

Borroloola

Local Emergency Plan



Contents

1. Document control	4
1.1. Governance.....	4
1.2. Version history	4
1.3. Local Emergency Committee members and key stakeholders engaged for review	5
2. Acknowledgement of Country	6
3. Introduction.....	6
3.1. Purpose.....	6
3.2. Application	6
3.3. Key considerations	6
4. Locality context	7
4.1. Climate and weather	9
4.2. Geography.....	9
4.3. Sacred sites	9
4.4. Sites of conservation.....	9
4.5. Tourism.....	9
4.6. NT and local government.....	10
4.7. Building codes	10
4.8. Land use.....	10
4.9. Homelands	11
4.10. Power generation and distribution	11
4.11. Water services	11
4.12. Health infrastructure	11
4.13. Medically vulnerable clients	12
4.14. Emergency service infrastructure	12
4.15. Roads	12
4.16. Airports.....	13
4.17. Port infrastructure (barge landing).....	13
4.18. Telecommunication.....	13
4.19. Strengthening Telecommunications Against Natural Disasters	14
4.20. Local radio stations	14
5. Prevention	15
5.1. Emergency risk assessments	15
5.2. Disaster hazard analysis and risk register	15
5.3. Hazard specific prevention and mitigation strategies.....	15
6. Preparedness.....	16
6.1. Planning	16
6.2. Emergency resources and contacts	16
6.3. Training and education	16
6.4. Community education and awareness	16

6.5. Exercises.....	17
7. Response	17
7.1. Activation of the Plan	17
7.2. Control and coordination	17
7.3. Local Emergency Controller	18
7.4. Local Emergency Committee	18
7.5. Emergency Operations Centre/Local Coordination Centre	18
7.6. WebEOC.....	18
7.7. Situation reports	18
7.8. Stakeholder notifications	19
7.9. Official warnings and general public information	19
7.10. Australasian Inter-Service Incident Management System	20
7.11. Closure of schools.....	20
7.12. Closure of government offices.....	20
7.13. Sheltering in community	20
7.14. Emergency shelters or strong buildings.....	21
7.15. Evacuation	22
7.16. Identified evacuation centres	23
7.17. Impact assessment.....	23
8. Recovery	24
8.1. Local Recovery Coordinator and Coordination Committee.....	24
8.2. Transitional arrangements	24
9. Debrief.....	25
10. Related references.....	25
11. Annexures.....	25
11.1. Annex A: Functional groups - roles and responsibilities	26
11.2. Annex B: Functions table.....	27
11.3. Annex C: Prevention, mitigation strategies and action plans for identified hazards	30
11.3.1. Fire.....	30
11.3.2. Flooding.....	36
11.3.3. Heatwave	44
11.3.4. Road crash.....	46
11.3.5. Storm and water damage	47
11.3.6. Tropical cyclone	49
11.4. Annex D: Summary of response and recovery activities	57
12. Acronyms.....	62

1. Document control

1.1. Governance

Document title	Borroloola Local Emergency Plan
Contact details	NT Emergency Service, Planning and Preparedness Command
Approved by	Territory Controller
Date approved	12 December 2014
Document review	Annually
TRM number	04-D25-107611

1.2. Version history

Date	Version	Author	Summary of changes
15/12/2014	1	John McRoberts	First version
04/11/2015	2	Reece P Kershaw	Reviewed and updated
30/12/2016	3	Kate Vanderlaan	Reviewed and updated
28/11/2018	4	Travis Wurst	Reviewed and endorsed by the Regional Controller, as the Territory Controller's delegate
20/01/2020	5	Michael Hebb	Reviewed and endorsed by the Regional Controller, as the Territory Controller's delegate
17/11/2020	6	Travis Wurst	Reviewed and endorsed by the Regional Controller, as the Territory Controller's delegate
13/01/2021	7	Janelle Tonkin	Reviewed and endorsed by the Regional Controller, as the Territory Controller's delegate
13/06/2023	8	Travis Wurst	Reviewed and endorsed by the Regional Controller, as the Territory Controller's delegate
13/06/2024	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
06/01/2026	11	James A O'Brien	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.

1.3. Local Emergency Committee members and key stakeholders engaged for review

The following Local Emergency Committee members and key stakeholders were engaged with during the review of the Borroloola Local Emergency Plan, to ensure it addresses the specific needs of the community.

Agency/organisation	Name	Role/position
Northern Territory (NT) Police Force	Katrina Cooper	Local Controller
NT Emergency Service (NTES)	Jodi Reed	Observer
NTES	Mark Cunnington	Observer
NTES	David Travers	Operations Officer
McArthur River Mine	Geoff McCumstie	Committee member
NT Fire and Emergency Response Group (FERG)/Power Projects	Jamie Seib	Committee member
	Stephanie Blitner	Committee member
Dept. of the Chief Minister and Cabinet (CM&C)	Dilan Andra Hannadige	Committee member
CM&C	Sean Hartley	Committee member
CM&C	Thomas Archibold-Manning	Observer
Dept. Housing, Local Government and Community Development (DHLGCD)		Committee member
DHLGCD		Committee member

2. Acknowledgement of Country

The NTFES and the NT Police Force (NTPF) acknowledges the First Nations people throughout the 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 Borroloola 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 71,400 square kilometres (km) and is located approximately 470 km south-east of Katherine by direct line and approximately 660 km by road.

At peak times, the listed population of the Locality of 2,500 can increase to approximately 4,000 people. The main population centres are Borrooloola and Robinson River, including the 4 town camps within its boundary of Garawa Camp 1, Garawa Camp 2, Yanyula Camp and Mara Camp.

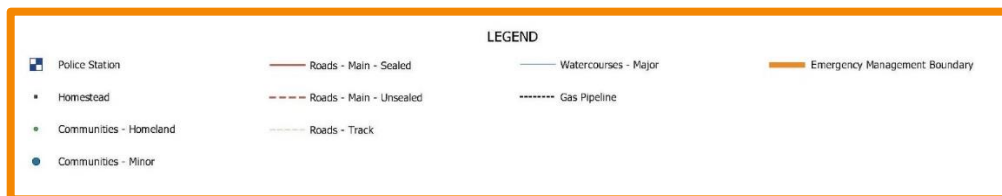
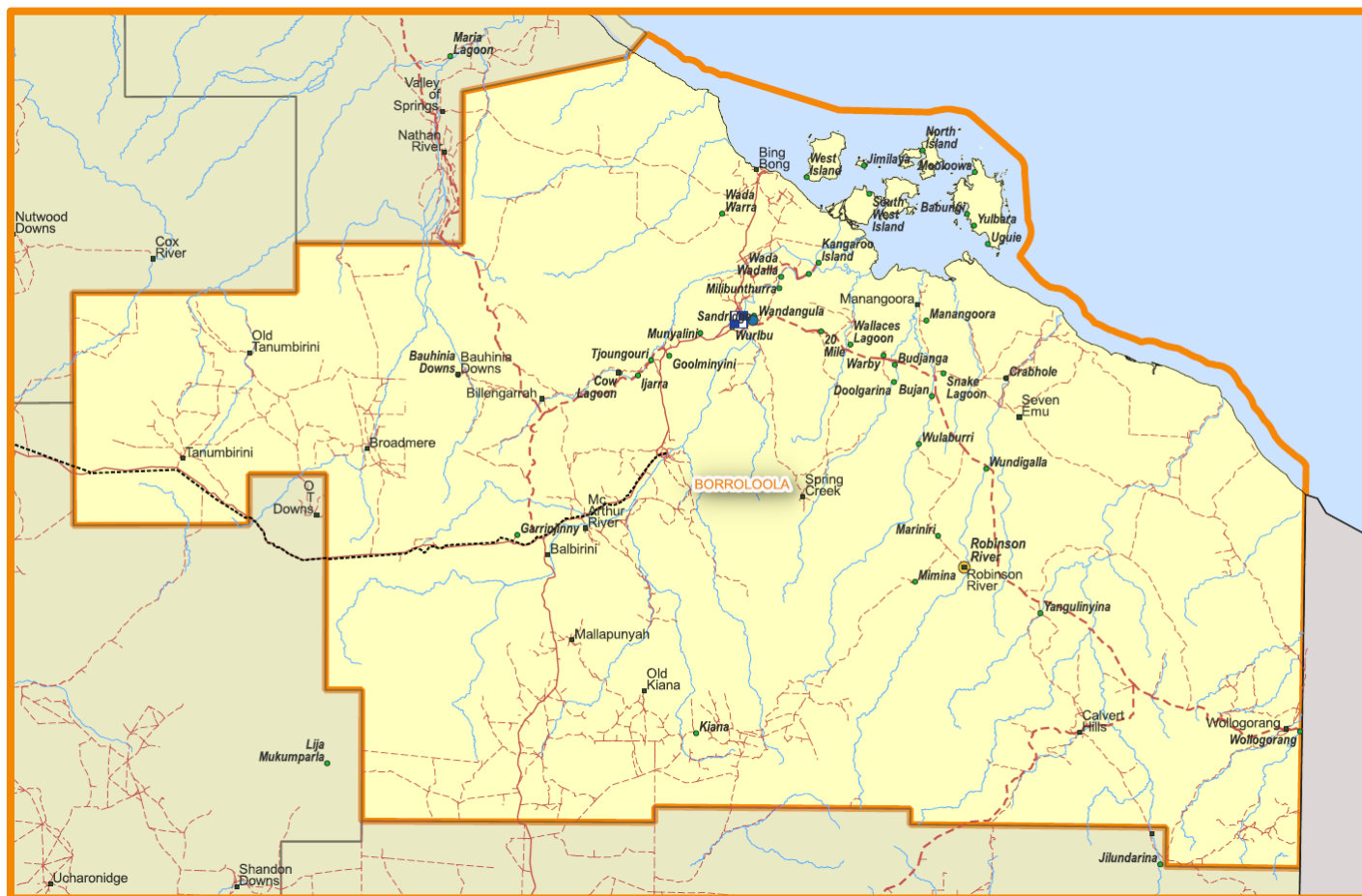
The population of the Locality fluctuates with the onset of the Wet Season bringing people from other regions into the Locality. As well as the Borrooloola communities, there are several homelands/outstations in the Locality. Population numbers for these outstations can vary widely during the year:

