



V8: November 6 2024

RESILIENT COMMUNICATIONS SUB PLAN



Acknowledgement of Country

We acknowledge the Native Title parties across the Tablelands Regional Council area and other family groups who are the traditional custodians of this land. We recognise your continuing connection to Country and pay respect to Aboriginal and Torres Strait Islander Elders past, present and emerging including:

- Bar Barrum of the area around the Walsh River and to the west of the Wild River
- Dulabed and Malanbarra Yidinji of the Gillies Range area
- Girramay of the Kirrama area
- Gugu Badhun of the Wairuna/Lamonds Lagoon area
- Jirrbal of the Koombooloomba, Ravenshoe and Herberton areas
- Mamu of the Millaa Millaa area
- Ngadjon-Jii of the Malanda and Topaz areas
- Tableland Yidinji of the Kairi, Tolga, Tinaroo and Lake Barrine areas
- Warrungu of the Gunnawarra/Goshen area.

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Version Control & Record of Amendments

Issue Date	Version	Outline of Revisions	Prepared by	Approved
April 17 2013	V1.0	First version presented to LDMG for approval.	SD	RL
June 7 2013	V1.1	Minor changes to radio network diagram and repeater locations.	SD	SD
December 11 2013	V2	Updated for deamalgamation purposes. V2 presented to LDMG as live operational document from January 1 2014.	SD	RL
December 10 2014	V3	Annual review – minor changes	SD	RL
November 4 2015	V4	Annual review – minor changes	SD	RL
November 16 2016	V4.1	Minor changes - LDMG Chairperson and new DDMG arrangements.	SD	JP
November 10 2017	V4.2	Annual review – updates to public repeaters, TRC network and minor changes throughout	SD	JP
December 18 2018	V4.3	Annual review – minor changes	SD	JP
January 20 2021	V5	Changes to LDMG Chairperson and minor amendments throughout	SD	BW
January 18 2023	V6	Comprehensive rewrite – LDMP modernisation project.	SD	BW
October 18 2023	V7	Annual review – minor changes	SD	BW
November 6 2024	V8	Annual review – minor changes	SD	RM

Section 1: Overview of Plan

1.1 Context & Assumptions

The Tablelands Region is prone to a number of natural disaster events — isolation and flooding during the wet season, bushfires in the dry season and the annual risk of cyclones.

A resilient communications capability is critical to the success of disaster response and recovery operations.

Parts of the region lack the reliable communications infrastructure that others take for granted. Telephone and mobile networks are prone to failure at critical times and extended power outages have resulted in failure of the battery back up at telephone and mobile exchanges.

Two-way communication is vital between the emergency services and other response agencies, and between response agencies and community. Radio is one of the most resilient and reliable forms of communication in the region. A number of radio networks have been modelled using radio propagation analysis and ground tested to determine the maximum coverage and black spots. A network diagram has been developed documenting communication pathways from each community into the Local Disaster Coordination Centre (LDCC).

This system will provide a more resilient method of communication should traditional telecommunications fail. It will enable people to get help and enhance the community's chance of survival.

This sub-plan is only activated when traditional communications systems fail. This may be in response to a disaster but can also be used outside disaster events e.g. Triple Zero (000) failure.

This sub-plan relies on the concept of a Community Disaster Team Coordinator in each locality having access to infrastructure to communicate with the LDCC, and an initial community contact channel using UHF-CB 10 to promote self-help and resilience. This channel may be monitored by volunteers who may be able to communicate with other agencies.

Community members are regularly encouraged to have access to radio equipment, have completed basic training and understand how to use it.

1.2 Aim & Objectives of Plan

The aim of this Sub-plan is to detail the procedures for invoking an alternative communication system if landline and mobile networks fail. The key objectives are to:

- ensure there is a two-way alternative communications system for region-wide communications if traditional communications systems fail
- provide a mechanism for situational reporting to and from Community Disaster Teams by the LDCC if traditional communications systems fail
- increase the likelihood of communities getting help when traditional communication systems fail
- ensure there is a formalised activation process that is understood by all parties.

1.3 Ownership

This sub-plan is owned by the Local Disaster Coordinator (LDC) on behalf of the Local Disaster Management Group (LDMG). All significant amendments must be approved by the LDMG.

The LDC will ensure the:

- master document is retained with relevant supporting documents
- level of circulation of the sub-plan is determined by the LDMG and details of copyholders are recorded
- sub-plan is updated and reviewed on at least an annual basis, or after activation, whichever is the sooner

- sub-plan is tested and exercised as determined by the LDMG.

