Air services Australia supplies an “on airport” Aviation Rescue and Fire Fighting Service (ARFFS) at Darwin, Alice Springs and Yulara Airports. NTFRS will assist ARFFS at these Airports.

Under the National Search and Rescue (SAR) Plan, responding to an aviation disaster that involves an unregistered aircraft, or an aircraft registered in another jurisdiction, is the responsibility of the state or Territory in which the disaster occurred. Responses to accidents involving all other civilian (non-military) aircraft that occur outside an aerodrome precinct and within the Australian SAR Region are the Australian Maritime Safety Authority’s responsibility, in conjunction with the applicable state or Territory emergency arrangements.

Responses to air crash incidents will be coordinated from the NT JESCC. NTFRS resources will be responded as per pre-determined response arrangements contained within the SerPro system for incidents occurring within an NTFRS Emergency Response Area (ERA). For incidents occurring outside of an ERA, response will be approved by the rostered NTFRS TDO.

Where an aircraft emergency occurs within the vicinity of a certified or registered aerodrome, the local Aerodrome Emergency Plan details the response arrangements to the emergency. The Australian Maritime Safety Authority, in conjunction with the applicable state or territory emergency arrangements, is responsible for coordinating the SAR phase when an aircraft is assumed to be lost, to have ditched or have crashed outside of a certified aerodrome, or a distress beacon associated with the aircraft or persons on board is detected.

The Australian Maritime Safety Authority may transfer coordination to the state or territory police services in accordance with the recovery effort as well as under national SAR arrangements.

NTFRS roles and responsibilities for an air crash on an aerodrome include:

- within an ERA where there is no "on aerodrome" fire service, or when designated in the Aerodrome Emergency Plan, take charge of firefighting operations
- where the ARFFS or ADF fire service is stationed, assist that service in the firefighting operations and provide specialist firefighting equipment.

⁹ More information can be found at: www.atsb.gov.au/publications/2017/hazards-at-aviation-accident-sites/
Katherine Local Emergency Plan | V8.0

Prevention and preparative controls include, but are not limited to:

- the aviation industry operates under stringent national, state and local legislation and guidelines to minimise risk to the community
- Australian Government Aviation Disaster Response Plan (AUSAVPLAN 2014)
- in accordance with the Civil Aviation Standards Authority Manual of Standards part 139 aerodromes may have an local Aerodrome Emergency Plan
- aerodrome maintenance
- reducing the risk of animal hazards on aerodromes
- training in PUASAR022 Participate in a Rescue Operation delivered to NTFRS members
- skills maintenance of procedures surrounding aircraft incidents developed by the Australian Transport and Safety Bureau.

Public safety message process:

- NTPF Territory Duty Superintendent to approve public messaging and forward to NTPF and NTFES Media Unit for dissemination.

11.3.2. Fire

	Hazard	Controlling authority	Hazard management authority
	Fire (within Gazetted Area)	NT Fire and Emergency Services (NT Fire and Rescue Service)	NT Fire and Emergency Services (NT Fire and Rescue Service)
	Bushfire (within Fire Protection and Management Zones)	NT Fire and Emergency Services (Bushfires NT)	NT Fire and Emergency Services (Bushfires NT)

A fire hazard is an event, accidentally or deliberately caused, which requires a response from one or more of the statutory fire response agencies.

A fire hazard can include, but not limited to:

Term	Definition
Structure fire	A fire burning part, or all of any building, shelter, or other construction.
Bushfire	An unplanned fire. It is a generic term that includes grass fires, forest fires and scrub fires. Bushfires are a natural, essential and complex part of the NT environment. The term bushfire is interchangeable with the term wildfire.
Vehicle fire	An undesired fire involving a motor vehicle.

Agency capabilities

BFNT - Trained and equipped to combat bushfires only (also known as grassfires or wildfires). BFNT members are not trained or equipped to combat fires involving structures, vehicles or hazardous material.

NTRFS - Protects the Territorian community from emergencies involving fire, motor vehicle crashes and other dangerous situations, including hazardous materials and building collapse.

Under the Territory Emergency Plan BFNT and NTRFS are both the hazard management authority and controlling authority for fires within each of their jurisdictions. This means that either relevant agency is responsible for managing technical aspects of responding to a bushfire and commanding its resources through their Incident Controller. This means that if a fire is occurring within an ERA then the NTRFS is the controlling and hazard management authority. If a fire is occurring within a Fire Protection and Management Zones, then BFNT is the controlling and hazard management authority.

Across the NT, landowners are an essential part of the fire management process. Communication, co-operation and shared responsibility within the community, matched by a capacity to undertake self-protective measures, form the basis of successful fire management throughout the NT.

NTFRS and BFNT identifies 3 classes of incidents and describes them in generic terms, as shown in the following table:

Incident classification	Description
Level 1	Level 1 incidents are generally characterised by being able to be resolved through the use of local or initial response resources only.
Level 2	Level 2 incidents may be more complex either in size, resources or risk. They are characterised by the need for: <ul style="list-style-type: none"> • deployment of resources beyond initial response, • sectorisation of the incident, • the establishment of function sections due to the levels of complexity, • a combination of the above.
Level 3	Level 3 incidents are characterised by degrees of complexity that may require the establishment of divisions for effective management of the situation.

Actions to be taken

In instances where the Local Controller is required to perform a task or function, the controlling authority will contact the Local Controller. Tasks approved by the controlling authority's Incident Controller may include, but not limited to:

- liaison with key community stakeholders
- closure of roads or places
- fire cause or protection of potential area of origin
- post fire impact assessments




Prevention and preparative controls include, but are not limited to:

- a fire danger period is declared over large areas when climatic and seasonal conditions presents increased fire risk for a prolonged period of time. A fire danger period usually coincides with the accepted 'fire season' in an area. Broadly this is during the Australian summer months in central Australia and during the Dry Season further north. A permit to burn is required before using fire during a fire danger period in all zones
- a fire ban can be declared for up to 24 hours. A combination of factors are considered when declaring a fire ban period including forecast fire danger, ignition likelihood, hazards and resourcing. All permits to burn are revoked within the declared fire ban area
- a fire management area can be declared in an area where BFNT have identified heightened fire risk. A fire management plan can be prescribed for a fire management area, and the plan can require landowners to take action to prepare for, or prevent, the spread of fire
- additional fire regulations apply within NTFRS ERA and BFNT Fire Protection and Management Zones. Permits to burn are required throughout the entire year inside an ERA or Fire Protection and Management Zones and a minimum 4 m wide firebreak within the perimeter boundary of all properties and additional firebreaks around permanent structures and stationary engines is required within a Fire Protection and Management Zones
- the BFNT Regional Fire Management Plan
- establishment of an IMT with liaison officers from other agencies to assist
- radio, television and social media posts

Warnings and advice approval flow (bushfire only):

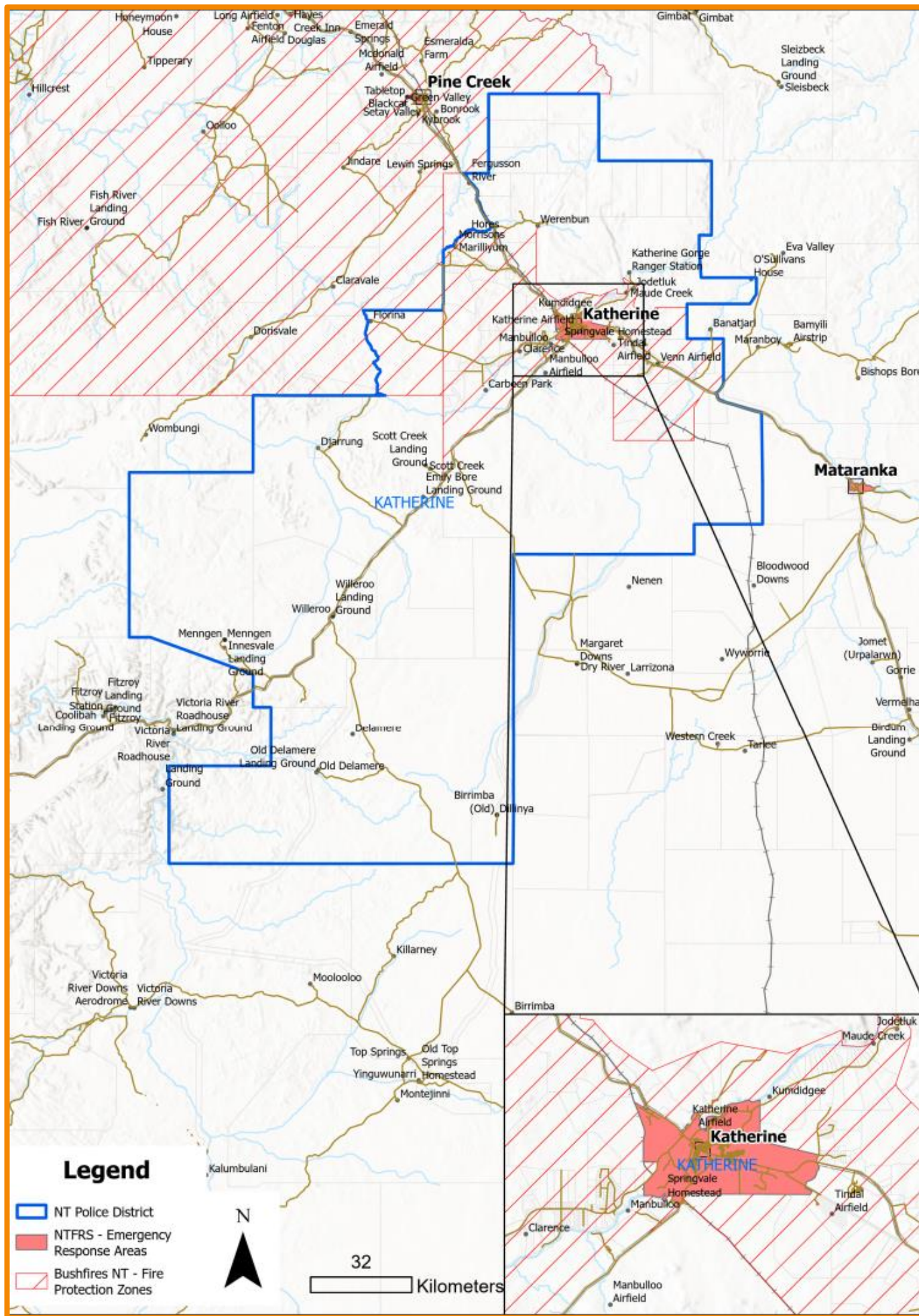
The Australian Warning System is a national approach to information and warnings during emergencies like bushfire. The System uses a nationally consistent set of icons, like those below.