Bushtel ID	Locality	Aliases	Approx. population
11092	Borrooloola		558
258	Robinson River	Mungoorbada	211
Bushtel ID	Homelands	Aliases	Approx. population
212	Bauhinia Downs	Gurdanji Bingbinga	11
11092	Borrooloola Village		42
972	Cow Lagoon	Talwallah	6
24901	Crabhole		less than 5
229	Garawa 1	Borrooloola Town Camp and Garawa	93
992	Garawa 2	Borrooloola Town Camp	80
993	Garrinjinny	Garrinjini	14
723	Goolminyini	Devil Spring	32
722	Kiana		15
273	Kangaroo Island	Looganwarra and Yameeri	10
222	Mara – Town Camp	Borrooloola Town Camp and Mala Camp	136
990	Mooloowa	Cape Vanderlin and Muluwa	5
249	Munyalini	Campbell Springs and Minyallini	44
988	Sandridge	Police Lagoon	16
262	South West Island	Wathanka and Wathunga	10
256	Wandangula	Police Lagoon, Wanda Ngula and Wandagula	42
815	Wada Wadalla	Blackfellow Creek and Wada Wadala	less than 5
214	Wada Warra	Bing Bong, Bone Lagoon, Wada Wara, Warranbarru Assoc and Wurrunburra Assoc	17
274	West Island	Wurdijiya, Wurdiliya, Wurdilya and Yathunga	8
275	Wollogorang	Branch Creek, Djangalina and Jungalina	less than 5
278	Yanyula	Borrooloola Town Camp and Yuanula	172

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>

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.



³ More information can be found at: [BushTel - Remote Communities of the NT](#)
Borroloola Local Emergency Plan | V11.0

4.1. Climate and weather

There are 2 main seasons in the Locality, the Wet Season (October to April) and the 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.

4.2. Geography

The Locality ranges from relatively flat plains with coastal hilly outcrops rising to approximately 125m. The Locality is drained by a number of rivers and creeks.

Of note, are:

- Cox River
- Wearyan River
- Robinson River
- McArthur River
- Nicholson River
- Calvert River
- Foelsche River
- Batten Creek - crossing Carpentaria Highway, King Ash Bay access
- Rocky Creek - crossing Robinson Road, Borroloola

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 Sir Edward Pellew Islands Group, the Borroloola area, the McArthur River coastal floodplains and the Wollogorang and China Wall sandstone ranges are all sites of conservation significance to the NT, for further information contact Department of Lands, Planning and Environment (DLPE).

4.5. Tourism

Tourism is also a significant economic contributor for the Locality, particularly throughout the months of May to October, with King Ash Bay drawing thousands of visitors annually as a popular fishing destination. The King Ash Bay Fishing Club serves as the primary destination for visiting anglers and is renowned for hosting fishing competitions that attract competitors from across Australia.

4.6. NT and local government

This Locality sits within the Big Rivers region, with the following NT Government (NTG) agencies that have a presence in the Locality:

- NTPF
 - Borroloola Police Station
 - Robinson River Police Station
- NTFES
 - NT Fire and Rescue Service (NTFRS), Borroloola Fire and Emergency Response Group (FERG)
- Department of Health (DOH)
 - Borroloola Health Centre
 - Robinson River Health Centre
- Department of Education and Training (DET)
 - Borroloola School
 - Robinson River School
- Department of Children and Families (DCF)
- Department of Tourism and Hospitality
 - Parks and Wildlife
- Attorney-General's Department
 - Community Corrections

The Locality is within the Roper Gulf Regional Council (RGRC) local government area. While the council headquarters is located in Katherine, there is a service delivery centre located in Borroloola.

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

Land use is primarily a mix of pastoral as well as limited protected areas and private property, and include infrastructure in the areas of:

- residential
- Indigenous protected areas
- sewerage ponds
- mining
- air strips
- waste management
- cemeteries
- pastoral
- tourism

Pastoral estates in the Locality include:

- Lorella
- Broadmere
- Tanumeirini
- Mallapunyah Springs
- Kiana
- Calvert Hills
- Wollogorang
- Seven Emu
- Pungalina
- Greenbank
- Manangoora
- Spring Creek
- Carpenteria Downs
- McArthur River

The RGRC have contracts in place to service the air strip and the waste management (both of which are on the land trust).

4.9. Homelands

Homelands (outstations) 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 Mabunji Aboriginal Resource Indigenous Corporation and Aboriginal Enterprises Australia. 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

All power supplied to Borroloola comes from a stand-alone diesel power station, with a solar farm established to supplement power generation. Robinson River and King Ash Bay are also run on an independent power generator.

4.11. Water services

Borroloola is serviced by ground water as the primary water source, drawn from bores. Robinson River has a limited groundwater source and limited surface water source and King Ash Bay source their water from bores.

4.12. Health infrastructure

The Borroloola Health Centre and Robinson River Health Centre have the capacity to provide emergency medical aid in addition to routine health treatment. Serious medical cases are required to be medically evacuated to Darwin or Katherine. Patients can be evacuated either via road or air.

4.13. Medically vulnerable clients

The Borroloola and Robinson River Health Centres have lists of medically vulnerable clients and are updated regularly. There are both permanent and visiting general practitioners. Malandari Aged Care is the one aged care facility in the Locality, based in Borroloola, and is operated by Mabunji Aboriginal Resource Indigenous Corporation.

4.14. Emergency service infrastructure

The Locality has the following emergency service infrastructure:

- Borroloola Police Station and cells
- Robinson River Police Station
- Borroloola NTFRS FERG
- Borroloola Health Centre
- Robinson River Health Centre

4.15. Roads

The Carpentaria Highway is the major road for the Locality, running from Stuart Highway to Borroloola and is a mix of single or dual lane sealed.

Wollogorang Road is an unsealed road which runs from Borroloola to the Queensland border, and is a key travel route for Robinson River, as it connects to the Robinson River Access Road (also unsealed), and a number of populated outstations.

Bing Bong Road leads to the Bing Bong Loadout Facility and is dual lane sealed, and also connects to Batten Road, which is unsealed, and is the access route for King Ash Bay and a number of populated outstations.

The Tablelands Highway is a single lane sealed road which runs south from Cape Crawford to the Barkly Highway beyond the Locality. The Nathan River Road travels north from Cape Crawford to the Roper Highway beyond the Locality, and is unsealed for the entirety of its length. During the Wet Season, many 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
Borroloola	16°04'35"S 136°18'13"E	Non-Certified	Sealed 1249 m x 30 m	RGRC
McArthur River Mine	16°26'39"S 136°04'56"E	Certified	Sealed 2500 m x 23 m	McArthur River Mine
Bessie Springs (McArthur River Station)	16°39'S 135°51'E	Non-Certified	Red gravel 1000 m x 30 m	Bessie Springs Manager
Mallapunyah Springs Station	16°58'S 135°47'E	Non-Certified	Red gravel 1160 m x 30 m	Local Manager
Robinson River Community	16°43'S 136°57'E	Non-Certified	Sealed 1260 m x 30 m	CEO Mungoorbada Aboriginal Corporation
Wollogorang Station	17°13'S 137°56'E	Non-Certified	Red gravel 1800 m x 30 m	Local Manager
Nathan River Station	15°56'S 135°24'E	Non-Certified	Red gravel 1300 m x 50 m	Local Manager
Merlin Mine	16°49'21"S 136°19'54"E	Non-Certified	Compacted gravel all weather 2500 m x 30 m	Camp Manager
Calvert Hills	17°12'27"S 137°21'10"E	Non-Certified	954 m x 35m	Station Manager

Certified Aerodrome: An airport officially approved by the Australian Government Civil Aviation Safety Authority (CASA) that meets strict safety and operational standards, often including air traffic control services⁴.

4.17. Port infrastructure (barge landing)

The Locality has a barge landing located at Bing Bong 45 km to the east of Borroloola, which is operated by the McArthur River Mine.