1.4 Support Agencies

Tablelands Regional Council (TRC) retains functional responsibility for this sub-plan on behalf of the LDMG. This sub-plan also applies to:

- member and advisory organisations of the LDMG.
- Department of Environment, Science and Innovation/Queensland Parks and Wildlife Service (QPWS)
- Community Disaster Teams
- Tablelands Radio and Electronics Club (TREC)
- amateur radio operators
- community members

1.5 Links with Other Documents

This sub-plan is interdependent on and should be read in conjunction with the Local Disaster Management Plan (LDMP). It links directly to all other sub-plans including the LDMG Emergency Contact Lists.

This plan also links to:

- [Resilient Communication Pathways Network Diagram v8](#) (6 November 2024)
- Amateur Radio Operator – PPRR Engagement Strategy
- TRC Radio Channels Guide

Section 2: Activation & Notification Procedures

2.1 Activation of the Plan

This sub-plan will be activated by the LDC and LDMG Chair when communications failure has occurred or is likely to occur. These are likely activation triggers:

2.1.1 Tropical Cyclone

The most likely scenario for activation of this sub-plan would be a wide area impact from a cyclone that renders normal communication systems inoperable. The sub-plan should be activated prior to the event so radio testing can be conducted in advance. Radio infrastructure (especially antennas) should be stored for the duration of the event. A radio test should also be conducted once the cyclone has passed, regardless of whether phones are working or not and radio tests will be undertaken as per the procedures in the LDCC and Community disaster plans.

2.1.2 Other Disasters

This sub-plan can be activated in response to other events e.g. fires or storms by contacting the LDC. All parties are to invoke their part of the network if traditional communication fails.

2.1.3 Communications Failure

This sub-plan can be activated during widespread communications failure to provide an alternative network. The LDC should be notified by phone and requested to activate the sub-plan. All parties are to invoke their part of the network if traditional communication fails.

2.2 Notification Process

When traditional communications have failed agencies involved in this sub-plan will deploy and attempt to establish communications.

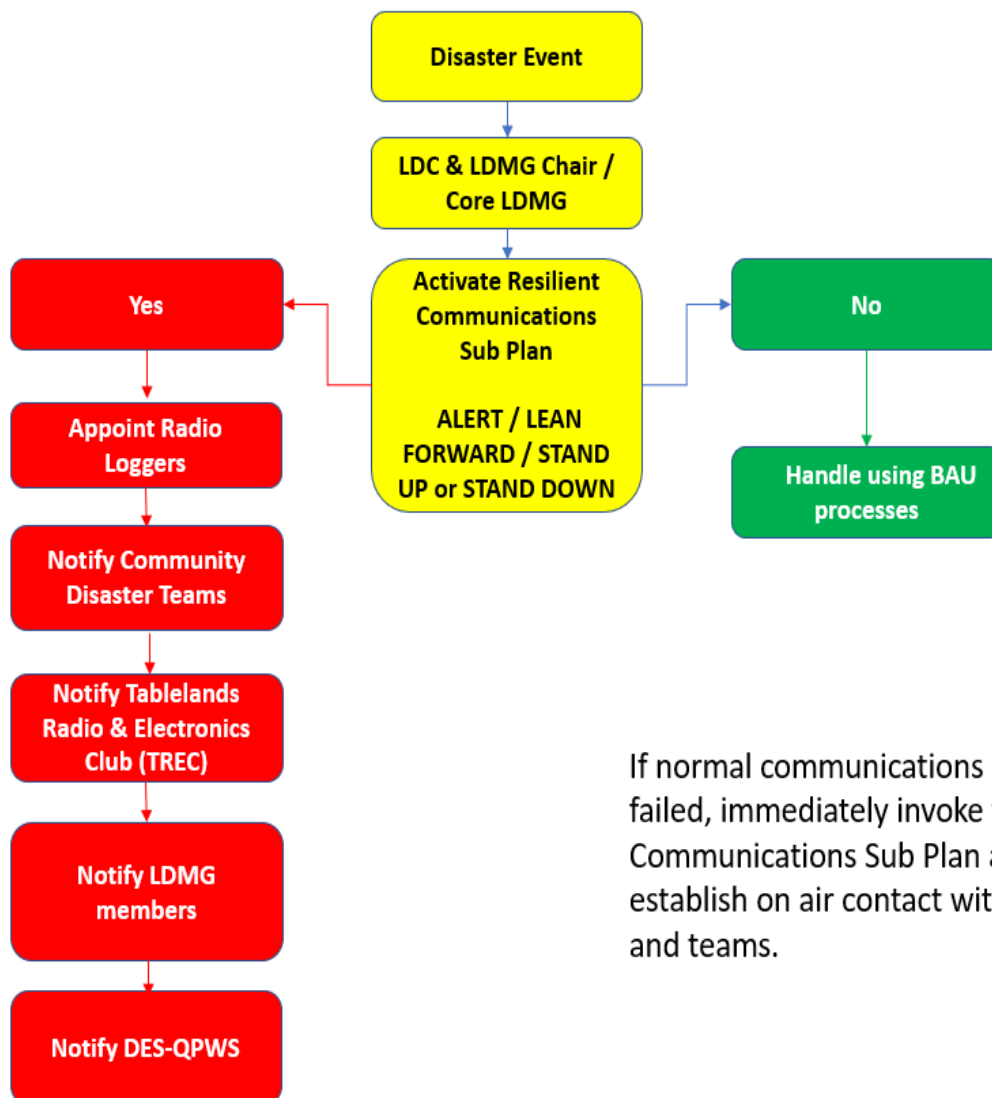
The LDC will notify the LDMG Chair that the sub-plan is to be activated. A message will also be sent to all LDMG members where possible.