There are 3 warning levels:

	Warning level	Description
	Advice (Yellow)	An incident has started. There is no immediate danger. Stay up to date in case the situation changes
	Watch and Act (Orange)	There is a heightened level of threat. Conditions are changing and you need to start taking action now to protect you and your family
	Emergency Warning (Red)	An Emergency Warning is the highest level of warning. You may be in danger and need to take action immediately. Any delay now puts your life at risk.

Each warning level has a set of action statements to give the community clearer advice about what to do. Calls to Action can be used flexibly across all 3 warning levels depending on the hazard.

All warnings and advice will be issued by the Incident Controller from the relevant controlling authority for fire (NTFRS or BFNT).



11.3.3. Flooding

Hazard	Controlling authority	Hazard management authority
 Flooding	NT Police Force	NT Fire and Emergency Services (NT Emergency Service)

The Katherine Locality may be subject to inundation caused by seasonal monsoonal/severe storm activity. When such inundation occurs, access by both air and road will be severely restricted. Inundation, (also known as pluvial flooding), occurs when an area receives a large amount of water in a short amount of time which causes localities to be submerged.

The Bureau will issue a flood watch advice with up to 4 days lead time in situations where forecast rainfall and catchment conditions may lead to flooding. Flood study maps have been developed for populated areas which lie along river reaches that have the potential to flood¹⁰. Flood study mapping and gauging station locations can be found on pages 38, 39 and 40 of this Plan.

In 2017, DLPE completed a flood study for the township of Katherine and the surrounds. The previous flood study was undertaken in 2000; with the most recent study prompted by advances in modelling technologies and the availability of updated, more accurate topographic data.

Flooding of the Katherine River is brought about by monsoonal rains and decaying tropical cyclones which impact on the Katherine River catchment. Research of river levels recorded 1952 - 2006; show that sections of Katherine have been threatened by a flood on several occasions, 4 of which exceeded 17 m at the Railway Bridge.

The largest floods were in January 1998, when the river reached a height of 20.4 m and the entire community was affected. The most recent flood event was in April 2006, where the river peaked at 18.97 m and flooding affected some of the lower level areas in Katherine, including some of the Central Business District (CBD).

The river height levels of the 1914 (18.59 m), 1931 (19.05 m) and 1940 (19.26 m) floods were obtained by levelling to known flood marks and whilst these levels would be less reliable than the records post 1952, they are thought to be fairly accurate. Records of floods prior to 1952 allow at least a partial record of major flooding to be estimated the level of the 1897 flood which was estimated at a river height level of 19.0 to 19.5 m. At 16.0 m at the gauge, the flood water approaches the Katherine Bridge¹¹.

The indicative impact of flood levels are provided in the table below:

Katherine River at Nitmiluk Centre (m)	Consequence
3.0 – Minor	Maud Creek crossing may close due flooding Isolation of residents on Gorge side of crossing
5.5 – Moderate	Public access to Katherine Gorge is closed
6.5 – Major	Impact to surrounding area with wide spread inundation
Katherine River at Katherine Bridge (m)	Consequence
13.0	Emungalan Road closed
15.0	Florina Road closed
16.0 – Minor	Kalano Community may be inundated Tindal Creek/Bullock Creek near hospital inundated
16.5 – Moderate	Stuart Highway south may close due inundation Low lying areas in Katherine may be further inundated
17.5 – Major	Impacts in town CBD and hospital, wide spread inundation

¹⁰ More information can be found at: <https://DLPE.nt.gov.au/water/water-resources/flooding-reports-maps/floodplain-maps>

¹¹ More information can be found at: http://www.bom.gov.au/cgi-bin/wrap_fwo.pl?IDD60022.html

The Katherine Region is drained by the upper tributaries of the Daly River, which collects run-off from the Katherine River system. The surface drainage is complex as localised run-off often disappears underground through sinkholes and solution cavities and joints in the limestone. Conversely, during the Wet Season, water may back up through some sinkholes to form temporary lakes.

Katherine was originally located on the eastern embankment of the Katherine River. Some extension of the urban area into the eastern floodplain occurred prior to the decision to locate all future development at Katherine East beyond the flood plain. Limited development has also occurred on the north bank floodplain.

In a flood of Annual Exceedance Probability (AEP) of 1% (as 1 to 100 chance that flooding will occur in any year), depths of flooding in the built-up area vary from nil along the high riverbanks to about 1.4 m along Katherine Terrace. Depths of 4 m or more are experienced on the floodplain.

The 1957 and 1998 floods were of this magnitude. Flood water would remain in the built-up area for 3 to 4 days for the 2% AEP flood and 5 days for the 1% AEP flood and the Stuart and Victoria Highway would be impassable for most of that time. In January 1998, approximately 450 mm of rain (almost half the annual total) fell within a period of 2 days totally inundating the town.

The Katherine Locality and in particular the Tindal Creek catchment experienced well above average rainfall events during December 2003, February, and March of 2004. The direct cause of the flooding was the several high daily rainfall events starting with the highest event on 23 December 2003. The situation was worsened by the fact that the underlying limestone aquifer filled to overflowing in many areas.

The conveyance of the drainage system in Tindal Creek could not cope with this increased runoff and flooding occurred on both sides of Bicentennial Drive. Another consequence of the high rainfall was the widespread discharge of groundwater to the surface via seepage areas and sinkholes within the Tindal Creek catchment. A small lake formed along Uralla Road where an enclosed depression filled with groundwater discharging from adjacent areas and with surface runoff.

The groundwater discharge from Tindal Creek and the lake along Uralla Road are likely to re-occur in future wet seasons if rainfall continues to be above average. Once groundwater levels have been raised it will take several years of average or below average rainfall for them to return to lower levels. The Stuart Highway at Tindal Creek is also prone to serious flooding making exit and egress between Katherine, Tindal, and the airport impossible.

This phenomenon is unpredictable and cannot be accurately forecasted and will require monitoring of the areas of the King River and the Victoria Highway and closure of the roads should be upon the recommendation of either the Regional or Local Controller. The King River (45 km south of Katherine) is also prone to flooding and the closure of the Stuart Highway often results for periods not usually extending longer than 48 hours.

The DLI has recently investigated several structural mitigation measures following the Katherine Regional Flood Mitigation Advisory Committee's recommendations to minimise flood impacts in Katherine. A hydraulic flood model was created to test the different options including levee banks, detention basins and drainage upgrades; which demonstrated that it is possible to significantly reduce flooding of properties during smaller events (5% AEP).

The final design of the mitigation structures comprises a northern and southern levee, which is a combination of earth embankments, wall levees and temporary levee structures across roadways; along with upgrades to various drains within the town area.

As the Hazard Management Authority the NTES have established, equipped and trained volunteer units to support response and recovery operations to flood events.

The NTES maintain the Territory EOC in a state of readiness. If the EOC is required to be activated by the Regional Controller, the NTES will support this activation and facilitate, where possible, the staffing requests for IMT personnel.

Prevention and preparative controls include, but are not limited to:

- installation of fixed and transportable flood levees
- community education, flood updates and forecasting.




Public safety message process:

- the Bureau issues a flood advice to NTES TDO
- NTES TDO issues Australian Warning System to the NTPF and NTFES Media Unit
- NTES TDO notifies Local Controller and NTES Manager Northern Command
- Local Controller notifies LEC
- NTES Manager Northern Command consults with the Bureau and Incident Controller to determine recommended messaging
- NTPF and NTFES Media Unit or Public Information Group receives approved messaging to publish.

Warnings and advice approval flow:

The Australian Warning System is a national approach to information and warnings during emergencies like storm, flood and cyclone. The system uses a nationally consistent set of icons that are found below.

There are 3 warning levels:

	Warning level	Description
	Advice (Yellow)	An incident has started. There is no immediate danger. Stay up to date in case the situation changes
	Watch and Act (Orange)	There is a heightened level of threat. Conditions are changing and you need to start taking action now to protect you and your family
	Emergency Warning (Red)	An Emergency Warning is the highest level of warning. You may be in danger and need to take action immediately. Any delay now puts your life at risk.

Each warning level has a set of action statements to give the community clearer advice about what to do. Calls to Action can be used flexibly across all 3 warning levels depending on the hazard.

On advice from the Bureaus' weather warnings, the NTES determine the Australian Warning System level.