4.18. Telecommunication

Telecommunications are available across the Borroloola area via a combination of landline, mobile and satellite communications delivery. Mobile phone reception is also in both Borroloola and Robinson River (close to the Mungoorbada Aboriginal Corporation Office, as well at the McArthur River Mine). Across the remainder of the Locality satellite communications are the only available service.

⁴ More information can be found at: <https://www.casa.gov.au/operations-safety-and-travel/aerodromes>
Borroloola Local Emergency Plan | V11.0

4.19. Strengthening Telecommunications Against Natural Disasters

As a result of the Royal Commission into the 2019-2020 summer bushfires, the Commonwealth government implemented the Strengthening Telecommunications Against Natural Disasters (STAND) initiative. STAND is a Commonwealth funded program, aimed at enhancing the resilience of Australia's telecommunication networks, to prevent, mitigate and manage outages during emergencies.

There are currently 56 sites across the Territory that have STAND capability, and additional sites will be incorporated within the next stage of installation.

There are 2 STAND sites within this Locality which are located and managed by the following facilities:

- Borroloola School
- Robinson River School

4.20. Local radio stations

Borroloola has the following radio stations broadcasting in the Locality:

- 106.1 FM Australian Broadcasting Corporation (ABC) Radio
- 102.9 FM TEABBA Radio (Top End Aboriginal Bush Broadcasting Association) and Mabuntji
- 107.7 FM ABC Radio national

5. Prevention

5.1. Emergency risk assessments

The Borroloola 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, as outlined in the Territory Emergency Plan, 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 LEC has identified the following hazards as posing a risk to the Locality, with further advice provided within **Annex C** for those hazards rated at medium risk or higher:

- air crash
- bushfire (within Fire Protection and Management Zones)
- flooding
- fire (within Gazetted Area)
- hazardous material
- heatwave
- road crash
- storm and water damage
- tropical cyclone

Hazard	Overall Consequence	Overall Likelihood	Risk Rating
Air crash	Minor	Rare	Low
Bushfire (within Fire Protection and Management Zones)	Moderate	Unlikely	Medium
Fire (within Gazetted Area)	Moderate	Unlikely	Medium
Flooding	Moderate	Likely	High
Hazardous material	Minor	Unlikely	Low
Heatwave	Moderate	Unlikely	Medium
Road crash	Moderate	Likely	High
Storm and water damage	Minor	Likely	Medium
Tropical cyclone	Major	Likely	Extreme

5.3. Hazard specific prevention and mitigation strategies

Prevention and mitigation relate to measures that 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 the hazards identified in emergency risk planning and how those hazards can impact all aspects of the community.

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 plans⁵ are required by the Act and are maintained at a Territory, regional and local level. Arrangements in the plans aim to be flexible and scalable for all hazards. The planning process enables agreements to be reached between people and organisations in meeting community 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 NT Emergency Service (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
- NT swimming and first aid program
- Australian Red Cross Pillowcase Program

⁵ More information can be found at: <https://pfes.nt.gov.au/emergency-service/publications>

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 in the plan have not been enacted since the last review, or substantial changes have occurred, including:

- legislative changes
- 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 outline 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. 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.

7.2. 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 the 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.

7.3. 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 for the Locality is the Officer In Charge of the Borrooloola 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.

7.4. Local Emergency Committee

In accordance with section 80 of the Act, the Territory Controller has established a Borrooloola LEC. The Local Controller is chair of the LEC and remaining membership consists of representatives from NT Government and non-government entities within the Locality. Division 11 of the Act specifies the establishment, functions, powers, and membership and procedure requirements of a LEC.

7.5. 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 the Local Controller 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 Borrooloola 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.

7.6. 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.

7.7. 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.

7.8. 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)⁶ 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, 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. Sheltering in community

The TEMC have identified the need to review opportunities to support 'sheltering in community' for weather-vulnerable communities under the NT Emergency Management Arrangements.

In the NT, 'sheltering in community' means residents remain in their community in a safe place before, during, and after a hazard. This may include staying at home or arranging their own safe accommodation. For those without options, formal emergency shelters or temporary accommodation may be provided by Incident Controllers until it's safe to return home.

This approach can be supported by additional community resources like personnel, goods, or equipment. While evacuation remains an option, sheltering in community is often safer and more effective when supported. The decision depends on community capacity and the specific event.

⁶ More information can be found at: <https://pfes.nt.gov.au/emergency-service/publications>
Borroloola Local Emergency Plan | V11.0

7.14. Emergency shelters or strong buildings

Emergency shelters and strong buildings are places of refuge 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
Borroloola Sports Court	600
Borroloola Police Station and cells	75
Borroloola School Workshop training centre	50
Borroloola Primary School	250
Borroloola Secondary Unit (High School)	200
RGRC Council Office	100
Rrumburriya Brick Office	30
Robinson River Police Station	200
Robinson River Health Clinic	300
Robinson River Mungoorabada Office	60

Those whose normal accommodation has been assessed as cyclone safe are to be encouraged to remain in their homes to reduce the burden on emergency shelters. However once emergency shelters are opened, no person is to be refused entry. Persons with special needs, the aged, the infirm and persons under the influence of drugs or alcohol are to be assessed by the shelter management team upon entry into the emergency shelter.

In the Northern Territory, the DET is the lead agency responsible for the management of emergency shelters during emergency events, working in conjunction with the NTPF and shelter owners. In Borroloola, the Roper Gulf Regional Council (RGRC) owns and manages the community's primary shelter at the Borroloola Sports Court, including the provision of trained staff during shelter activation. Additional shelters identified in this plan are supported by staff from the Rrumburriya, Mungoorabada and Mabunji Resource Centres, who are responsible for supporting their respective facilities.

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
- the maintenance of effective liaison with other stakeholders with responsibilities relating to cyclone 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 to determine if food will be provided.

7.15. Evacuation

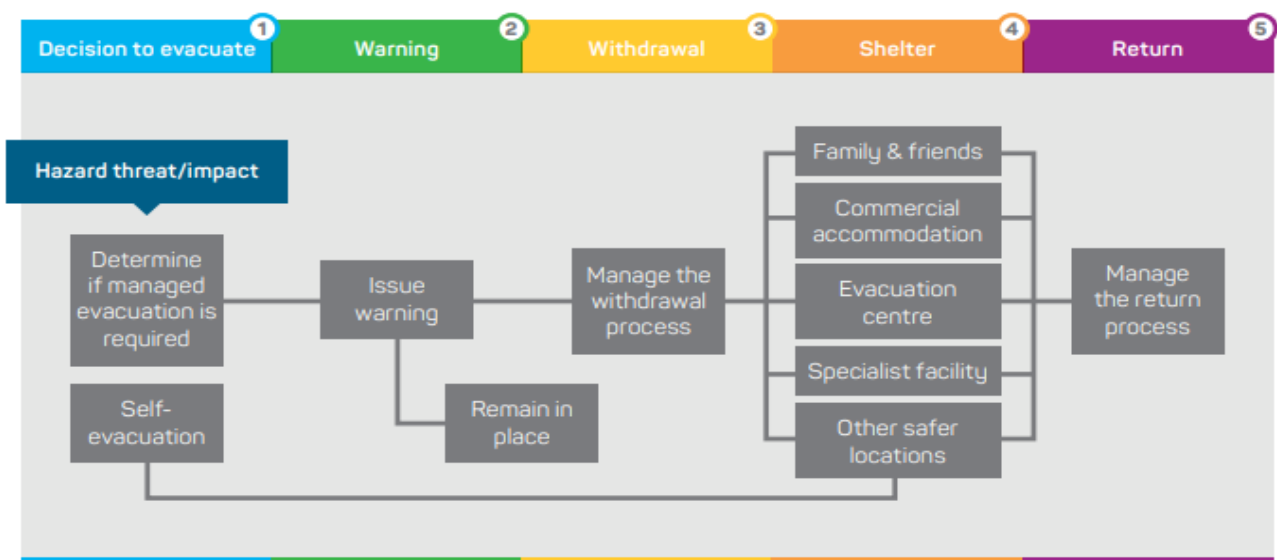
Evacuation is a risk management strategy that can be used to mitigate the effect of an emergency or disaster on a community. It involves the movement of people to a safer location and their return. The decision to evacuate a community, including establishing an evacuation centre, is not taken lightly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

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 Planning Handbook*, 2017

7.16. 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's provision of some or all of these services is in contrast to an emergency shelter, in which people are expected to be self-sufficient.

For further information on evacuation centre management, refer to the NT Evacuation Field Guide available on WebEOC.

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. 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.

In the NT, the Department of the Chief Minister and Cabinet (CM&C) lead recovery coordination.

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 CM&C.

The Local Recovery Coordinator will be an employee of the Big Rivers Region's CM&C office and 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.

Local Recovery Coordinator and Committee 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 D**.