The LDCC Radio Logger will need to be activated to support the sub-plan. This person has received training and has an intimate understanding of the arrangements. The LDC will notify the LDCC Radio Logger.

An arrangement exists between TRC and QPWS to staff the base station at Atherton when this sub-plan is activated. The base station is staffed during normal business hours (08.00–17.00hrs). A notification procedure may be invoked outside of these hours.

Community Disaster Teams and Queensland Fire Department (QFD) will be notified if required.

2.2 Notification Flowchart



If normal communications have already failed, immediately invoke the Resilient Communications Sub Plan and try to establish on air contact with agencies and teams.

Section 3: Radio Networks Overview

3.1 UHF-Radio

Ultra-high frequency (UHF) radio is line-of-sight communication over short distances. It experiences little interference except occasionally when close to digital devices. UHF has very poor transmission capability in forested and mountainous terrain and limited repeater coverage / simplex operation compared to VHF.

3.1.1 UHF-CB Radio

UHF citizen band (CB) radio is unlicensed and accessible to the public, and handsets are generally inexpensive and widely accessible. UHF-CB communications are line-of-sight and limited by range using simplex mode (refer section 5 — Figure 2). The range can be extended by using the repeater network (refer 3.1.2).

3.1.2 UHF-CB Repeater Network

There are several UHF CB repeaters in the TRC Region owned privately and by TRC. The public can access the TRC repeaters using their UHF-CB equipment at any time outside disasters. UHF equipment needs to be in duplex mode to access repeaters (refer section 5 – Figure 3).

It may be necessary for TRC to implement a controlled network of communications through the repeaters to effectively manage emergency communications during disasters.

TRC owned repeaters

Repeater Channel	Call Sign	Location	Areas Covered
1	HAL01	Atherton	Atherton Malanda Yungaburra
2	TRC02	Mount Garnet	Mount Garnet
3	MIL03	Millaa Millaa	Millaa Millaa Malanda

Other repeaters

Repeater Channel	Call Sign	Location	Areas Covered
5	MAR 05	Mareeba	Walkamin (online)
4	DIM 04	Dimbulah	West of Tolga-Mareeba Road (patchy) (unconfirmed).
8	GHS 08	Meadowbank Station	Station and immediate surrounds including Boomerang Station. Patchy on Kennedy Highway near Forty Mile Scrub (unconfirmed).
6	UND 06	Undarra National Park	Immediate surrounds. Possibly at Boomerang Station (unconfirmed).
8	CAN 08	Bell Peak North	South Cairns South Tablelands (unconfirmed)

Refer to map of repeater towers at Appendix A.

Further information at [Australian Communication & Media Authority](#).

3.1.3 Channel 34 Multi-Agency Radio Network

Channel 34 (UHF) is to be used if normal inter-agency communications fail between centres e.g. between LDCC and District Disaster Coordination Centre (DDCC). Channel 34 is not a CB channel — it is a private QPS channel that is not accessible to the general public. TRC and Mareeba Shire Council have Channel 34 radios.

TRC and QPS have confidential information regarding this radio system including region-wide coverage maps. The information and radio system are in the Tablelands LDCC.

3.2 VHF Radio

Very high frequency (VHF) radio is almost line of sight in simplex operations. It has excellent transmission for varying foliage types and forested areas including mountainous terrain. It experiences very little interference and provides good repeater coverage across distance. It can be affected by computers and electronic equipment and is a licensed frequency.

Several organisations have VHF radio systems that may be used to manage disaster operations.

3.2.1 TRC VHF Radio Network

The primary repeater for the mid-band VHF radio network is on the Austek owned tower at Longlands Gap. Radio testing has confirmed coverage from Malanda to Mount Garnet (Gunnawarra Road). There have been some challenges experienced in recent years but a program to reinstate the radio network as a back-up communication system is underway.

The TRC repeater network is not accessible to the general public. TRC use this network to manage business operations when normal communications fail. Base sets are in the LDCC and Tolga Depot.

Confidential information on this radio system including region-wide coverage maps are held by TRC. Refer map of repeater towers at Appendix A.