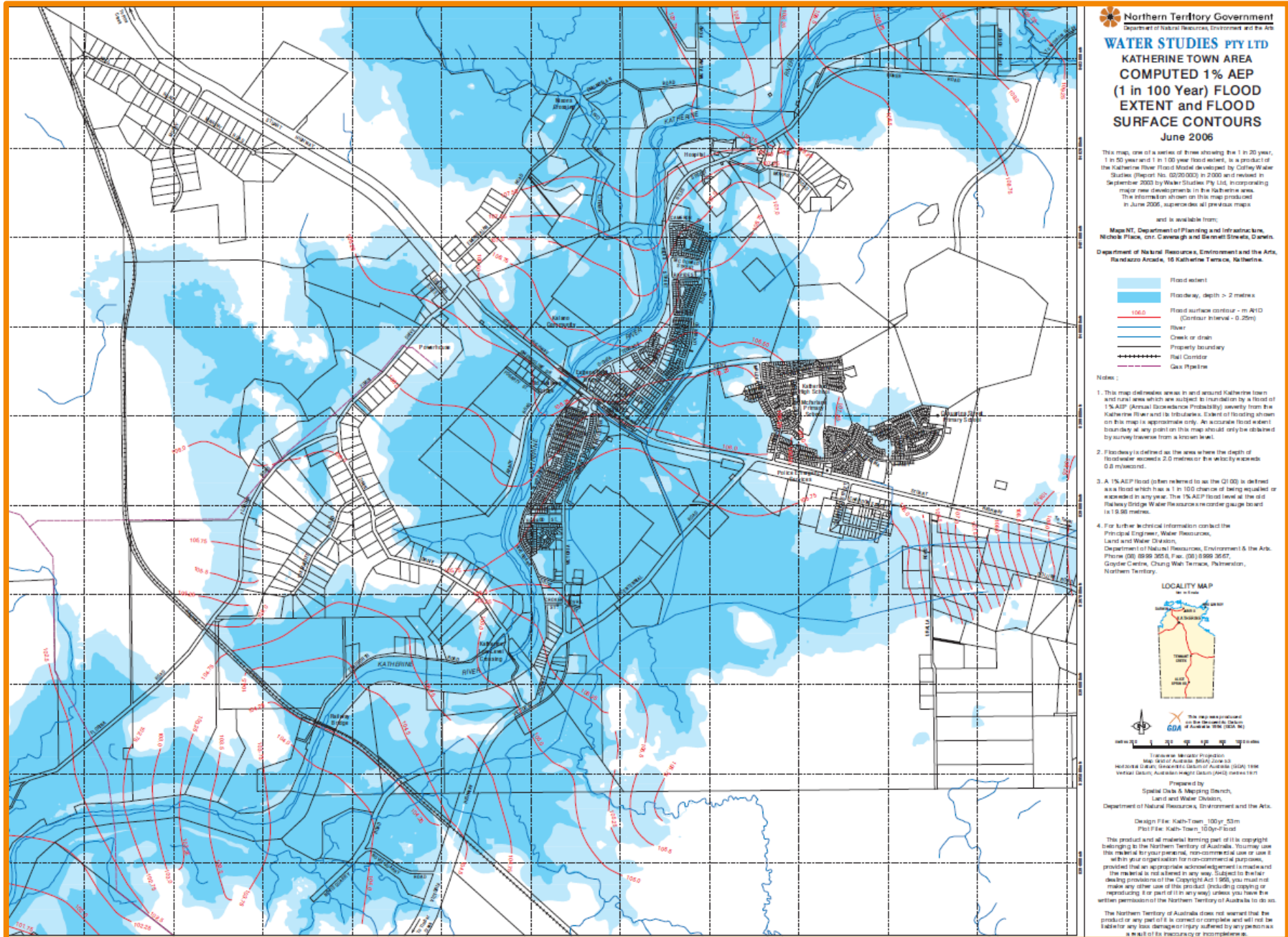
The NTES TDO is responsible for issuing Australian Warning System warnings and advice prior to an Incident Controller is appointed.

Flood messaging – Flooding

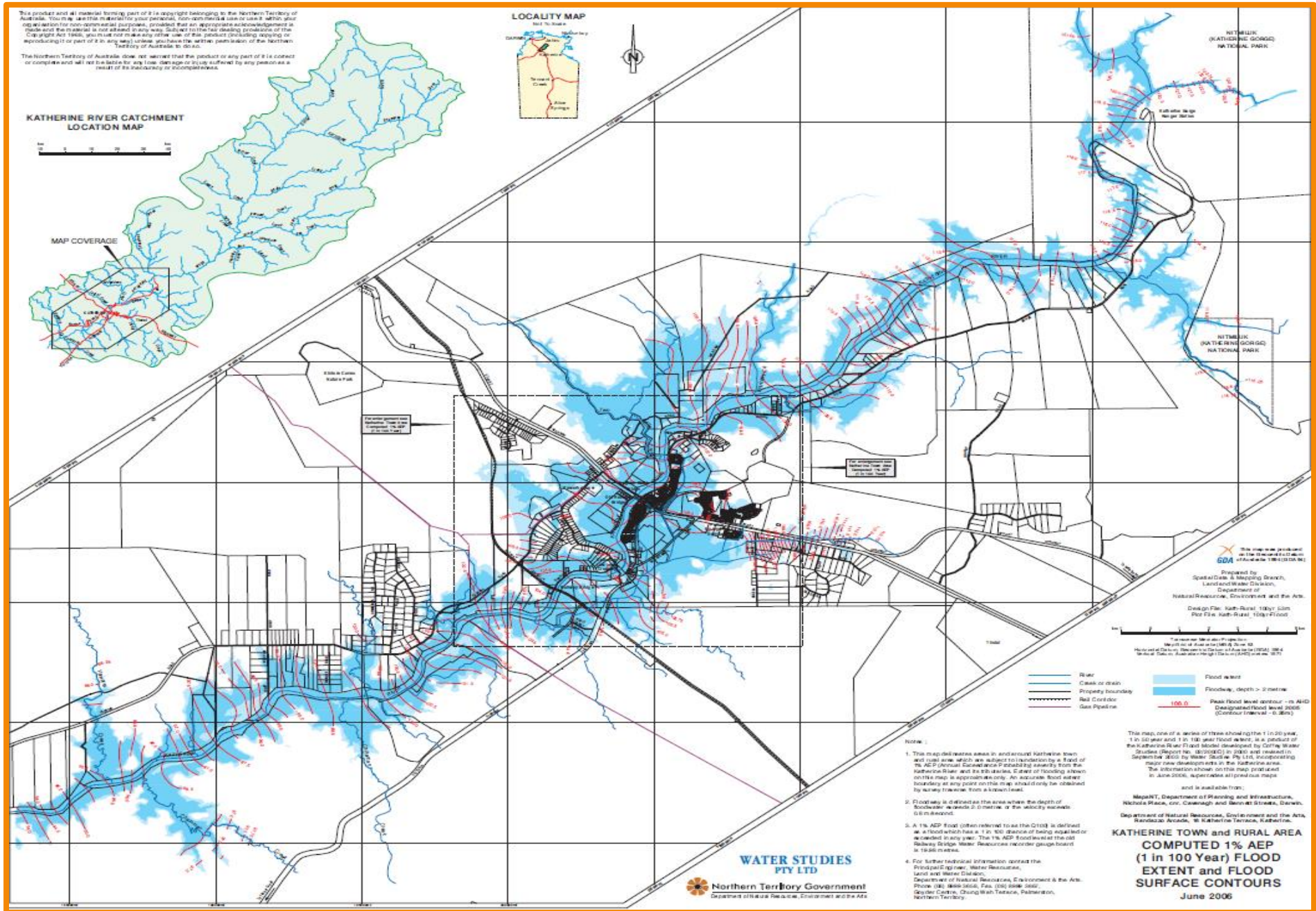
Advice Levels	Description – Katherine township	Public messaging broadcast with the Bureau flood messaging advice
Watch		Flood Early Warning System will be activated.
Minor Flooding Gorge Road	<p>This warning is issued when the Katherine River level is predicted to exceed 3 m at the Nitmiluk Centre.</p> <p>General situation: Floodwaters are contained within the river banks, Maud Creek crossing is likely to close, isolating residents and tourists along Gorge Road and Nitmiluk (Katherine Gorge) National Park.</p>	<p>A Minor Flood Warning for the Gorge Road has now been declared.</p> <p>All residents are advised to listen to advice.</p> <p>The river at Nitmiluk Centre has reached 3 m.</p> <p>Within 12 hours flooding may occur on the Gorge Road at Maud Creek crossing.</p>
Minor – Katherine Moderate – Gorge Road	<p>This warning is issued when the Katherine River level is predicted to exceed 5.5 m at the Nitmiluk Centre and 16 m at Katherine Bridge.</p> <p>General situation: Flood waters are still largely confined within river banks. Maud Creek will be closed and a rise in the level could close Gorge Road at Bullock Creek Crossing (Morris Road) and likely to flood areas of Kalano Community and Florina Road crossings.</p>	<p>A Moderate Flood Warning for the Gorge Road and a Minor Flood Warning for Katherine has now been declared.</p> <p>All residents are to listen carefully to this advice.</p> <p>The height of the river at Nitmiluk Centre is 5.5 m and predicted to rise.</p> <p>If present conditions persist, the Katherine Local Controller advises that flooding is possible to areas of:</p> <ul style="list-style-type: none"> • Kalano Community • Florina Road crossings • Tindal Creek and the Bullock Creek crossing over the next 12 hours. <p>The Gorge Road at Maud Creek crossing is closed.</p>
Moderate – Katherine Major – Gorge Road	<p>This warning is issued when the Katherine River level is predicted to exceed 6.5 m at the Nitmiluk Centre and 16.5 m at the Katherine Bridge.</p> <p>General situation: Maud Creek and Bullock Creek (Morris Road) crossings will be closed. Some flooding will occur near Emungalan Road and Kalano Community. Flooding will occur at Florina Road creek crossing. The Stuart Highway south of Katherine will also be affected, especially in the area of Tindal Creek where flood run off may close the highway.</p> <p>Flooding may occur along the western side of the Katherine River and the ‘Rocks’ area, as well as affecting property in the Bicentennial Road area.</p>	<p>A Major Flood Warning for Gorge Road and a Moderate Flood Warning for Katherine has been declared.</p> <p>The Katherine River at Nitmiluk Centre is 6.5 m and predicted to rise.</p> <p>If present conditions persist, the Katherine Local Controller advises that flooding is possible within 12 hours at:</p> <ul style="list-style-type: none"> • Bullock Creek (Morris Road) crossing • Kalano Community • Florina Road Creek crossings • Stuart Highway south of Katherine in the Tindal Creek area.