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 (IMT) 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:

- *Emergency Management Act 2013*
- *Northern Territory Aboriginal Sacred Sites Act 1989*
- *Aboriginal Land Rights (Northern Territory) Act 1976 (Cth)*
- *Building Act 1993*
- *Building Regulations 1993*
- Territory Emergency Plan
- Northern Regional Emergency Plan
- National Disaster Risk Reduction Framework
- National Disaster Risk Assessment Guidelines
- Rapid Assessment Team Guidelines
- 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 Summary of response and recovery activities

11.1. Annex A: Functional groups - roles and responsibilities

Functional Group	Local Contact
Animal Welfare	RGRC Vet Program
Critical Goods and Services	Department of Trade, Business and Asian Relations (DTBAR)
Digital and Telecommunications	Department of Corporate and Digital Development (DCDD)
Emergency Shelter	Borroloola School
Engineering	Department of Logistics and Infrastructure (DLI)
Industry	DTBAR
Medical	Top End Health Service/Borroloola Health Clinic and Robinson River Health Clinic
Public Health	Top End Health Service/Borroloola Health Clinic/ Robinson River Health Clinic
Public Information	CM&C
Public Utilities	Power and Water Corporation (PAWC)/AUS Projects
Survey, Rescue and Impact Assessment	NTPF
Transport	DLI with local supporting agencies
Welfare	DCF

Full details on functional groups 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/RGRC
Anti-looting protection	NTPF
Banking services	Traditional Credit Union/ATM Post Office/Malandari Store/Red Dirt Supermarket/Gulf Mini Mart/TJS One Stop/Robinson River Store
Broadcasting: what radio stations provide announcements?	ABC radio – Voice of the Gulf/Mabunji
Clearing of essential traffic routes	RGRC/DLI/Mabunji
Clearing storm water drains	RGRC/Mabunji
Clothing and household Items	Malandari Store/Red Dirt Supermarket/Gulf Mini Mart/TJS One Stop/Robinson River Store
Community clean up	RGRC/Mabunji/Individual property owners
Control, coordination and management	Designated Control Authority
Coordination to evacuate public	NTPF
Critical goods and services (protect/resupply) <ul style="list-style-type: none"> • food • bottle gas • camping equipment • building supplies 	DTBAR/Mabunji/Malandari Store/Red Dirt Supermarket/Gulf Mini Mart/TJS One Stop/Robinson River Store/Cairns Industries
Damaged public buildings: coordination and inspections	DLI/Department of Housing, Local Government and Community Development (DHLGCD)/Business owners
Disaster victim identification capability	NTPF
Emergency Alert	NTPF/NTFES
Emergency food distribution	Malandari Store/Red Dirt Supermarket/Gulf Mini Mart/TJS One Stop/Robinson River Store/Mabunji Aged Care Services
WebEOC	NTPF/NTFES
Emergency shelter, staff, operations and control	DET and shelter owners

Functions	Agency/organisation/provider responsible
Evacuation centre - staffing, operations and control	DCF
Financial relief/assistance Payments of NDRRA (National Disaster Relief and Recovery Assistance)	CM&C/DCF (Category A measures to individuals)/DTBAR (Category B measures)
Identification of suitable buildings for shelters	DLI/DET/Shelter owners
Interpreter services	Aboriginal Interpreter Services
Management of expenditure in emergencies	Controlling Authority and any activated functional groups at the direction of the Controlling Authority
Medical services	Borroloola Health Clinic/Robinson River Health Clinic
Network communications (IT): responders/public maintenance and restoration of emergency communication	Telstra – DCDD
Power protection and restoration:	PAWC/AUS Projects
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 	Borroloola Health Clinic/Robinson River Health Clinic/DOH
Rapid Impact Assessment	NTPF
Recovery coordination	CM&C
Repatriation	As per local arrangements/CM&C
Restoration of public buildings	DLI/DCF/Mabunji/DHLGCD
Restoration of roads and bridges (council/territory) excluding railways	DLI/RGRC
Road management and traffic control including public Information on road closures	NTPF/RGRC/DLI
Sewerage: protection and restoration	PAWC/AUS Projects
Survey	NTPF/NTFES

Functions	Agency/organisation/provider responsible
Traffic control	NTPF/RGRC/DLI
Transport: commercial and public airport/ planes, automobiles, ferries, buses	DLI
Vulnerable groups (medical)	Borroloola Health Clinic/Robinson River Health Clinic
Waste management <ul style="list-style-type: none"> • collection • disposal of stock 	RGRC – Borroloola AUS Projects – Robinson River
Water (including drinking water): protection and restoration	PAWC/AUS Projects

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

11.3.1. 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)

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

In the NT, managing bushfire and vegetation on private properties is the responsibility of the landowner.

Landholder responsibility to control fire

The landholder or occupier of land must take all reasonable steps to protect property on the land from fire and inhibit the fire from spreading.

If a landholder or occupier is unable to control a fire and prevent it from spreading to other land, they must:

- notify fire control officer or fire warden and all neighbouring property holders
- call 000 in an emergency.

Under section 90(3) of the *Bushfires Management Act* the landholder or occupier commits an offence if the fire has the potential to spread to other land and they fail to take reasonable steps to control the fire and to notify all parties.

Communication, co-operation and shared responsibility within the community, matched by a capacity to undertake self-protective measures, forms the basis of successful fire management throughout the NT.

Agency capabilities

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

The NTFRS are the Hazard Management Authority and Controlling Authority for fires within their jurisdiction. This means that the agency is responsible for managing technical aspects of responding to a fire and commanding its resources through their Incident Controller. This means that if a fire is occurring within an Emergency Response Area (ERA), then the NTFRS is the Controlling and Hazard Management Authority.

In areas that are located outside the NTFRS ERA and where there is no fire protection and management zones (BFNT), fire is the responsibility of the land owner or occupier. BFNT should be contacted when the owner or occupier are unable to control the fire. BFNT may contact the Local Controller to discuss local response arrangements and coordination of resources.

The NTFRS 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	<p>Level 2 incidents may be more complex either in size, resources or risk. They are characterised by the need for:</p> <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 • or, 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




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 (FPMZ). Permits to burn are required throughout the entire year inside an ERA or FPMZ and a minimum 4m wide firebreak within the perimeter boundary of all properties and additional firebreaks around permanent structures and stationary engines is required within an FPMZ
- BFNT Regional Fire Management Plan
- establishment of an Incident Management Team 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.

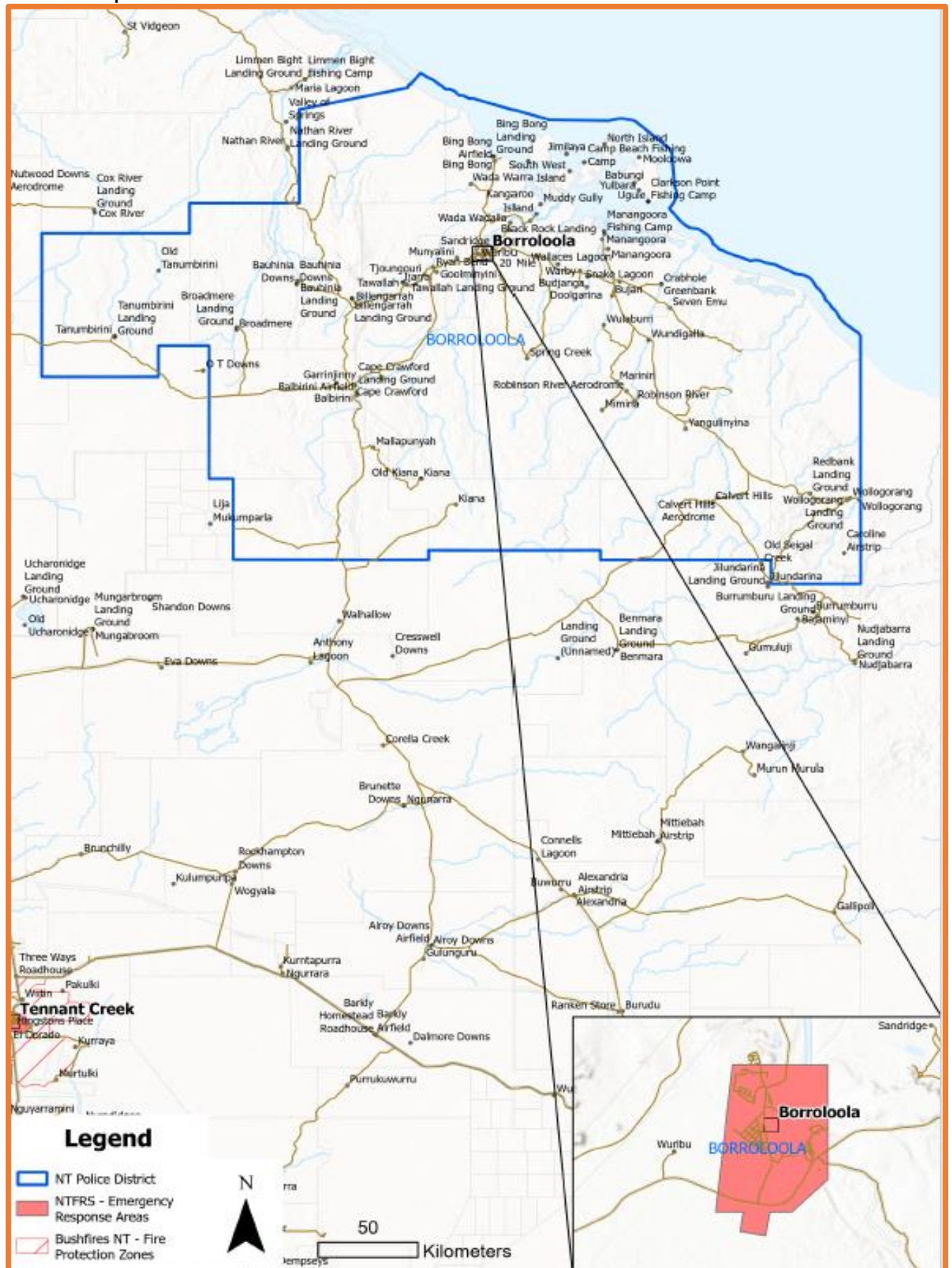
There are 3 warning levels:

	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 NTFRS as the controlling authority for fire within an emergency response area.