3.2.2 DESI QPWS VHF Radio Network

The VHF repeater network owned by QPWS provides excellent coverage of the TRC area. Base stations are in the LDCC and QPWS office in Atherton. Repeaters are located at:

Channel	Location
453	Mount Fisher
454	Mount Wallum
455	Bellenden Ker
459	Alexandra Range
474	Undarra

QFD Rural Operations radios have been programmed to transmit and receive on the QPWS VHF repeater network. Each Rural Operations vehicle has the radio programmed, some have base stations and others handhelds. Many urban Fire and Rescue brigades also have access to this repeater network.

Confidential information regarding this radio system including region-wide coverage maps are held by TRC (at the LDCC) and QPWS. See map of repeater towers at Appendix A.

3.3 HF Radio

High frequency (HF) radio is used in remote areas as it provides coverage over large distances due to transmission characteristics. HF radio suffers from atmospheric conditions and overseas interference, lightning and storm season unserviceability. Skilled operators are required as frequencies need to be adjusted for time of day, etc. HF radio is not useful for communication between field staff working close to each other, and it is a licensed frequency.

Several organisations have access to HF radio systems that may be used to manage disaster operations.

3.3.1 TRC HF Radio Network

TRC has recently established a HF radio network, and the base station is located in the LDCC. Ten HF radio base stations have been programmed for deployment to the community and evacuation centres. HF radio requires licensed operators and TRC has access to a number of licensed amateur radio operators to support disaster operations. Refer 3.4.

3.3.2 State Emergency Service (SES) HF Radio Network

Mount Garnet SES has vehicle-mounted and base sets HF radios that can be used to communicate between SES units and across Queensland.

3.4 Amateur Radio Operators

The Wireless Institute Civil Emergency Network provides a framework for amateur radio operators to support disaster operations. Local amateur radio groups can assist with augmenting VHF and HF radio communications by providing licensed radio operators and equipment that can be deployed to areas with communication problems. TRC has provided free training to the community to increase the number of licensed amateur radio operators in the local area

The deployment of amateur radio operators is considered the last resort to attempt to maintain some level of communication in the region. The Amateur Radio Operator Engagement Strategy identifies the role of amateur radio operators at each phase of a disaster. Refer Appendix C.

Section 4: Standard Operating Process

4.1 Business as Usual (BAU) Communications

Conventional methods of communication are the preferred methods of communication and should be used wherever possible.

4.2 Emergency Communications

UHF-CB, HF and the QPWS VHF repeater network (including portable repeaters and mobile units) will be used when normal communication channels fail.

QFD are involved in the alternative emergency communications network that will be used for sitreps and requests for assistance (RFAs).

See radio networking diagram at Appendix B and the notification procedures in Section 2.

4.2.1 Controlled Network

Radio networks need to be operated in a disciplined manner. When the emergency communications radio network is invoked, it will be a controlled network controlled through the base station. Base will give permission to talk and will manage emergency call procedures (see 4.4.5 below). These are the rules of the controlled network:

- Keep transmissions clear and as short as possible.
- Limit transmissions to operational traffic only.
- Avoid tying up the radio system with personal or administrative matters.
- Test the radio signal only once or when the reception is unclear.
- Speak only as quickly as you can write a message.

Other stations may be required to assist with relaying messages if the base is unable to make direct contact with a station.

4.3 Initial Public Contact Channel

Members of the community requiring assistance can use their local community UHF-CB channels to contact other community members.

UHF-CB Channel 10 (simplex) has been designated as the initial contact channel for members the community and visitors. This is regularly promoted and is supported by signs across the region.



UHF-CB 10 has been chosen as a significant proportion of the population have access to UHF-CB radios, it is a simplex channel that eliminates confusion for inexperienced radio operators if repeaters have failed, and can be promoted to visitors who may be unfamiliar with local community UHF-CB channels.

Once initial contact is made the caller may need to change channels to the local community UHF-CB channel or to a repeater channel. Possession and use of a two-way radio does not guarantee a reliable, immediate or effective response to request for help. Assistance may not be available because of impassable conditions, flooding, fallen powerlines, fire, fallen structures, blocked roads, safety concerns and lack resources.

In some communities the initial contact channel may be monitored by Community Disaster Teams and Rural Fire Brigade members. Arrangements need to be developed to ensure urgent requests are communicated to the LDCC using UHF-CB, VHF or HF radios. Community Disaster Teams need to understand the communications pathways from their communities back to the LDCC (refer Appendix B).

4.4 Work Health & Safety

- Do not use radios around computers and other electronic equipment.
- Do not operate two-way radios or mobile phones at refuelling areas and fuel stations.
- Avoid standing near HF aerials when transmitting.
- Do not allow the aerial to touch any part of your body while transmitting.
- Do not remove insulating material from aerials.
- Turn off radio equipment when required e.g. blasting area ahead.
- Follow the manufacturer's advice if you have a pacemaker.