Advice Levels	Description – Katherine township	Public messaging broadcast with the Bureau flood messaging advice
<p>Major Katherine (SEWS is played on media)</p>	<p>This warning is issued when the Katherine River level is predicted to exceed 17.5 m at the Katherine Bridge.</p> <p>General situation: Flood waters may cover extensive areas of the CBD and lower parts of the town, both north and south of the Stuart Highway. The Stuart Highway could be cut by the depth of flood and flow rate between the Katherine CBD and Katherine East.</p> <p>There could be an increasing flood run into the CBD, Katherine East may be isolated, with flooding isolating the Katherine Hospital.</p>	<p>The Katherine River has reached 8 m at the Nitmiluk Centre and is predicted to rise.</p> <p>The Katherine Local Controller advises that flooding will occur at:</p> <ul style="list-style-type: none"> • Gorge Road at Maud Creek crossing • Bullock Creek (Morris Road) crossing • Kalano Community • Florina Road Creek crossings • Stuart Highway south of Katherine in the Tindal Creek area. <p>If present conditions continue, flooding may also be expected in:</p> <ul style="list-style-type: none"> • The CBD • Lower parts of the residential areas of the town, both north and south, including Lockheed and Lindsay Street • Katherine Hospital • The Stuart Highway may be cut between the CBD and Katherine East. <p>Public Shelters are now opened at:</p> <ul style="list-style-type: none"> • Katherine High School • MacFarlane Primary School • Casuarina Street Primary School.
<p>Fallen River Heights</p>	<p>A ‘Falling River Height’ Advice for Katherine has now been declared.</p>	<p>The Katherine River height at Nitmiluk Centre is falling and expected to continue falling.</p>

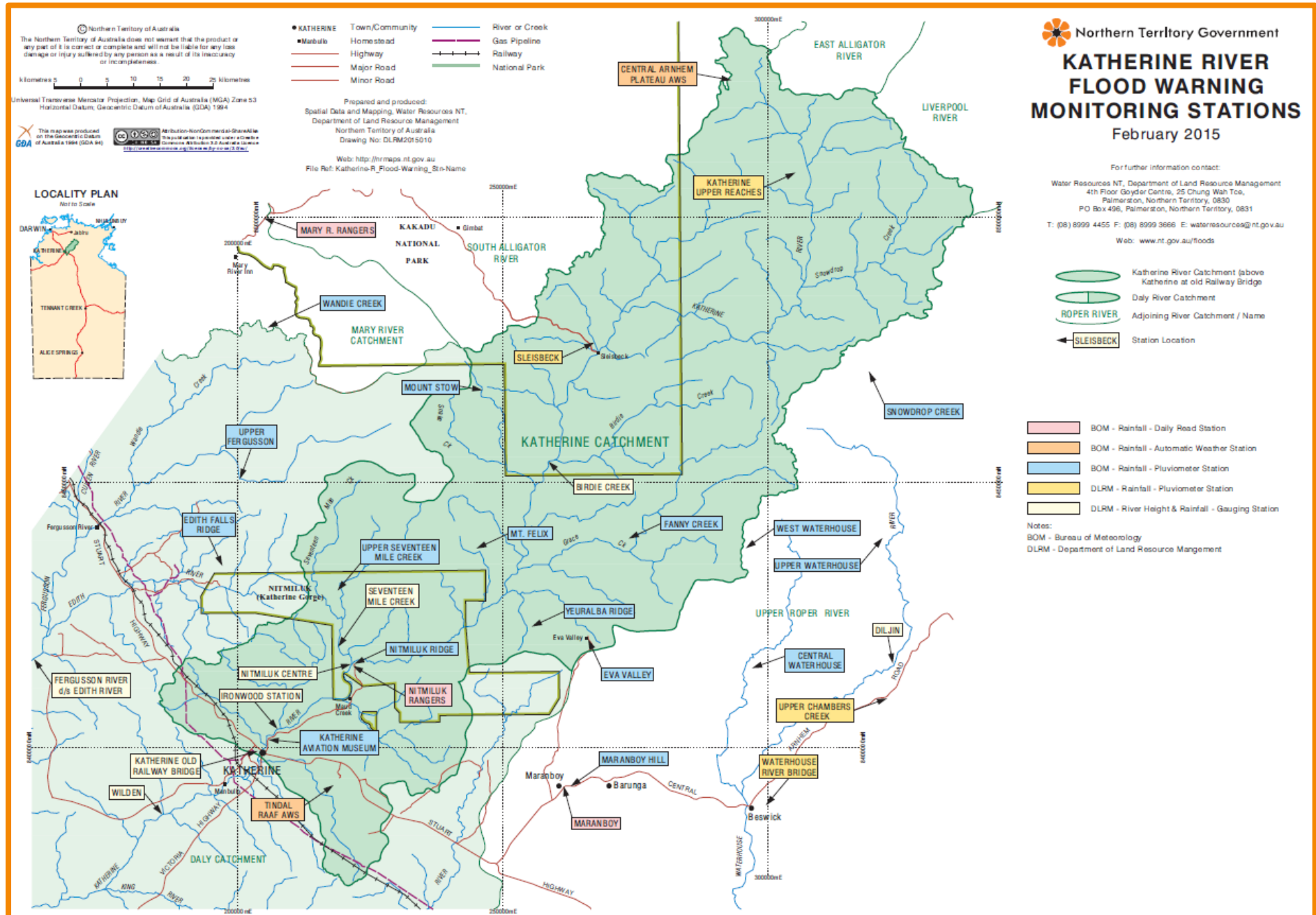
Flood study map – Katherine Town



Flood study map – Katherine rural area



Katherine flood warning monitoring and gauge station locations



Actions to be taken – Flooding – guide only¹²

Organisation/ Provider	Minor – Gorge Road	Moderate – Gorge Road Minor – Katherine	Major – Gorge Road Moderate – Katherine	Major Gorge Road and Katherine	Falling river heights/Transition to recovery
All members	Attend Briefings Inform key personnel Provide SITREPs	Attend Briefings Inform key personnel Provide SITREPs	Attend Briefings Inform key personnel Provide SITREPs	Attend Briefings Inform key personnel Provide SITREPs	Attend Briefings Inform key personnel Provide SITREPs
Local Controller	<p>Liaise with the NTES TDO, regarding the situation</p> <p>Advise all members of the LEC:</p> <ol style="list-style-type: none"> 1. Declaration of Minor Flood Watch – Gorge Road 2. Create WebEOC entry 3. Allocate tasks as required 4. Establish frequency of SITREP from function groups 5. Provide information to the public as necessary 	<p>Liaise with the NTES TDO/EOC</p> <p>Convene a meeting with the LEC to:</p> <ol style="list-style-type: none"> 1. Advise members of the declaration of Minor Flood for Katherine 2. Brief members of the situation 3. Allocate tasks as required including preparation of shelters, as required 4. Request SITREPs from members <p>Consider school closure/s and confirm evacuation procedures</p>	<p>Liaise with the NTES TDO/EOC</p> <p>Convene a meeting of the LEC</p> <ol style="list-style-type: none"> 1. Advise members of the declaration of Moderate Flood Warning 2. Brief members of the situation, and confirm shelter arrangements and agency readiness 3. Consider school closure and confirm evacuation procedures 4. Activate the EOC and ensure Liaison Officers are present 	<p>Liaise with the NTES TDO/EOC</p> <p>Convene a meeting of the LEC</p> <ol style="list-style-type: none"> 1. Advise members of the declaration of Major Flood Warning 2. Brief members on the situation 3. Confirm shelter arrangements and agency responses 4. Confirm school closures and evacuation procedures 5. Confirm closure of business premises including liquor outlets 	<p>Liaise with the EOC, and circulate Cancellation of Flood alert to the public</p> <p>Convene a meeting of the Katherine LEC</p> <ol style="list-style-type: none"> 1. Advise members of the Declaration of the Transition to recovery stage 2. Brief members of the situation and confirm recovery arrangements <p>Circulate Falling River Height Advice and provide information to the public of the situation and that a recovery response has been activated</p> <p>Ensure 'Post Flood' public information is provided</p>

¹² Action stages as per Flood products issued by the Bureau of Meteorology

Organisation/ Provider	Minor – Gorge Road	Moderate – Gorge Road Minor – Katherine	Major – Gorge Road Moderate – Katherine	Major Gorge Road and Katherine	Falling river heights/Transition to recovery
		<p>Consider activation of the EOC (ensure the presence of Liaison Officers)</p> <p>Consider seeking closure of business premises including liquor outlets</p> <p>Assess requirement for NTES/Specialist (Search and Rescue, Territory Response Group) personnel deployment from Darwin and request if necessary</p>	<p>or accessible via WebEOC</p> <p>Consider seeking closure of business premises including liquor outlets</p> <p>Ensure bulk fuel supplies are relocated to Crawford Street Industrial area</p>		<p>Continue with recovery stage activities as required</p> <p>Begin to prepare a post operations Report</p>
PAWC	<p>Hold in-house meeting of all Public Utilities Group Leaders to verify preparedness of staff</p>	<p>Brief Public Utilities Group Leaders</p> <p>Maintain electricity, water and sewage supply and keep Local Controller advised on the situation</p>	<p>If required, relocate PAWC river height and rainfall monitoring equipment to the Public Utilities Group operations centre</p> <p>Brief Public Utilities Group Leaders</p> <p>Liaise with other departments and organisations as required</p> <p>Maintain electricity, water and sewage</p>	<p>Brief Public Utilities Group Leaders</p> <p>Liaise with other departments and organisations as required</p> <p>Maintain/restore electricity, water and sewage supply and keep Local Controller advised on the situation</p>	<p>Brief Public Utilities Group Leaders</p> <p>Liaise with other departments and organisations as required</p> <p>Maintain/restore electricity, water and sewage supply and keep Local Controller advised on the situation</p> <p>Debrief staff and arrange relief for ongoing support</p>