Fire ERA map - Borroloola




Actions to be taken – Fire – guide only

Organisation/ Provider	Stage 1: Alert	Stage 2: Standby	Stage 3: Activation	Stage 4: Stand down	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	Advise NTFRS Duty Officer and FERG involvement On receipt of advice, and as overall controller of the incident, if necessary: <ul style="list-style-type: none"> Convene a meeting of the LEC, to brief members on the situation Ascertain state of preparedness Determine the need to disseminate warning/information to the public 	Provide updates If necessary, ascertain the need to set up forward command post	Proceed to fire scene and if necessary, carry out the following: <ul style="list-style-type: none"> Establish a forward command post Coordinate requests for assistance from other agencies Act as on site media officer 	On completion of operation: <ul style="list-style-type: none"> Ensure all personnel (victims/responders) are accounted for Ensure all personnel are advised of debrief arrangements 	Attend debrief
FERG	Attend LEC meeting Prepare equipment and plan response Ensure community warnings are appropriate and disseminated	Convene FERG members and conduct full briefing Maintain contact with the Local Controller in relation to updates and planned responses	Attend fire scene Provide appropriate response Provide updates to the Local Controller	Monitor scene to prevent further outbreak Assess damage	Conduct debrief Assist the Local Controller in the recovery effort and conduct community awareness and preventions sessions

Organisation/ Provider	Stage 1: Alert	Stage 2: Standby	Stage 3: Activation	Stage 4: Stand down	Transition to recovery
Borrooloola Health Clinic		Prepare equipment to attend Prepare to triage patients	Attend forward command post Maintain presence at the health clinic Evacuate patients, if required	Stand members down Refurbish/replace all equipment used in the response Attend debrief	
Support organisations	Provide support as requested by the Local Controller				

11.3.2. Flooding

Hazard		Controlling Authority	Hazard Management Authority
	Flooding	NT Police Force	NT Fire and Emergency Services (NT Emergency Service)

Communities in the Locality may be subject to inundation or isolation caused by seasonal monsoonal/severe storm activity.

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. In the NT, this can include when a riverbank is at risk after several days of heavy rain.

Isolation is where communities/individuals are cut off from the rest of the area. This could mean some people in an area are affected by a flood while others are not. Flood events can cause long-term impacts on communities, such as disruptions to supplies of food, clean water, wastewater treatment, electricity, transport, communication, education and health care. Where isolation is likely to occur for an extended time, pre-season planning by the LEC is critical to ensure there will be limited disruptions to critical goods and services.

When such flooding occurs, access by both air and road may be severely restricted. A flood hazard includes a flood threat to the township, housing and infrastructure of the Locality including the surrounding areas. 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.

The severity of a flood event is usually stated in terms of the Annual Exceedance Probability (AEP) expressed as a percentage. The levels associated with a 1.0% AEP flood event is generally used for development control purposes. A flood event with a 1.0% AEP can be described as a flood which has odds of 100 to one of occurring in any one year. It is also referred to as a one in 100-year event but this can be confusing since a flood of this magnitude or greater could occur in successive years – even twice or more in one year is possible.

It should also be emphasised that floods more severe than the 1.0% AEP event are possible and that a bigger event will occur is not a matter of 'if' but 'when'. The largest flood possible is referred to as the Probable Maximum Flood (PMF) but the extent of such a flood has not been determined for Borroloola or any other population centre within the Locality. However, it may be of interest to note that the PMF for Katherine is some 3.5 m above the flood level associated with a 1.0% AEP event.

The township of Borroloola is situated on the northern bank of the McArthur River approximately 60 km upstream from the river mouth and about 10 km downstream of the tidal limit. The state of the tide during a flood event will affect the flood levels experienced at Borroloola and tide information should be consulted when a flood event is expected to occur.

River level records from 1962 to 2001 at the gauge at the Burketown Crossing show the Borroloola community has been threatened by a flood on several occasions during this period. 5 events exceeded 10 m with the main threat occurring in 2001 when the river reached 15.25 m. The second highest flood level recorded was in 1974 at 14.45 m and in 1993 the river reached 12.63 m. The 1991 flood was estimated to have been a 2.0% AEP event or a flood with odds of 50 to one of occurring in any one year.

In March 2024, the slow movement of ex-Tropical Cyclone Megan, resulted in very intense rainfall and flooding being recorded in catchments along the southern Gulf of Carpentaria coast, Borroloola and surrounding areas in the Locality. Borroloola recorded a two-day total of 370.6 mm and a record Major flood level was recorded in the McArthur River on 22 March 2024 (estimated to have peaked above the major flood level of 14.9 m).

Based on available flood modelling, a decision was made to partially evacuate the community in Borroloola to reduce pressure on local resources. Approximately 380 people were evacuated to Darwin over two days, 20-21 March 2024. The remaining residents were able to remain in the community, with approximately 100 people staying at the primary school, which was stood up as a public shelter.

Flooding of the McArthur River is generally brought about by monsoonal rains and active and decaying tropical cyclones passing over its catchment. Tropical cyclones and storms are natural occurrences that afford warning and because they are seasonal and reasonably predictable, they enable planned measures to be formulated and community preparation to be actioned prior to each season.

Most of the existing development within the township is above the estimated 1.0% AEP flood level. During such an event the few buildings in the area inundated are expected to only be subject to shallow flooding.

Refer to the floodplain and flood extent map⁷ on page 41 for the Borroloola area.

At 8.5 m at the gauge, the road between the old and new part of the town is cut at the culvert over Rocky Creek. At times, this crossing can remain impassable for days at a time. The closure restricts normal access to high ground from the old part of town and isolates the new area from the airstrip and the outside world. Boat access is available and operation is not considered dangerous as velocities do not exceed 0.2 m/s (0.75 km/hr) at the crossing. A flood need only exceed the 1.0% AEP event by 1.5 m for the airstrip to be affected and at this stage, the whole of the old part of town will be inundated.

McArthur River Mine also has gauges up river and can provide advice that is 2 days ahead of Borroloola.

The indicative impact of flood levels is indicated in the table below:

McArthur River at the Borroloola Crossing	
Measurement at gauge (m)	Effect in town
9.0 – Minor	Nil effect in town, bridge deck will begin to be impacted
13.7 – Moderate	Flooding will occur along roadways, bridge deck now submerged
14.9 – Major	Flooding will cover extensive areas

The Local Controller will be largely dependent on knowledge available at the local level in making judgements about the potential for flooding to occur. However, they should maintain contact with the duty forecaster at the Bureau to obtain information about rainfall extent and intensities over the catchment to provide firm guidance.

As the Hazard Management Authority the NTES have established, equipped and trained volunteer units available across the NT, of which are capable of responding to the impact of floods. Initial control and coordination will be through the NTES TDO, noting that FERG provide assistance when required.

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.

⁷ More information can be found at: <https://nt.gov.au/environment/water/water-in-the-nt/flooding-and-storm-surge/floodplain>
Borroloola Local Emergency Plan | V11.0

TOWN OF BORROLOOLA COMPUTED 1% AEP (1 in 100 Year) FLOOD EXTENT and FLOOD SURFACE CONTOURS

This map, one of a series of maps showing the 1% AEP (1 in 100 year) flood extent, 1% AEP (1 in 100 year) flood surface contours (1% AEP (1 in 100 year) and probable maximum flood (PMF) flood extent) and the town of Borroloola, was developed by the Department of Natural Resources, Environment, The Arts and Sport (DNRES) in the Northern Territory Government. The map was developed as part of the Northern Territory Government's Flood Mapping Study, which was completed in November 2011 and is available from:

Land Information Centres, Department of Lands & Planning
Email: landinfo@nt.gov.au

Darwin
1st Floor NAB House, 21 Smith Street, Darwin, Northern Territory 5000
T: (08) 8959 4400 F: (08) 8959 4400

Katherine
1st Floor Katherine Government Centre
5 First Street, Katherine, Northern Territory 5862
T: (08) 8959 4400 F: (08) 8959 4400
Internet: www.nt.gov.au/floods

LEGEND	
	Flood extent
	Flood surface contours (1% AEP) (1 in 100 year)
	Limit of mapping
	Water characteristic
	Intermittent creek
	Bridge / Causeway
	Property boundary
	Town boundary
	General place
	Water Community
	Family Outstation
	Town Camp
	Main road
	Minor road, sealed
	Minor road, unsealed
	Track

Notes:
This map delineates areas in and around the town of Borroloola which are subject to flooding by a 1% AEP (1 in 100 year) flood. The map is not intended to be used for flood risk assessment. The map is not intended to be used for flood risk assessment. The map is not intended to be used for flood risk assessment.