Section 5: Radio Procedures

5.1 Radio Signal Propagation

Radio signals may fade or become unreadable due to terrain and if you are moving. Try several locations (preferably elevated) until you receive a clear and unbroken signal. Sources of natural interference that cannot be avoided include vegetation, smoke, electrical storms, dust, rainfall, etc.

5.2 Simplex Systems — Line of Sight

Simplex systems do not use a repeater network — the signal is from radio to radio on a single frequency. If all radios are set to transmit and receive on one frequency, they are said to be communicating in simplex mode and the channel is a simplex channel. This allows all radios to transmit to each other (not simultaneously).

Simplex channels are used when users are close to each other e.g. over short distances between two vehicles or a handheld and a vehicle.

The initial contact strategy for community members to seek/offer assistance on UHF CB Ch10 is an example of simplex channel use .

SIMPLEX

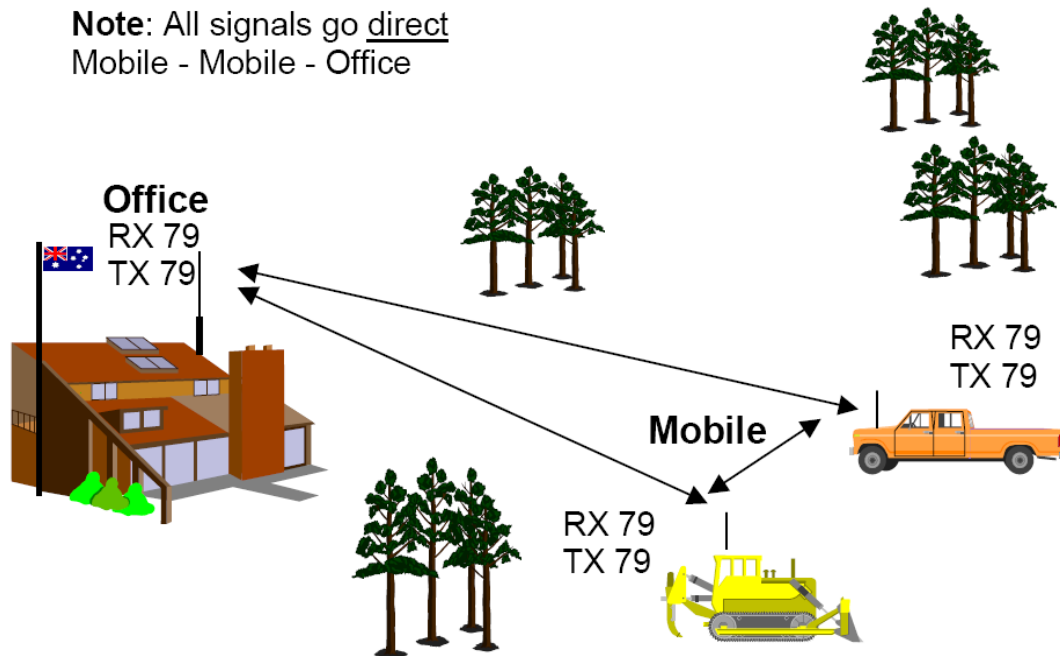


Figure 2: Simplex radio operations

5.3 Duplex Systems — Repeaters

Channels are duplex when they have two frequencies — one to transmit and the other for receiving. Repeaters only work on a duplex channel.