Organisation/ Provider	Minor – Gorge Road	Moderate – Gorge Road Minor – Katherine	Major – Gorge Road Moderate – Katherine	Major Gorge Road and Katherine	Falling river heights/Transition to recovery
			supply and keep the Local Controller advised on the situation Maintain SITREP schedule Provide a liaison officer for EOC duty, if required		Advise Local Recovery Coordinator of any urgent priorities and participate in meetings as required Resume normal duties as soon as possible
DCDD	Attend briefings Identify staffing resources Confirm WebEOC access Commence back-up of a locally stored agency data Monitor WebEOC Liaise with other departments and organisations as required	Attend briefings Ensure successful back-up of data Respond to outages Monitor WebEOC Prepare to activate additional services as requested by the Local Controller Liaise with Medical Group Leader to determine communication requirements for hospital should an evacuation occur Backup hospital PABX data/settings	Attend briefings Respond to outages Monitor WebEOC Liaise with other departments and organisations as required Liaise with service providers to maintain priority Work with Medical Group Leader to transition hospital communication if hospital is evacuated Shutdown PABX and ICT infrastructure at hospital after evacuation	Attend briefings respond to outages Monitor WebEOC Liaise with other departments and organisations as required Liaise with service providers to maintain priority communications services as determined by Local Controller Arrange controlled shutdown of hardware and removal from sites where deemed necessary by ICT	Attend briefings respond to outages Monitor WebEOC Liaise with other departments and organisations as required Provide relevant information for inclusion in final SITREPs Reconnect government ICT services on a priority basis as directed by the Local Controller Advise Local Recovery Coordinator of any urgent priorities and participate in meetings as required

Organisation/ Provider	Minor – Gorge Road	Moderate – Gorge Road Minor – Katherine	Major – Gorge Road Moderate – Katherine	Major Gorge Road and Katherine	Falling river heights/Transition to recovery
			Recovery of hardware where deemed necessary by ICT		
DET	<p>Liaise with Local Controller</p> <p>Brief personnel</p> <p>Ensure all staff contact details are up to date</p> <p>Maintain normal services</p>	<p>Liaise with Local Controller</p> <p>Brief personnel</p> <p>Liaise with other departments and organisations as required</p> <p>Maintain normal services</p> <p>Prepare to make identified facilities available for use as emergency shelters</p>	<p>Brief personnel</p> <p>Liaise with Shelter Manager for the preparation of evacuation shelters</p> <p>Liaise with other departments and organisations as required, especially Welfare Group</p> <p>Ensure presence of liaison officer at the EOC</p>	<p>Brief personnel</p> <p>Liaise with other departments and organisations as required</p> <p>Ensure presence of liaison officer at the EOC</p> <p>Make identified facilities available for use as emergency shelters</p> <p>Deploy personnel to emergency shelters</p> <p>If required, arrange accommodation for counter disaster personnel from other areas</p>	<p>Liaise with Local Controller</p> <p>Brief personnel</p> <p>Assist with the preparations for evacuees to return home</p> <p>Liaise with other departments and organisations as required</p> <p>Prepare to supervise and assist in the restoration of department facilities when notified by the EOC</p> <p>Supervise and assist in the restoration of facilities</p> <p>Debrief staff and arrange relief for ongoing support</p> <p>Resume normal duties</p>
DLI	No action	<p>Brief council personnel</p> <p>Liaise with other departments and organisations as required</p> <p>Prepare to assist with dissemination of</p>	<p>Brief council personnel</p> <p>Ensure emergency procedures are in place for roads, drains, dumps and stores</p> <p>Provide assistance to Local Controller as requested</p>	<p>Brief council personnel</p> <p>Provide liaison officer for EOC duty, if required</p> <p>Commission emergency dumping site</p>	<p>Arrange inspection and provide SITREPs of roads and drainage network</p> <p>Reconcile invoices and accounts with EOC</p> <p>Coordinate emergency repairs</p>

Organisation/ Provider	Minor – Gorge Road	Moderate – Gorge Road Minor – Katherine	Major – Gorge Road Moderate – Katherine	Major Gorge Road and Katherine	Falling river heights/Transition to recovery
		<p>warnings/information as requested by Local Controller</p>	<p>Provide liaison officer for EOC duty, if required</p> <p>Maintain SITREP schedule</p>	<p>Council and DLI to liaise and assist as resources allow</p> <p>Coordinate engineering operations within the town</p> <p>Arrange for a place to have domestic pets through the Katherine Town Council</p> <p>Establish an area for parking of private vehicles</p>	
DoH	<p>Liaise with Local Controller</p> <p>Ensure contact lists are updated</p> <p>Brief all section leaders within each group</p> <p>Circulate Minor Flood Warning Gorge Road to Medical Group via SMS when received from Local Controller</p> <p>Maintain normal services where possible</p> <p>Activate liaison officer</p> <p>Monitor WebEOC</p>	<p>Liaise with Local Controller</p> <p>Brief all section leaders</p> <p>Circulate Minor Flood Warning Katherine to Medical Group via SMS when received from Local Controller</p> <p>Liaise with LEC to confirm where hospital will relocate to if an evacuation is required</p>	<p>Brief all section leaders</p> <p>Circulate Flood Warning Advice to Medical Group contract tree when received from Local Controller</p> <p>If required despatch liaison officer to the Regional EOC</p> <p>Set-up health EOC in the conference room at the Katherine High School</p> <p>Assist Local Controller as required</p>	<p>Brief all section leaders</p> <p>Circulate Major Flood Warning Advice to Medical Group contact tree when received from Local Controller</p> <p>Transfer any remaining Medical Group staff to the health EOC at the high school</p> <p>Maintain priority services</p> <p>Monitor WebEOC</p>	<p>Brief all Section Leaders</p> <p>Remain at evacuation sites until advised by the EOC</p> <p>Determine inundation has occurred</p> <p>Set up alternative facilities or maintain evacuation points for hospital and aged/health care facilities</p> <p>Prepare hospital and aged/health care facilities for return</p>

Organisation/ Provider	Minor – Gorge Road	Moderate – Gorge Road Minor – Katherine	Major – Gorge Road Moderate – Katherine	Major Gorge Road and Katherine	Falling river heights/Transition to recovery
		<p>Maintain normal services where possible</p> <p>Hospital to discharge patients and/or organise for patient transfers to Royal Darwin Hospital or another determined location out of Katherine</p> <p>Liaise (and confirm) with Northern Region to go on bypass - unable to accept impatient admissions</p> <p>Notify surrounding remote communities and Royal Darwin Hospital</p> <p>Advise Rocky Ridge Aged Care Facility of the potential to evacuate</p> <p>Confirm arrangements for relocation of temporary morgue to be relocated to Chardon Street Facility</p>	<p>Identify high -risk patients and medically vulnerable clients for potential evacuation</p> <p>Liaise with people requiring medical support</p> <p>Section leader to ensure that stakeholders have been advised to activate the PRMS Clients Care Plans</p> <p>Maintain priority services</p> <p>Liaise with LEC on preparation of evacuation of shelters</p> <p>Brief personnel identified for deployment to relocated emergency department and hospital</p> <p>Prepare for hospital evacuation (emergency department to go to Katherine Dialysis Centre</p>		

Organisation/ Provider	Minor – Gorge Road	Moderate – Gorge Road Minor – Katherine	Major – Gorge Road Moderate – Katherine	Major Gorge Road and Katherine	Falling river heights/Transition to recovery
		<p>Assist Local Controller as required</p> <p>Staff to be released to ensure welfare of families and properties</p> <p>Set up health EOC at executive rooms at the Katherine Hospital</p> <p>Monitor WebEOC</p> <p>Confirm pre-arranged accommodation for emergency management personnel from other areas</p>	<p>Advise Rocky Ridge Aged Care Facility to evacuate</p> <p>Evacuate hospital patients and identified people requiring medical support that will require evacuation</p> <p>Arrange for the relocation of temporary morgue to be relocated to Chardon Street Facility (see page 50 of this Plan)</p> <p>Deploy personnel to identified emergency department and hospital</p> <p>Monitor WebEOC</p> <p>If required, arrange accommodation for personnel from other areas</p>		
DLI	<p>Attend LEC meetings</p> <p>Brief Transport Group Leaders</p> <p>Liaise with other departments and organisations as required</p>	<p>Attend LEC meetings</p> <p>Brief Transport Group Leaders and allocate tasks as required</p> <p>Maintain liaison with representatives of other departments</p>	<p>Attend LEC meetings</p> <p>Brief Transport Group Leaders and implement any necessary traffic control measures</p> <p>Maintain liaison with representatives of other departments and</p>	<p>Attend LEC meetings</p> <p>Maintain traffic management and closures as necessary</p> <p>Maintain liaison with representatives of other departments</p>	<p>Arrange all necessary plant and equipment for flood recovery purposes</p> <p>Arrange to inspect, assess, and secure damaged houses and buildings resulting from the flood</p>

Organisation/ Provider	Minor – Gorge Road	Moderate – Gorge Road Minor – Katherine	Major – Gorge Road Moderate – Katherine	Major Gorge Road and Katherine	Falling river heights/Transition to recovery
	Maintain and advise the Local Controller on possible plant/equipment deployment	and organisations as required Advise Local Controller accordingly Provide a liaison officer for EOC duty, if required	organisations as required Advise Local Controller accordingly Coordinate school bus transport in liaison with Shelter Group	and organisations as required Advise Local Controller as necessary	In conjunction with council, arrange for clearing of debris, reopening roads/bridges and access ways Liaise with other departments and organisations and provide support as required Prepare to forward final SITREP to the Local Controller
DCF	Liaise with Local Controller Ensure contact lists are updated Brief all Welfare Group Section Leaders Circulate Minor Flood Warning for Gorge Road advice to Welfare Group contacts	Liaise with Local Controller Brief all Welfare Group Section Leaders Circulate Flood Warning Advice to Welfare Group contacts Liaise with emergency shelter Maintain normal services Operational staff to be released to ensure welfare of families and properties	Attend LEC Meetings Brief all Welfare Group Section Leaders Circulate Flood Warning Advice to Welfare Group contacts Provide SITREP regarding preparedness Liaise with Shelter Group Leader to initiate evacuation centre preparations and resourcing Brief personnel identified for deployment to evacuation centres	Attend LEC Meetings Brief all Welfare Group Section Leaders Circulate Flood Warning advice to Welfare Group contacts Brief NT Welfare Group Leader Maintain SITREP schedule Transfer Welfare Group EOC to Katherine High School evacuation centre site If required, arrange accommodation for	Attend LEC Meetings Brief all Welfare Group Section Leaders Maintain SITREP schedule Welfare Group personnel to remain at evacuation sites until advised by the EOC Determine extent of inundation and confirm recovery services required