A 1% AEP flood (often referred to as the 100th flood) is defined as a flood which has a 1 in 100 chance of being equaled or exceeded in any one year.

This map is intended to be used as a guide only. It is not intended to be used for flood risk assessment. The map is not intended to be used for flood risk assessment.

For further information contact:
Water Resources Branch, Natural Resources Division,
Department of Natural Resources, Environment, The Arts and Sport
1st Floor NAB House, 21 Smith Street, Darwin, Northern Territory 5000
T: (08) 8959 4400 F: (08) 8959 4400 Email: water@nt.gov.au
Goyder Centre, Goyder Way, Adelaide, South Australia
Northern Territory of Australia

LIMITATIONS OF MODELLED RESULTS / DATA RELIABILITY



The hydrodynamic model used in this study has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography.

The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography.

The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography.

The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography.

The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography.

The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography.

The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography.

The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography.

The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography. The model has used a 10m resolution DEM (Digital Elevation Model) derived from aerial photography.

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

- radio, television and social media
- community engagement strategies
- LEC participate in education, training, exercises and continued professional development
- Community stores recommended to store 6 weeks minimum of food and fuel
- Local clinic recommended to store 6 weeks minimum of usual patient medication and maintain community vulnerability register




Public safety message process:

- the Bureau issues a flood advice to NTES TDO
- NTES TDO issues Australian Warning System to the NTFES Media Unit
- NTES TDO notifies Local Controller and NTES Manager Northern
- Local Controller notifies LEC
- NTES Manager Northern consults with the Bureau and Incident Controller (if appointed) to determine recommended messaging
- NTFES Media Unit, or Public Information Officer 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 Bureau's 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.

Actions to be taken – flooding⁸ – guide only

Organisation/ Provider	Minor	Moderate	Major	Falling river heights	Transition to recovery
All members	<p>Attend briefings</p> <p>Inform key personnel</p> <p>Provide SITREPs</p> <p>Assist the Local Controller as required</p>	<p>Attend briefings</p> <p>Inform key personnel</p> <p>Provide SITREPs</p> <p>Assist the Local Controller as required</p>	<p>Attend briefings</p> <p>Inform key personnel</p> <p>Provide SITREPs</p> <p>Assist the Local Controller as required</p>	<p>Attend briefings</p> <p>Inform key personnel</p> <p>Provide SITREPs</p> <p>Assist the Local Controller as required</p>	<p>Attend briefings</p> <p>Inform key personnel</p> <p>Provide SITREPs</p> <p>Assist the Local Controller as required</p> <p>Confirm debrief arrangements with the Local Recovery Coordinator</p> <p>Assist the Local Recovery Coordinator as required</p>
Local Controller	<p>Liaise with NTES TDO/EOC</p> <p>Undertake LEC meeting</p> <p>Disseminate warnings and information to the public as necessary</p>	<p>Liaise with NTES TDO/EOC</p> <p>Disseminate warnings and information to the public as necessary</p> <p>Prepare to close roads and evacuate if necessary</p>	<p>Liaise with NTES TDO/EOC</p> <p>Advise members of the major flood warning</p> <p>Brief members of the situation and confirm relocation arrangements and agency readiness</p> <p>Consider school closures and confirm evacuation procedures</p>	<p>Liaise with NTES TDO/EOC</p> <p>Disseminate post flood warnings and information to the public as necessary</p> <p>Monitor roads and consider survey and rescue, as necessary</p> <p>Consider commencement of</p>	<p>Liaise with EOC</p> <p>Disseminate flood cancellation notification and information to the public, as necessary</p> <p>Continue with recovery stage operations, as required</p> <p>Notify LEC of the stand-down declaration and provide debriefing details</p>

⁸ Action stages as per Flood products issued by the Bureau of Meteorology

Organisation/ Provider	Minor	Moderate	Major	Falling river heights	Transition to recovery
				recovery operations, if required	In conjunction with the Local Recovery Coordinator facilitate the handover of recovery operations, if required
Borroloola Health Centre/Robinson River Health Centre	<p>Brief health clinic personnel of the minor flood level</p> <p>Check equipment and first aid supplies</p> <p>Brief staff and maintain normal services</p> <p>Advise the Local Controller of state of preparedness and of any immediate requirements</p>	<p>Brief health clinic personnel of the moderate flood level</p> <p>Determine health and community services priorities and advise Local Controller</p> <p>Provide Local Controller with information and advice on communications, first aid, medical and public health and community service matters</p> <p>Check and prepare and secure health clinic stores and equipment</p>	<p>Brief health clinic personnel of the major flood level</p> <p>Initiate emergency management response procedures</p> <p>Brief personnel</p> <p>Keep the Local Controller advised on first aid and medical response details</p> <p>Maintain health services until either advised otherwise by Local Controller or conditions prevent continuation of service</p>	<p>Begin estimates for all staff and equipment and tasks required to refurbish stores</p> <p>Brief personnel</p> <p>Keep the Local Controller advised on first aid and medical response details</p> <p>Consider commencement of recovery stage operations, as necessary</p>	<p>Attend briefings</p> <p>Inform key personnel</p> <p>Provide SITREPs</p> <p>Account for all staff and equipment and refurbish stores</p> <p>Resume normal services</p> <p>Advise Local Controller of any perceived critical incident stress debriefing requirements</p> <p>Assist the Local Recovery Coordinator as required</p> <p>Provide necessary community health warnings</p>
Borroloola School/Robinson River School	<p>Brief education staff of the minor flood warning</p> <p>Advise the Local Controller of state of preparedness and</p>	<p>Brief education staff of the moderate flood warning</p> <p>Maintain normal education services until otherwise advised by</p>	<p>Brief education staff of the major flood warning</p> <p>Brief education personnel and initiate appropriate response procedures</p>	<p>Brief education staff</p> <p>Carry out duties as requested by the Local Controller</p>	<p>Brief education staff of the cancellation of flood warning</p> <p>Confirm debrief arrangements with Local Controller</p>

Organisation/ Provider	Minor	Moderate	Major	Falling river heights	Transition to recovery
	<p>availability of manpower</p> <p>Maintain normal education services</p>	<p>the Local Controller or conditions prevent continuation of service</p> <p>Carry out duties as requested by the Local Controller</p>	<p>Carry out duties as requested by the Local Controller</p>		<p>Advise Local Controller that all staff are accounted for</p> <p>On advice from Local Controller stand down staff</p> <p>Restore facilities and resume normal duties as soon as possible</p>
FERG	<p>Brief unit members</p> <p>Advise the NTFRS of involvement</p> <p>Check and prepare unit equipment</p> <p>Carry out other duties as directed by the Local Controller</p>	<p>Brief unit members</p> <p>Advise the NTFRS of involvement</p>	<p>Assist with evacuation of personnel and their reception/registration</p> <p>Carry out other duties as directed by the Local Controller</p>	<p>Consider commencement of recovery stage operations, as necessary</p>	<p>Liaise with Local Recovery Coordinator</p> <p>Issue cancellation of flood alert to the public</p>
RGRC	<p>Contact and alert council personnel</p> <p>Check and advise Local Controller of state of preparedness and availability of council manpower and resources</p>	<p>Brief Local Controller on availability of resources</p> <p>Carry out appropriate protective or preventative measures as required by the Local Controller</p> <p>Maintain council services and carry out</p>	<p>Brief key personnel</p> <p>Initiate appropriate response procedures</p> <p>Assist the Local Controller as required</p>	<p>Carry out duties as required by the Local Controller</p> <p>Advise the Local Controller when all council personnel are accounted for and on any outstanding problems associated with the operation</p>	<p>Where appropriate recall and stand-down council personnel</p> <p>Ensure that all council equipment used during the operation is accounted for, serviced and restored</p>

Organisation/ Provider	Minor	Moderate	Major	Falling river heights	Transition to recovery
		other duties as required by the Local Controller			<p>Resume normal council services as soon as possible</p> <p>Advise Local Controller of any perceived critical incident stress debriefing requirement</p> <p>Provide relevant information to the Local Recovery Coordinator</p>
Support organisations	Provide assistance as required by the Local Controller				

11.3.3. Heatwave

	Hazard	Controlling Authority	Hazard Management Authority
	Heatwave	Department of Health	Department of Health

The NT has naturally warm to hot weather. However, maximum and minimum temperatures occasionally exceed historical records creating heatwave conditions. Heatwave (extreme heat) conditions occur across the Territory between the months of October and March. Extreme heat is predicted to become more frequent, more intense, of longer duration, and occurring earlier in the warm season.