REPEATER

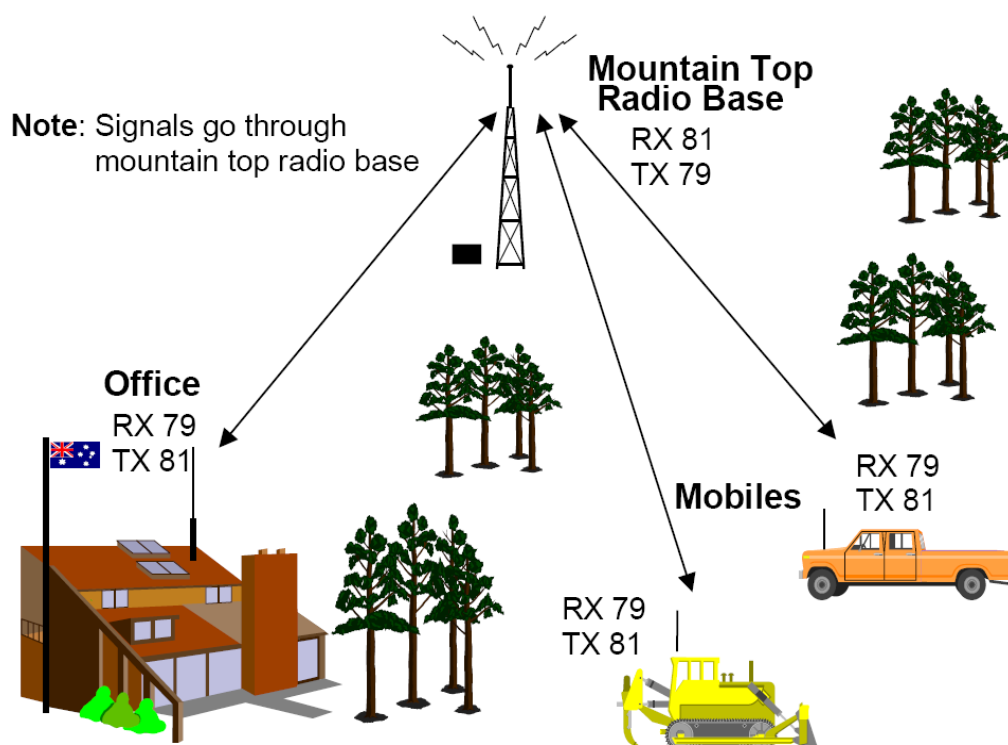


Figure 3: Repeater radio operations

5.4 Radio Communications Equipment

Common radio equipment used in the operation of this plan includes:

Fixed repeaters are used to extend the range of radios and are basically a combined receiver and transmitter. The receiver listens on one frequency and when it hears a signal the transmitter part of the repeater re-transmits the signal on another frequency. These two frequencies make up a duplex channel. Repeaters are usually placed at high points so that the radio transmission can be repeated as far as possible. This can be greater than 80km depending on topography and location.

Portable repeaters can be used to temporarily expand the network by creating a communications link between vehicles/handheld radios through the repeater back to a base station. The mobile repeater can work as a stand-alone unit (operating on a separate frequency) providing the communication link between vehicle and/or handheld radios does not conflict with the standard local network. The portable repeater can provide radio coverage over a 50km radius depending on topography and location and agencies have portable repeaters to establish ad-hoc networks. QPWS have a large number of 4WD vehicles all over the region with QPWS radios linked to the system, which may be useful to augment communications.

Base radio and aerial are located at key facilities and have a power output of 25W. A base set is in the LDCC.

A mobile radio is mounted in a vehicle or machinery and has a power output of 25W. It is connected to the vehicle's battery, has an external aerial and consists of a control head and microphone/handset and external

speaker. The distance over which it can transmit depends on its location in relation to another vehicle, base station or repeater.

Handheld/portable radios have a maximum power output of 5W and have their own aerial and battery. Optional external speaker/microphones and protective cases are available.

It is important to regularly test and maintain radio communications equipment to ensure the operational readiness of equipment.

5.5 Radio Equipment — Controls

Regardless of type, brand and model, every radio will have at least four basic controls:

- power switch
- volume control
- channel selection (frequency).
- press-to-talk button.

Most radios will have additional function controls. For information on the controls and functions for specific radios used, refer to the relevant radio user guides.

5.6 Basic Radio Operating Procedures

There is no substitute for common sense when using a radio. Clear speech assists reception and avoids the need for repetition and correction.

When transmitting, set the volume level to half and hold the microphone to the side of your mouth, talking across the face of the microphone. Consider your speech rhythm, speed, volume and pitch (RSVP).

Rhythm	Ordinary conversation has a natural rhythm that needs to be preserved when speaking on radio. Transmit messages in short and complete phrases that make sense in a smoothly read text.
Speed	Speak slightly slower than normal conversation and avoid rushing or slurring words. Pause between phrases to give the receiver time to acknowledge the message.
Volume	Speak directly into microphone. Speak slightly louder than normal conversation. Avoid shouting.
Pitch	Use a normal or slightly assertive voice.

Basic radio operating procedures must be observed. This is especially important when communicating on licensed networks as the *Radio Communications Act 1992* requires a radio service to be controlled by competent operators. The use of profane language is not permitted on radio networks and must not be used.

Radio communications may suffer from interference, which can result in misunderstood messages and communication is only possible in one direction at a time. Chaos can result if two or more people use the same frequency to transmit at the same time. Radio is a multi-user communications facility that requires listening before transmitting and consideration of other users.

Radio traffic can become congested, and accuracy can suffer in emergency and poor operating conditions.

These procedures should be used in both simplex and duplex modes to ensure consistency and the reinforcement of good practice.

5.7 Radio Technique

The basic principles of transmitting radio messages are:

- Determine which channel you wish to transmit or receive on.
- Listen before transmitting.

- Think about what you are going to say before transmitting.
- Push to talk then pause before speaking. Similarly at the end of the transmission, keep the button down for a slight pause after speaking. This technique will prevent messages being clipped / cut short.
- When transmitting refer to the person you are calling first e.g. TRC base this is Tinaroo Community Disaster Coordinator (see examples).
- Keep messages short, simple and concise.
- Make sure you understand what has been said, pass on messages clearly and accurately and ensure the receiver has understood your message.
- Unusual names may be spelt using the phonetic alphabet.
- Long messages should be broken into natural sentences.
- Avoid the use of jargon.
- Make sure you completely understand the message when you receive it. Ask the sender to repeat if you are unsure.
- Offer to relay if you hear two stations having trouble.
- Carry a notebook and keep a radio log.