Organisation/ Provider	Minor – Gorge Road	Moderate – Gorge Road Minor – Katherine	Major – Gorge Road Moderate – Katherine	Major Gorge Road and Katherine	Falling river heights/Transition to recovery
			<p>Prepare to establish Welfare Group EOC at the Katherine High School evacuation centre</p> <p>Assist Local Controller as required</p> <p>Identify high-risk vulnerable persons/groups requiring assistance in event of evacuation</p> <p>Deploy evacuation centre resources to the Katherine High School – this will be the first evacuation centre to open</p> <p>Assist police and Australian Red Cross in establishing Register.Find.Reunite. centres</p> <p>Maintain priority services</p>	<p>Welfare Group personnel from other regions</p> <p>Deploy evacuation centre resources/personnel to centres</p> <p>Determine level of recovery supports required and notify services to prepare on standby</p> <p>Maintain priority services</p>	
DTBAR (Animal Welfare)	<p>Attend LEC meeting</p> <p>Brief Animal Welfare Functional Group Leader</p> <p>Liaise with other departments and</p>	<p>Brief Animal Welfare Group Leader and commence preparedness activities</p>	<p>Commence preparedness activities</p> <p>Maintain liaison with representatives of other departments and organisations</p>	<p>Activate business continuity arrangements with the Darwin office</p> <p>Consider forward deployment if</p>	<p>Ascertain impact of hazard in relation to animal welfare and commence planning for response and recover operations for</p>

Organisation/ Provider	Minor – Gorge Road	Moderate – Gorge Road Minor – Katherine	Major – Gorge Road Moderate – Katherine	Major Gorge Road and Katherine	Falling river heights/Transition to recovery
	<p>organisations as required</p> <p>Ensure contact lists are updated</p> <p>Monitor WebEOC</p>	<p>Maintain liaison with representatives of other departments and organisations</p> <p>Provide a liaison officer for EOC duty, if required</p>	<p>Provide a liaison officer for EOC duty, if required</p>	<p>necessary to supplement staff in Katherine office</p> <p>Continue brief and liaison roles</p>	<p>approval to the Local Controller</p> <p>Continue brief and liaison roles</p>
DTBAR (Critical Goods/Industry)	<p>Attend briefings</p> <p>Confirm WebEOC access and monitor WebEOC</p> <p>Review list of Katherine businesses and confirm stocks of critical goods</p> <p>Report to Local Controller on status of holdings and any recommended emergency remedial action as required</p> <p>Liaise with other departments and organisations as required</p>	<p>Check with members for any updates to their ‘state of readiness’ e.g. critical stocks that may have been ordered</p> <p>Attend LEC meetings</p>	<p>Contact members to obtain ‘state of readiness’ reports</p> <p>Attend LEC meetings</p> <p>Liaise with all LEC members regarding durability of critical goods and services holdings and dissemination of advice</p> <p>Liaise with Transport Group regarding emerging critical goods and services distribution requirements</p> <p>Monitor and report to EOC on developing status of demand and critical goods and services holdings as emergency progresses</p> <p>Liaise with the Welfare Group to identify and</p>	<p>Contact members to obtain ‘state of readiness’ reports</p> <p>Attend LEC meetings</p> <p>Liaise with all LEC members regarding durability of critical goods and services holdings and dissemination of advice</p> <p>Liaise with Transport Group regarding emerging critical goods and services distribution requirements</p> <p>Monitor and report to EOC on developing status of demand and critical goods and services holdings as emergency progresses</p>	<p>Attend LEC meetings</p> <p>Liaise with all LEC Groups regarding durability of critical goods and services holdings and dissemination of advice</p> <p>Liaise with Transport Group regarding emerging critical goods and services distribution requirements</p> <p>Monitor and report to EOC on developing status of demand and critical goods and services holdings as emergency progresses</p> <p>Liaise with the Welfare Group to identify and monitor emerging non-commercial critical goods and services distribution outlets and monitor demand for supplies</p> <p>Report to Local Controller status of holdings and any</p>


Organisation/ Provider	Minor – Gorge Road	Moderate – Gorge Road Minor – Katherine	Major – Gorge Road Moderate – Katherine	Major Gorge Road and Katherine	Falling river heights/Transition to recovery
			<p>monitor emerging non-commercial critical goods and services distribution outlets and monitor demand for critical goods and services supplies</p> <p>Report to Local Controller on status of holdings and any recommended emergency remedial action as required if shortfall identified</p> <p>Act as liaison between EOC and members for all requests and priority listings to ensure accurate information</p>	<p>Liaise with the Welfare Group to identify and monitor emerging non-commercial critical goods and services distribution outlets and monitor demand for critical goods and services supplies</p> <p>Report to Local Controller on status of holdings and any recommended emergency remedial action as required if shortfall identified</p> <p>Act as liaison between EOC and members for all requests and priority listings to ensure accurate information</p>	<p>recommended emergency remedial action as required if shortfall identified</p> <p>Act as liaison between EOC and members for all requests and priority listings to ensure accurate information</p>
KTC	<p>Brief council personnel</p> <p>Maintain services</p> <p>Establish and maintain liaison with the Local Controller to provide regular reports on status of all council provided services</p>	<p>Brief council personnel</p> <p>Maintain services</p> <p>Advise the Local Controller on essential service matters</p> <p>Liaise with health clinic representative</p>	<p>Brief council personnel</p> <p>Advise the Local Controller on essential service matters</p> <p>If necessary, restore services according to the priorities given by the Local Controller</p>	<p>Consider commencement of Recovery stage operations, as necessary</p>	<p>Where appropriate, recall and stand-down council staff</p> <p>Advise the Local Controller when all council personnel are accounted for and on any outstanding problems</p>

Organisation/ Provider	Minor – Gorge Road	Moderate – Gorge Road Minor – Katherine	Major – Gorge Road Moderate – Katherine	Major Gorge Road and Katherine	Falling river heights/Transition to recovery
		on community service matters	Carry out such tasks as allocated by the Local Controller		association with the emergency operations Confirm debrief arrangements with the Local Controller Provide relevant information for the preparation of the Post Operations Report Liaise with the Local Recovery Coordinator

Designated response area for flood



11.3.4. Rail crash

	Hazard	Controlling Authority	Hazard Management Authority
	Rail crash	NT Police Force	NT Fire and Emergency Services (NT Fire and Rescue Service)

A train crash, train collision, train accident is a type of disaster involving 1 or more trains. Train crashes often occur as a result of miscommunication, when a moving train meets another train on the same track; or an accident, such as when a train wheel jumps off a track in a derailment; or when the train hits a stationary or moving object.

Responses to rail crash incidents will be coordinated from the JESCC. NTFRS resources will be responded as per pre-determined response arrangements contained within the SerPro system for incidents occurring within an NTFRS ERA. For incidents occurring outside of an ERA, responses will be approved by the rostered NTFRS TDO.


Prevention and preparative controls include, but are not limited to:

- maintain a clear railway, removing animal hazards
- training in PUASAR022 - participate in a rescue operation

Public safety message process:

- NTPF Territory Duty Superintendent to approve public messaging and forward to NTPF and NTFES Media Unit for dissemination

11.3.5. Road crash

	Hazard	Controlling authority	Hazard management authority
	Road crash	NT Police Force	NT Fire and Emergency Services (NT Fire and Rescue Service)

A road crash occurs when a vehicle collides with another vehicle, pedestrian, animal, road debris, or other stationary obstruction, such as a tree, pole or building. Road crashes often result in injury, disability, death, and or property damage as well as financial costs to both society and the individuals involved. Emergency services are frequently called on to extricate seriously injured casualties from their vehicles following road crashes. This is achieved by employing space creation techniques to create openings in the vehicle. These openings make it possible to administer first aid to the casualty and to remove them from the vehicle.

A number of factors contribute to the risk of collisions, including vehicle design, speed of operation, road design, weather, road environment, driving skills, fatigue, impairment due to alcohol or drugs, and behaviour, notably aggressive driving, distracted driving, speeding and street racing.

Responses to road crash incidents will be coordinated from the JESCC. NTFRS will respond as per pre-determined response arrangements contained within the SerPro or incidents occurring within an NTFRS ERA. For incidents occurring outside of an ERA, response will be approved by the rostered NTFRS TDO.

Prevention and preparative controls include, but are not limited to:

- radio, television and social media posts
- targeted road safety campaigns
- community engagement strategies
- training in PUASAR024 - undertake road crash rescue delivered by NTES and NTFRS to NTFES and NTPF members.

Public safety message process:

- NTPF Territory Duty Superintendent to approve public messaging and forward to NTPF and NTFES Media Unit for dissemination.

11.4. Annex D: Evacuation guideline

The following is to be used as a **guide** only.