A heatwave occurs when maximum and minimum temperatures are unusually hot (unusual for that location) projected over a 3 day period. Heatwaves can occur with or without high humidity. They have potential to cover a large area, exposing individuals and communities to hazardous heat. Forecast minimum and maximum temperatures are compared to the historical data of a location as well as temperatures over the last 30 days to establish a heatwave occurrence.

Extreme heat can be very taxing on the body. The human body can be over-heated when it is surrounded by a temperature close to or exceeding body temperature of 37°C in the presence of dehydration. If the body's temperature is unable to be reduced adequately by evaporation of perspiration or moving to cooler surroundings, the resulting illness may range from mild to severe/catastrophic.

A heatwave forecast is a warning that the hot temperatures will be a shock to the body, compared to recent temperatures. Even the most acclimatised NT residents can be affected by heat stress. NT Health publishes heat health alerts where a severe or extreme heatwave is forecast to affect:

- a major centre (Greater Darwin Region, Alice Springs, Katherine, Tennant Creek, Nhulunbuy; OR
- 3 or more populated centres in a Bureau weather district,

AND the forecast is:

- 3 or more days of severe heatwave; OR
- 2 or more days of extreme heatwave

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

- pre-season situational awareness with the Bureau
- developing heat health communication and community engagement strategies
- engagement with government and private agencies, functional groups and community organisations
- preparing fact sheets, and translating into indigenous and multicultural languages
- updating heat health advice email distribution list
- monitoring the Bureau heatwave forecast and decision support product
- public messaging (using radio, website posts, and social media posts) when a heatwave is forecasted, imminent or in progress

Public safety message process:




- NT Health receives heatwave warning from the Bureau
- Director Environmental Health circulates information on extreme heat to stakeholders, listing all localities likely to be impacted
- NT Health Strategic Media, Marketing and Communications Team publish heat health alerts on NT Health Alerts webpage and other channels

- NT Health publishes media release through NTG Media Releases
- NT Health engages with media to broadcast heat health messages.

Warnings and advice approval flow:

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.

11.3.4. Road crash

	Hazard-specific capabilities	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-determined response arrangements contained within the Serve and Protect (SerPro) system for 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
- targeted road safety campaigns
- community engagement strategies
- training in PUASAR024 - undertake road crash rescue delivered by NTES and NTFRS to NTPF and NTFES members

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. Storm and water damage

	Hazard	Controlling Authority	Hazard Management Authority
	Storm and water damage	NT Police Force	NT Fire and Emergency Services (NT Emergency Service)

Severe storms are localised events that do not usually affect wide areas, consequently the threat they pose is often underestimated by the community. These storms can occur anywhere in the Territory and do so much more frequently than any other major natural hazard.

On average, each year severe storms are responsible for more damage, as measured through insurance costs, than tropical cyclones, earthquakes, floods or bushfires. It is reported that, between 5 and 10 deaths are caused by lightning strikes each year, as a result of storms. Deaths can also occur when strong winds cause tree limbs to fall, debris to become projectiles and small boats in open water to capsize.

As the Hazard Management Authority the NTES have established, equipped and trained volunteer units within NT, all of which are capable of responding to the impact of storms. Initial control and coordination will be through the NTES TDO.

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:

- radio, television and social media
- community engagement strategies
- LEC participate in education, training, exercises and continued professional development




Public safety message process:

- the Bureau issues a severe weather advice to NTES TDO
- NTES TDO issues Australian Warning System to the NTFES Media Unit
- NTES TDO notifies Local Controller and NTES Manager Northern
- Local Controller notifies LEC
- NTES Manager Northern consults with the Bureau and Incident Controller (if appointed) to determine recommended messaging
- NTFES Media Unit, or Public Information Officer 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 Bureau's 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.

11.3.6. Tropical cyclone

	Hazard	Controlling Authority	Hazard Management Authority
	Tropical cyclone	NT Police Force	NT Fire and Emergency Services (NT Emergency Service)

A Tropical cyclone⁹ hazard includes a cyclone threat to the township, housing and infrastructure of the Locality including the surrounding areas. During the cyclone season, November to April, the Bureau of Meteorology keeps a 24-hour watch on developing tropical weather systems. The Bureau will issue a Tropical Cyclone Advice whenever a tropical cyclone is likely to cause winds in excess of 62 km/h (gale force) over Australian communities within the next 48 hours.

A number of cyclones have directly or indirectly impacted NT in recent years. The following is a summary of significant tropical cyclones to have impacted the Territory:

- Severe Tropical Cyclone Megan – March 2024
Category 3 system at landfall. Brought destructive winds and major flooding to Borroloola and surrounding areas.
- Severe Tropical Cyclone Trevor – March 2019
Category 4 system at landfall. Triggered widespread evacuations across the Gulf of Carpentaria and caused significant wind damage and flooding.
- Severe Tropical Cyclone Marcus – March 2018
Category 5 at peak intensity, Category 2 when crossing near Darwin. Caused widespread damage with destructive winds and heavy rainfall across the Northern Territory, especially Darwin and surrounding regions.
- Severe Tropical Cyclone Lam – February 2015
Category 4 system at landfall. Brought destructive winds and flooding to Arnhem Land communities, damaging homes and infrastructure.
- Severe Tropical Cyclone Monica – April 2006
Category 5 system at peak intensity. One of the most intense cyclones recorded in the Southern Hemisphere; caused extensive environmental damage.
- Severe Tropical Cyclone Ingrid – March 2005
Category 4 system at landfall. Impacted Arnhem Land and the Tiwi Islands with strong winds and heavy rainfall.
- Severe Tropical Cyclone Tracy – December 1974
Category 4 system at landfall. Devastated Darwin, destroying most of the city and causing 71 fatalities.

Tropical Cyclones are classified into categories based on their sustained wind speed. These categories help communicate the potential severity of a cyclone's impact, including wind damage, storm surge, and flooding. Understanding these categories is essential for assessing risk and implementing appropriate emergency response measures.

The table on the following page outlines the classification system used for tropical cyclones:

⁹ More information can be found at: <http://www.Bureau of Meteorology.gov.au/cyclone/tropical-cyclone-knowledge-centre/understanding/tc-info/>

Table – Tropical cyclone categories

Category	Max Mean Wind (km/h)	Typical Strongest Gust (km/h)	Transport Effects
1	63 - 88	< 125	Negligible house damage. Damage to some crops, trees and caravans. Craft may drag moorings
2	89 - 117	125 - 164	Minor house damage. Significant damage to signs, trees and caravans. Heavy damage to some crops. Risk of power failure. Small craft may break moorings
3	118 - 159	165 - 224	Some roof and structural damage. Some caravans destroyed. Power failures likely
4	160 - 199	225 - 279	Significant roofing loss and structural damage. Many caravans destroyed and blown away. Dangerous airborne debris. Widespread power failures
5	>200	> 279	Extremely dangerous with widespread destruction

Note: Corresponding approximate wind gusts and central pressure are also provided as a guide. Stronger gusts may be observed over hilltops, in gullies and around structures.

As the Hazard Management Authority the NTES have established, equipped and trained volunteer units available across the NT, to support response and recovery operations to tropical cyclones.

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:

- implementation of cyclone preparation initiatives and council clean ups
- radio, television and social media posts

Public safety message process (initial notification):




- the Bureau issue a cyclone advice to NTES TDO
- NTES TDO issues Australian Warning System to the NTFES Media Unit
- NTES TDO notifies Local Controller and NTES Manager Northern
- Local Controller Notifies LEC
- NTES Manager Northern consults with the Bureau, Regional Controller, NTES Chief Officer and Incident Controller (if appointed) to determine recommended messaging
- NTFES Media Unit, or Public Information Officer receives approved messaging to publish
- responsibility for development and promulgation of warnings and information post the establishment of an IMT will rest with the Public Information Officer and the Incident Controller

The response to a cyclone event is staged and dependant on timings of the Watch and Warnings issued by the Bureau and the projected impact on the communities. The following table provides a guide to typical actions for members of the LEC upon receipt of notifications from the Bureau. The table also notes the need for LEC members to contribute to the recovery process post the impact of the cyclone.

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 Bureau's 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.