5.7.1 Key Tips for Using the Radio

- Do not shout.
- Do not drop your voice at the end of sentences.
- Do not develop personal quirks such as 'roger roger'.
- Do not use abbreviations unless you are positive there will be no misunderstanding.
- Do not use nicknames.
- Do not swear.
- Do not waste or monopolise air time.
- Do not offer unnecessary traffic, particularly during emergencies.
- Do not rush or slur words.
- Do not use terms like 'you know' or 'er'.

5.8 Call Signs

A call sign must be used to initiate radio communications on all networks and agencies have predefined call signs. The LDCC is known as 'TRC Base' and the Atherton QPS as 'QPWS Base'. Community Disaster Teams should use their community name e.g. 'Malanda Community Disaster Team'.

5.9 Making a Call

The principles of making a radio call are:

1. Say whom you wish to speak to.
2. Say who you are and ask for acknowledgement
3. Convey your message.

E.g., 'TRC Base this is Tinaroo Community Disaster Team. Are you receiving?'

5.10 Answering a call

The principles of answering a call are:

1. Reply to the caller with your radio call sign.
2. Respond.

E.g. 'Tinaroo Community Disaster Team, TRC Base receiving. Pass your message.'

5.11 Emergency Calls

E.g. 'Emergency call to base. Emergency call to base. This is Tinaroo Community Disaster Team. All Stations stop transmitting.'

5.12 Radio Logs

Running logs in Guardian IMS should be used by the radio logger. A template log is available as part of the [Local Disaster Management Plan](#) if Guardian is unavailable.

5.13 Sensitive Messages

Sensitive information like casualty lists and incident details should not be transmitted over the radio network if possible. You should always assume that someone else is listening when you are talking on the radio.

5.14 Phonetic Alphabet

The phonetic alphabet is a standard procedure for the transmission of difficult to pronounce words, place names and individual letters e.g. map references and registration numbers. Clarification of words can often be made using plain English without the need to resort to phonetic spelling.

Letter	Word	Pronunciation
A	Alpha	Al-fa
B	Bravo	Brah-voh
C	Charley	Char-lee OR Shar-lee
D	Delta	Dell-tah
E	Echo	Eck-oh
F	Foxtrot	Foks-trot
G	Golf	Golf
H	Hotel	Hoh-tel
I	India	In-dee-ah
J	Juliet	Jew-lee-ett
K	Kilo	Key-loh
L	Lima	Lee-mah
M	Mike	Mike
N	November	No-vem-ber
O	Oscar	Oss-cah
P	Papa	Pah-pah
Q	Quebec	Key-beck
R	Romeo	Row-me-oh
S	Sierra	See-air-ah
T	Tango	Tang-go
U	Uniform	You-nee-form
V	Victor	Vik-tah
W	Whiskey	Wiss-key
X	X-ray	Ecks-ray
Y	Yankee	Yank-key
Z	Zulu	Zoo-loo

Table 1: Phonetic alphabet

5.15 Numerals

The rules for the pronunciation of numbers are:

Number	Word	Pronunciation
0	Zero	Zero
1	One	Wun
2	Two	Too

3	Three	Thuhree
4	Four	For wer
5	Five	Fiy iv
6	Six	Six
7	Seven	Se ven
8	Eight	Ate
9	Nine	Niner
10	Ten	Wun zero
.	Decimal point	Day see mal

5.16 Transmitting Time

Always use the 24hr clock to transmit times.

Time	Pronunciation
12.00am = 0008hr	Zero zero zero ate hours
9.00am = 0900hr	Zero nine hundred hours
10.30am = 1030hr	Ten thirty hours
12.16pm = 1216hr	Twelve sixteen hours
3.45pm = 1545hr	Fifteen forty-five hours
6.28pm = 1828hr	Eighteen twenty-ate hours
10.00pm = 2200hr	Twenty two hundred hours
11.58pm = 2358hr	Twenty tree fifty-ate hours