Stage 1 - Decision		
Authority	<p>The Regional Controller will authorise the activation of the evacuation plan.</p> <p>This evacuation plan is to be approved by the TEMC prior to activation.</p>	Regional Controller in conjunction with TEMC
Legal references	The Act and approved Local Emergency Plan. It is recommended that the Minister declares an Emergency Situation under section 18 of the Act, when this evacuation plan is activated.	
Alternative to evacuation? I.e. shelter in place, temporary accommodation on-site/nearby.	If needed residents will be progressively relocated within the community to <location to be determined>.	Local Controller to arrange
Summary of proposed evacuation	<p>Decision – made by the Regional Controller when the community have sustained damage during <to be determined> that cannot support residents in situ during recovery.</p> <p>The Local Controller to disseminate information to the community.</p> <p>Withdrawal – 3 stage process:</p> <ol style="list-style-type: none"> 1. <location to be determined>; community to the <location to be determined>; to be registered for evacuation to <location to be determined> 2. once registered, groups to move to the airstrip assembly area using buses/vehicles 3. Australian Red Cross to register check utilising Register Find Reunite. <p>Shelter – evacuees will be encouraged to stay with friends or family. The remainder will be accommodated at an evacuation centre <Location to be determined></p> <p>Return – to be determined once recovery can sustain return to <location to be determined>.</p>	The decision will be informed by additional advice from technical experts, e.g. the Bureau
Which communities/outstations or geographical area does the evacuation apply to?	<Out stations, Homelands and homesteads>	

<p>Vulnerable groups within the community</p>	<p>The Medical Group will liaise with local health staff and provide information on medically vulnerable people.</p> <p>The identified people will be evacuated <at a time to be determined>.</p>	<p>Medical Group & Transport Group to action</p>
<p>Community demographics (approx. total number, family groups, cultural groups etc.)</p>	<p>For more information, refer to the Evacuation Centre Field Guide (page 20 section 4.3) which can be found in WebEOC.</p> <p>Examine the demographic breakdown of the community to be evacuated including:</p> <ul style="list-style-type: none"> • the total number of people being evacuated • an estimate of the number of people likely to require accommodation in the evacuation centre • a breakdown of the evacuees to be accommodated by age and gender. For example, the number of family groups and single persons, adult males and females, teenage males and females, and the number of primary school-aged children, toddlers and infants • a summary of cultural considerations, family groups, skin groups and community groups • potential issues that may arise as a result of these groups being accommodated in close proximity to one another • a summary of people with health issues, including chronic diseases, illnesses and injuries. • details of vulnerable clients (other than medically vulnerable), such as the elderly, frail and disabled (and if they are accompanied by support i.e. family members) • details of community workers also being evacuated who may be in a position to support the operation of the evacuation centre. Examples include teachers, nurses, health workers, shire staff, housing staff and police. 	
<p>What is the nature of the hazard?</p>	<p><To be determined></p>	

Estimated duration of the potential evacuation?	<To be determined>	
Triggers for the evacuation	<p>Example</p> <ol style="list-style-type: none"> 1. evacuation planning to commence when the Locality is under a <to be determined> 2. implement evacuation if the severity and impact has caused major damage and disruption to all services 3. elderly and vulnerable people are to be considered for evacuation due to limited health services. <p>Further details of the intra-community relocation plan are required.</p>	Regional Controller
Self-evacuation	Where possible residents will be encouraged to self-evacuate and make their own accommodation arrangements if they wish to do so. Individuals and families taking this option will be encouraged to register prior to leaving the community.	Local Controller
Responsibility for the coordination Stage 1	Regional Controller Local Controller	
Stage 2 - Warning		
Who has the authority to issue warnings?	<p>The Bureau will issue advice and warnings. All further public information will be approved by the Regional Controller in consultation with the Public Information Group and NTES.</p> <p>The Local Controller will coordinate the dissemination of community level information.</p> <p>A combination of the following will be utilised:</p> <ul style="list-style-type: none"> • broadcasted over radio and television • social media utilising the NTFES and NTPF Facebook page SecureNT • loud hailer • door to door • Emergency Alert System. 	Regional Controller to liaise with Public Information Group and NTES

<p>Process for issuing evacuation warnings and other information</p>	<p>At community level, the Local Controller is to appoint a community spokesperson to disseminate up to date situational information at community meetings which are to be held immediately post a convening LEC meeting, at each declared stage of the Local Emergency Plan. A media brief approved by the Local Controller at each LEC meeting, will be announced over the local radio station containing current situational information, relevant safety information, what to prepare, when to self-evacuate, and where to go.</p>	<p>Local Controller</p>
<p>When will warnings be issued (relative to the impact of the hazard)?</p>	<p>Immediately upon a decision to evacuate being made the LEC will commence coordinating residents to prepare for transport.</p>	<p>Local Controller</p>
<p>What information will the messages contain? (What do people need to know?)</p>	<p>To be determined:</p> <ul style="list-style-type: none"> • outline of the proposed evacuation plan • measure to prepare residences • safety issues; not overloading transport • items to bring on the evacuation • arrangements for pets and animals. 	<p>Local Controller Animal Welfare Group</p>
<p>Responsibility for the coordination of Stage 2</p>	<p>Local Controller/Regional Controller</p>	
<p>Stage 3 - Withdrawal</p>		
<p>Outline</p>	<p>3 stage process:</p> <ol style="list-style-type: none"> 1. community residents to <staging area 1> 2. <staging area 1> to airport 3. airport to <location to be determined> evacuation centre 	

<p><Location> community to the airstrip</p>	<p>Lead</p> <ul style="list-style-type: none"> NTPF <p>Overview</p> <ul style="list-style-type: none"> the community will gather at the <location to be determined> prior to being transported by community buses to the airstrip. <p>Risks/other considerations</p> <ul style="list-style-type: none"> evacuation should be undertaken during daylight hours, if possible. risks include inclement weather, persons with infectious diseases, vulnerable persons, and frail/elderly persons, chronically ill estimated time en-route: ___ minutes each way estimated timeframe overall: ___ hours utilising current resources. alternate transport options. 	<p>NTPF</p>
<p>Assembly area</p>	<p>Likely location of evacuation centre: Katherine School</p> <p>Additional resources will be required to host an evacuation centre in the form of tents and bedding. This will also be the point where evacuee registration will take place. Basic services should be provided i.e. drinking water, information.</p> <p>Services to be provided</p> <ul style="list-style-type: none"> Australian Red Cross Coordinator: Red Cross <p>Other details</p> <p>Evacuee registration. Residents will need to register at <location to be determined> or airport if (self-evacuating) to be permitted access to the evacuation centre at the <location to be determined>.</p>	<p>NTPF/DCF</p>

<p><Location> community to <location to be determined></p>	<p>Lead - NTPF</p> <p>Example Lead - Transport Group</p> <p>Overview</p> <ul style="list-style-type: none"> • Transport Group has identified commercial operators and the Police Air Section able to provide evacuation assistance. • Total proposed air assets: _____. Commercial operators will be charging commercial rates for their services at a cost of (\$_____). • The operation will begin at _____hrs with the first aircraft, leaving <to be determined> and arriving at _____hrs • The operation will continue throughout the day until all community members are evacuated. It is estimated that all community members can be evacuated by _____hrs (arriving in <to be determined>). 	<p>NTPF/Transport/Logistics</p>
<p>< Location > airport to evacuation centre <to be determined></p>	<p>Lead - Transport Group</p> <p>Example</p> <p>Overview</p> <ul style="list-style-type: none"> • Buses will be on standby at • <location to be determined> airport from _____am to receive passengers and continue throughout the day transferring to <to be determined> only, as required. • Transport staff will be on the ground at <location to be determined> airport to marshal passengers on buses only. • Buses to be arranged by the Transport Group. Evacuees will be collected from <location to be determined> airport and transported to the <location to be determined>. <p>A reception team provided by NTPF will meet evacuees and facilitate transport.</p> <ul style="list-style-type: none"> • details <to be determined> • estimated time en-route: _____ minutes • estimated timeframe: possibly _____ hours, dependant on aircraft arrivals • alternate transport options: _____. 	<p>Transport Group</p>

End point	<location to be determined>	IMT/Welfare Group
Transport of vulnerable members of the community	Medical Group to arrange transport of vulnerable people from the community to <location to be determined>.	Medical Group
Registration and tracking	<ul style="list-style-type: none"> Welfare Group to activate registration arrangements. Registration will be undertaken by NTPF and will occur at <location to be determined>. Names of evacuees will be obtained prior to boarding buses. Where possible details of individuals and families self-evacuating to be obtained on arrival at the <location to be determined> airstrip. If persons are not registered as evacuees or self-evacuees they will not be provided access to the evacuation shelter. 	Welfare Group/NTPF
Coordination Stage 3	Regional Controller	IMT coordination
Stage 4 – Shelter		
Overview	An evacuation centre will be established at the <location to be determined>. The <location to be determined> will be the primary areas used.	
Alternate shelter options	Where possible evacuees will be encouraged to seek alternative accommodation with family, friends or through commercial accommodation.	
Estimated duration of the shelter phase	To be determined	
Arrangements for domestic animals	No domestic animals are to accompany evacuees. Any self-evacuees with domestic animals will be expected to make their own arrangements for the animals.	Advise Animal Welfare Group
Roles		
<ul style="list-style-type: none"> Director 	DCF	Welfare Group
<ul style="list-style-type: none"> Deputy Director 	DCF	Welfare Group

• Logistics/planning	EOC	Controlling authority
• Admin teams	EOC	CM&C/Welfare Group
• Shift manager/s	To be determined – drawn from pool of trained staff.	Welfare Group
• Welfare team	To be determined	Welfare Group
• Facility team	To be determined	
• Sport and Rec team	To be determined	
• Medical team	To be determined. It is likely St Johns volunteers will be requested. Evacuees will be referred to off-site medical services.	Medical Group
• Public health team	To be determined	Public Health Group
• Transport team	To be determined	Transport Group
Evacuation centre set-up	Refer to the evacuation centre template for set-up considerations.	
What strategy will be put in place to close the evacuation centre?	Closure of the evacuation centre will be largely dependent on the extent of inundation and complexity of the recovery process.	
Stage 5 – Return		
Indicators or triggers that will enable a return	(Refer to Recovery action plan for the community) CM&C	
Who is responsible for developing a plan for the return?	Recovery coordination in conjunction with Incident Management Team (IMT).	
• Transportation	To be determined	
• Route/assembly points en-route	To be determined	
• End point	To be determined	
How will information about the return be communicated to evacuees?	To be determined	
What information needs to be conveyed to the evacuated community members?	To be determined	

11.5. Annex E: Summary of response and recovery activities

The following table outlines a summary of possible response and recovery activities to be considered following an event.