Actions to be taken – Tropical cyclone¹⁰

Organisation/ Provider	Watch	Warning (onset of Gale Force Winds)			Reduced risk	Transition to recovery
	48 hours	24 + hours	6 + hours	3 + hours		
All members	Attend briefings Inform key stakeholders Provide SITREPs Assist the Local Controller as required Ensure final preparations are undertaken prior to next stage	Attend briefings Inform key personnel Assist the Local Controller as required	Attend briefings Assist the Local Controller as required Inform key personnel	Assist the Local Controller as required Take and Remain in shelter	Remain in shelter until directed by Local Controller Assist the Local Controller as required	Attend briefings Inform key personnel Assist the Local Controller as required
Local Controller	Convene LEC meeting Ensure LEC members and community have activated their Cyclone Plan Co-ordinate the dissemination of the cyclone watch information to the relevant local community Communications established and maintained with Regional Controller, and NTES TDO and advise state of preparedness	Convene LEC meeting Ensure that the dissemination of the Cyclone Warning information to the public is maintained Advise Regional Controller of state of preparedness and ascertain SITREPs requirement Activate EOC if required	Update LEC and allocate tasks as required Ensure that the dissemination of the Cyclone Warning information to the public is maintained At the appropriate time, advise persons at risk to move to a shelter NTPF presence will be required at the designated shelter/s	Take and remain in shelter	When it is declared safe to move outside, ascertain the extent of injury to persons and damage to property Give Directions to survey teams advising community of reduced risk Provide SITREPs to Regional Controller and Incident Controller Prepare for transition to recovery	Provide SITREPs to Regional Controller and Incident Controller Prepare for transition to recovery Begin compilation of information for Post Operation Report

¹⁰ Action stages as per Tropical Cyclone advice and warnings issued by the Bureau of Meteorology

Organisation/ Provider	Watch	Warning (onset of Gale Force Winds)			Reduced risk	Transition to recovery
	48 hours	24 + hours	6 + hours	3 + hours		
	Participate in REC meetings as required					
NT Police Force	<p>Brief police members</p> <p>Disseminate warnings and information as required</p> <p>Maintain normal police duties</p> <p>Assist Local Controller as required</p> <p>Ensure all operational vehicles are fully fuelled</p>	<p>Brief police members</p> <p>Assist with the preparation of the EOC</p> <p>Disseminate Cyclone Warning information as directed by the Local Controller and advise information received</p>	<p>Brief police members</p> <p>Disseminate Cyclone information as directed by the Local Controller and advise him of information received</p> <p>Limit transport and ensure all emergency vehicles are fully operational</p> <p>Co-ordinate the movement of personnel to shelter</p> <p>Commence final patrol of area</p> <p>Ensure all personnel take shelter</p>	<p>Take and remain in shelter</p>	<p>When advised by Local Controller move outside ascertain the extent of injury to persons and damage to property and report with damage assessments</p> <p>Assist Local Controller with prioritising response operations</p>	<p>Assist in the preparation of the final SITREP's</p> <p>Ensure that all NTPF equipment used in the operation is accounted for, maintained and restored</p> <p>Inform key personnel</p>

Organisation/ Provider	Watch	Warning (onset of Gale Force Winds)			Reduced risk	Transition to recovery
	48 hours	24 + hours	6 + hours	3 + hours		
Borroloola FERG	Attend LEC meetings Brief unit members Advise the NTFRS of the unit involvement Check and prepare unit equipment. Carry out duties as directed by the Local Controller	Brief unit members Advise the NTFRS of the unit involvement	Brief unit members Advise the NTFRS of the unit involvement	Take and remain in shelter	Remain in shelter until advised by Local Controller that it is safe to move outside Provide SITREPs as required	Stand down unit members Coordinate any urgent priorities and participate in meetings as required Prepare to transition back to normal duties
DET	Refuel education vehicles Fill water containers Maintain normal duties	Brief education personnel When advised, close school and advise community to secure buildings Staff to secure personal residence	Brief education personnel Do final checks Prepare to open shelter Ensure personnel take shelter	Take and remain in shelter	At the direction of the Local Controller, check the school for damage Brief the Local Controller when all personnel are accounted for Restore facilities and resume normal education duties as practicable	Attend debrief Prepare to transition back to normal work requirements at the conclusion of recovery operations

Organisation/ Provider	Watch	Warning (onset of Gale Force Winds)			Reduced risk	Transition to recovery
	48 hours	24 + hours	6 + hours	3 + hours		
DOH	Brief clinic staff Test satellite phones Prepare emergency kit Fill jerry cans with water and ensure vehicles are fuelled Maintain normal duties	Medical staff to have access to health vehicles Check and take vulnerable population list Staff to secure personal residence Maintain normal duties	Do final checks Ensure all personnel take shelter	Take and remain in shelter	At the direction of the Local Controller check the health clinic for damage Prepare to reopen clinic When the airstrip is clear, organise medical evacuations, if required	Attend debrief Prepare to transition back to normal work requirements at the conclusion of the recovery operation
RGRC	Brief council personnel Participate in pre-cyclone clean up Coordinate the dissemination of the cyclone watch information to the public Maintain normal services	Brief council personnel Staff to secure personal residence Prepare to close office Limit transport and ensure all operational vehicles are fully fuelled	Brief council personnel Do final checks Disseminate warnings and information to the public, as directed by the Local Controller Ensure all personnel take shelter Advise the Local Controller on	Take and remain in shelter	Advise Local Controller of damage and what essential services are still in operation and assistance, if required	Brief council personnel Prepare to transition back into normal work duties at the conclusion of the recovery operation

Organisation/ Provider	Watch	Warning (onset of Gale Force Winds)			Reduced risk	Transition to recovery
	48 hours	24 + hours	6 + hours	3 + hours		
		Advise the Local Controller on essential service matters	essential service matters			
Support organisations	Provide support as requested by the Local Controller					

11.4. Annex D: 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 supply routes 	<ul style="list-style-type: none"> Restoration of road networks and bridges Return to business as usual

Activity	Response activities	Recovery activities
5. Emergency accommodation	<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
6. Medical	<p>Hospital</p> <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 <p>Health Centres</p> <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 <p>GP clinics and pharmacies</p> <ul style="list-style-type: none"> identify operational GP services identify operational pharmacies <p>Support Medically vulnerable people</p> <p>Medical retrieval services (air and road)</p>	<p>Ongoing provision of health services</p> <ul style="list-style-type: none"> which may include business continuity plans engagement with stakeholders <p>Repatriation of medically vulnerable people in community</p> <p>GP clinics and pharmacies</p> <ul style="list-style-type: none"> ongoing liaison by the Medical Group <p>Medical retrieval services – resume business as usual</p>
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 	<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)

Activity	Response activities	Recovery activities
	<ul style="list-style-type: none"> Implement interim banking arrangements 	<ul style="list-style-type: none"> 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 return to business as usual 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 Sewerage Emergency sanitation 	<ul style="list-style-type: none"> Restore power network Restore water and sewerage infrastructure 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 	<ul style="list-style-type: none"> Monitor repairs and business continuity activities

Activity	Response activities	Recovery activities
	<ul style="list-style-type: none"> Establish a logistics hub at the airport Terminal damage and operational capability assessment 	
	<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>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 <ul style="list-style-type: none"> repair and reconstruction of enabling infrastructure support DRFA payment facilitation where eligible <p>Temporary accommodation for a visiting construction workforce if necessary or suitable accommodation is unavailable</p>
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 	<ul style="list-style-type: none"> Repair damage networks and infrastructure (for private entities there is support for operators only)

Activity	Response activities	Recovery activities
	<ul style="list-style-type: none"> Put in place temporary measures to enable landline and mobile services 	
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 led by relevant departments

12. Acronyms

Acronyms	Definitions
AAPA	Aboriginal Areas Protection Authority
ABC	Australian Broadcasting Corporation
AIDR	Australian Institute Disaster Resilience
AIIMS	Australasian Inter-service Incident Management System
ARFFS	Aviation Rescue and Fire Fighting Service
BFNT	Bushfires NT
CAHS	Central Australia Health Service
CASA	Civil Aviation Safety Authority
CM&C	Department of the Chief Minister and Cabinet
DAF	Department of Agriculture and Fisheries
DCF	Department of Children and Families
DCDD	Department of Corporate and Digital Development
DHLGCD	Department of Housing, Local Government and Community Development
DLPE	Department of Lands, Planning and Environment
DLI	Department of Logistics and Infrastructure
DTBAR	Department of Trade, Business, and Asian Relations
DET	Department of Education and Training
DOH	Department of Health
DRFA	Disaster Recovery Funding Arrangements
EH	Environmental Health
EOC	Emergency Operations Centre
ERA	Emergency Response Area
FERG	Fire and Emergency Response Group
ICP	Incident Control Point

Acronyms	Definitions
JESCC	Joint Emergency Service Communication Centre
LCC	Local Coordination Centre
LEC	Local Emergency Committee
LRCC	Local Recovery Coordination Committee
NERAG	National Emergency Risk Assessment Guidelines
NT	Northern Territory
NTES	Northern Territory Emergency Service
NTFRS	Northern Territory Fire and Rescue Service
NTG	Northern Territory Government
NTPF	Northern Territory Police Force
PAWC	Power and Water Corporation
RAT	Rapid Assessment Team
RCC	Rescue Coordination Centre
RGRC	Roper Gulf Regional Council
SAR	Search and Rescue
SEWS	Standard Emergency Warning Signal
SerPro	Serve and Protect
SITREP	Situation Report
STAND	Strengthening Telecommunications Against Natural Disasters
TDO	Territory Duty Officer
TEABBA	Top End Aboriginal Bush Broadcasting Association
TEMC	Territory Emergency Management Council
TEOC	Territory Emergency Operations Centre
WebEOC	Web-Based Emergency Operations Centre