This table is presented as a guide only, assisting emergency managers with operational decision making, planning and resource allocation. It also highlights the importance of response and recovery coordination working collaboratively.

Activities have been broken down and are listed under either response or recovery for simplicity and ease of use. In practice not all response activities will be completed during the response phase. Likewise not all recovery activities will commence after the transition to recovery.

The post event period of any event is highly dynamic and produces many challenges, both foreseen and unpredicted. Response and recovery coordination must be flexible and able to adapt to the situation as it evolves.

In most cases the points noted in this table and in the ensuing document are outlined in greater detail in functional group or agency plans.



Activity	Response activities	Recovery activities
1. Situational awareness	<ul style="list-style-type: none"> Road clearance teams General public Media reports Survey and rescue teams Impact assessment teams 	<ul style="list-style-type: none"> Contributes to recovery planning through impact assessment data Comprehensive impact assessments Needs assessment
2. Public Information	<ul style="list-style-type: none"> Public Information Group activation Spokes persons identified SecureNT activated 	<ul style="list-style-type: none"> Continues in recovery
3. Survey and Rescue	<ul style="list-style-type: none"> Survey teams deploy to designated areas Critical sites surveyed Deploy rescue teams – NTFRS and NTPF Specialist Response Division provide primary Urban Search and Rescue capability 	<ul style="list-style-type: none"> Survey and impact assessment data used to contribute to the Recovery Action Plan
4. Road clearance	<ul style="list-style-type: none"> Road patrol teams deploy and check assigned routes Road clearance to priority sites Assess Stuart Hwy to Katherine (supply route) 	<ul style="list-style-type: none"> Restoration of road networks and bridges Return to business as usual

Activity	Response activities	Recovery activities
<p>5. Emergency accommodation</p>	<ul style="list-style-type: none"> • Emergency accommodation and shelter <ul style="list-style-type: none"> - evacuation centres • Provision of resources that will enable people to remain in their homes • Emergency clothing 	<ul style="list-style-type: none"> • Evacuation centres may continue into recovery • Temporary accommodation options • Repatriation planning
<p>6. Medical</p>	<ul style="list-style-type: none"> • Hospital <ul style="list-style-type: none"> - Identify any issues with accessing facilities - Initial Impact assessment - Access to critical supplies e.g. medicines, consumables, power or fuel and water - ongoing acute clinical care and critical services requirements - increase morgue capacity Health Centres <ul style="list-style-type: none"> - identify any issues with accessing facilities - Access to critical supplies e.g. medicines, consumables, power or fuel and water • GP clinics and pharmacies <ul style="list-style-type: none"> - identify operational GP services - identify operational pharmacies • Support Medically vulnerable people • Medical retrieval services (air and road) 	<ul style="list-style-type: none"> • Ongoing provision of health services <ul style="list-style-type: none"> - which may include business continuity plans - engagement with stakeholders • Repatriation of medically vulnerable people in community • GP clinics and pharmacies <ul style="list-style-type: none"> - ongoing liaison by the Medical Group • Medical retrieval services – resume business as usual

Activity	Response activities	Recovery activities
7. Essential goods and services	<ul style="list-style-type: none"> Establish emergency feeding and food distribution points Assessing the damage to suppliers and retailers of critical resources Assess the impact on barge operations and any effect on the ability to supply remote communities Implement interim banking arrangements 	<ul style="list-style-type: none"> Support the re-opening of the private business sector Monitor levels and availability of essential goods Manage logistics arrangements supplying resources to outlying communities Public Health inspections (food outlets) Banking sector business continuity arrangements
	<u>Fuel</u> <ul style="list-style-type: none"> Fuel suppliers and point of sale Manage fuel supplies to emergency power generation 	<ul style="list-style-type: none"> Monitor fuel levels Infrastructure repairs Emergency fuel supplies for recovery Liaise with fuel suppliers, distributors and wholesalers to re-establish long term supply
	<u>Banking</u> <ul style="list-style-type: none"> Assess damage to banks and ATMs Implement temporary arrangements 	<ul style="list-style-type: none"> Emergency cash outlets Implement long term arrangements
8. Evacuation	<ul style="list-style-type: none"> Evacuations within community Evacuation out of community Registration 	<ul style="list-style-type: none"> Support services for evacuees Recovery information for evacuees Repatriation
9. Public Health	<ul style="list-style-type: none"> Communicable disease control response Drinking water safety standards Sewage and waste disposal Safe food distribution and advice Vector and vermin control Food and commercial premises 	<ul style="list-style-type: none"> Ongoing in recovery
10. Utilities	<ul style="list-style-type: none"> Power supply Power generation Water supply 	<ul style="list-style-type: none"> Restore power network Restore water and sewerage infrastructure

Activity	Response activities	Recovery activities
	<ul style="list-style-type: none"> • Sewerage • Emergency sanitation 	<ul style="list-style-type: none"> • Issue alerts until safe to use
11. Impact assessments	<ul style="list-style-type: none"> • Training assessment teams • Initial impact assessments 	<ul style="list-style-type: none"> • Comprehensive impact assessments • Ongoing needs assessments
12. Transport infrastructure (supply lines)	<u>Air (Airport/Airstrip)</u> <ul style="list-style-type: none"> • Clear the runway to allow air movements • Establish a logistics hub at the airport • Terminal damage and operational capability assessment 	<ul style="list-style-type: none"> • Monitor repairs and business continuity activities
	<u>Road</u> <ul style="list-style-type: none"> • Highway and critical access roads damage assessment • Repair work to commence immediately 	<ul style="list-style-type: none"> • Planning and prioritising repair work of all affected key Territory Highways (Stuart, Barkly, Victoria and Arnhem)
	<u>Rail</u> <ul style="list-style-type: none"> • Rail damage assessment • Outage estimation 	<ul style="list-style-type: none"> • Ongoing liaison with operator to support restoration to business as usual
	<u>Port, Harbour and Barge</u> <ul style="list-style-type: none"> • Assess damage to port infrastructure and harbour facilities <p>Assess the damage to barge facilities</p>	<ul style="list-style-type: none"> • Repairing infrastructure <p>Establish alternate arrangements for the supply of remote communities</p>
13. Waste management	<ul style="list-style-type: none"> • Waste management requirements and develop waste management plan if required 	<ul style="list-style-type: none"> • Continues in recovery
14. Repairs and reconstruction	<ul style="list-style-type: none"> • Private housing <ul style="list-style-type: none"> - impact assessments - temporary repairs • Government buildings <ul style="list-style-type: none"> - damage assessment • Public housing <ul style="list-style-type: none"> - impact assessments • Private industry <ul style="list-style-type: none"> - damage assessments 	<ul style="list-style-type: none"> • Private housing <ul style="list-style-type: none"> - information and support to facilitate repairs • Government buildings <ul style="list-style-type: none"> - repairs and reconstruction • Public housing <ul style="list-style-type: none"> - long term repair plans • Private industry

Activity	Response activities	Recovery activities
		<ul style="list-style-type: none"> - repair and reconstruction • Temporary accommodation for a visiting construction workforce
15. Transport services	<ul style="list-style-type: none"> • Staged re-establishment of public transport services 	<ul style="list-style-type: none"> • Continues in recovery
16. Telecommunications	<ul style="list-style-type: none"> • Telstra and Optus will assess the damage to their infrastructure • Put in place temporary measures to enable landline and mobile services 	<ul style="list-style-type: none"> • Repair damage networks and infrastructure (for private entities there is support for operators only)
17. Public safety	<ul style="list-style-type: none"> • Police will maintain normal policing services to the community 	<ul style="list-style-type: none"> • Gradual return to business as usual
18. Animal welfare	<ul style="list-style-type: none"> • Temporary emergency arrangements for pets 	<ul style="list-style-type: none"> • Reunite pets with their owners and cease emergency support arrangements
19. Community consultation	<ul style="list-style-type: none"> • Information provision regarding the overall situation, response efforts, what services are available and how to access them 	<ul style="list-style-type: none"> • Community consultation process regarding long term recovery and community development

12. Acronyms

Acronyms	Definitions
AAPA	Aboriginal Areas Protection Authority
ABC	Australian Broadcasting Corporation
ADF	Australian Defence Force
AEP	Aerodrome Emergency Plan
AIIMS	Australasian Inter-Service Incident Management System
ARFFS	Aviation Rescue and Fire Fighting Service
BFNT	Bushfires NT
CBD	Central Business District
CM&C	Department of the Chief Minister and Cabinet
DCDD	Department of Corporate and Digital Development
DCF	Department of Children and Families
DLI	Department of Logistics and Infrastructure
DLPE	Department of Lands, Planning and Environment
DET	Department of Education and Training
DoH	Department of Health
DTBAR	Department of Trade, Business and Asian Relations
EOC	Emergency Operations Centre
ERA	Emergency Response Area
ICC	Incident Control Centre
ICP	Incident Control Point
JESCC	Joint Emergency Services Communications Centre
KM	Kilometres
KTC	Katherine Town Council
LCC	Local Coordination Centre

Acronyms	Definitions
LEC	Local Emergency Committee
LRCC	Local Recovery Coordination Committee
M	Metres
MM	Millimetres
NERAG	National Disaster Risk Assessment Guidelines
NT	Northern Territory
NTES	Northern Territory Emergency Service
NTFES	Northern Territory Fire and Emergency Services
NTFRS	Northern Territory Fire and Rescue Service
NTG	Northern Territory Government
NTPF	Northern Territory Police Force
RAAF	Royal Australian Air Force
RAT	Rapid Assessment Team
RCC	Rescue Coordination Centre
SAR	Search and Rescue
SEWS	Standard Emergency Warning Signal
SITREP	Situation Report
TDO	Territory Duty Officer
TEMC	Territory Emergency Management Council
WebEOC	Web-Based Emergency Operations Centre