5.17 Pro-words

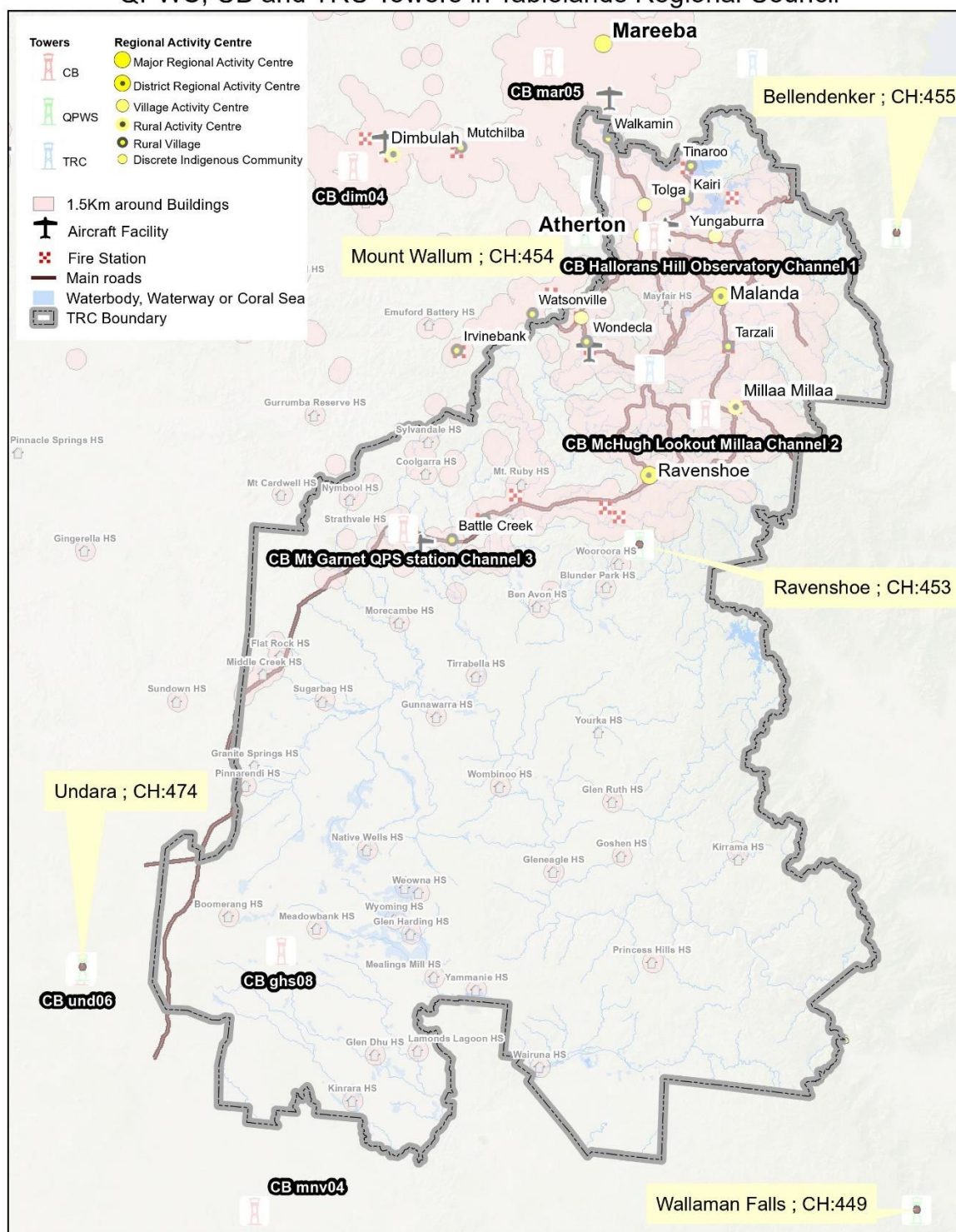
Radio operators use procedure words (pro-words) for long sentences.

Pro-word	Meaning
Affirmative	Yes or correct.
All stations	General call from a base radio to all mobiles and portables on its network.
Cancel	Ignore my previous statement.
Clear channel / clear reply	My transmission is ended, and I do not expect a reply.
Confirm	Reinforce a statement.
Correction	I have made an error in my last transmission.
Disregard	Delete any reference to my last transmission or request.
ETA	Estimated time of arrival.
ETD	Estimated time of departure.
Figures	Used before every group of figures is spoken except before call signs and map reference figures.
Fire call	Alert that a message will involve details of a fire.
Go ahead (see send)	I am ready to receive your transmission.
Grid	A grid reference follows.
I say again	I am repeating my last transmission.
I spell	I shall spell the word phonetically.
Emergency call	Cease all other transmission, life or property is at risk.
Negative	No, or this is incorrect, or permission is not granted.
Nothing heard	I have not received a reply or heard from the radio whose call sign I have just used.
Over	End of my transmission to you and a response is necessary. Go ahead and transmit.
Out	My transmission has ended, and I do not expect a reply.
Out to you	My transmission to you has ended, but I intend calling another radio.
Pan Pan Pan	Possible assistance needed.
Radio check	What is my signal strength and readability?
Roger	I have received and understood your last transmission.

Say again	Please repeat all of your last transmission (or the portion I have indicated).
Send (see go ahead)	I am ready to receive your transmission.
Sitrep	Situation report of the incident.
Standby	I must pause and will come back when ready.
Wait	I must pause for up to five seconds. Unless urgent, no other station is to transmit
Wilco	Message received and will be complied with.
Word back	A precise definition of the status of the incident.

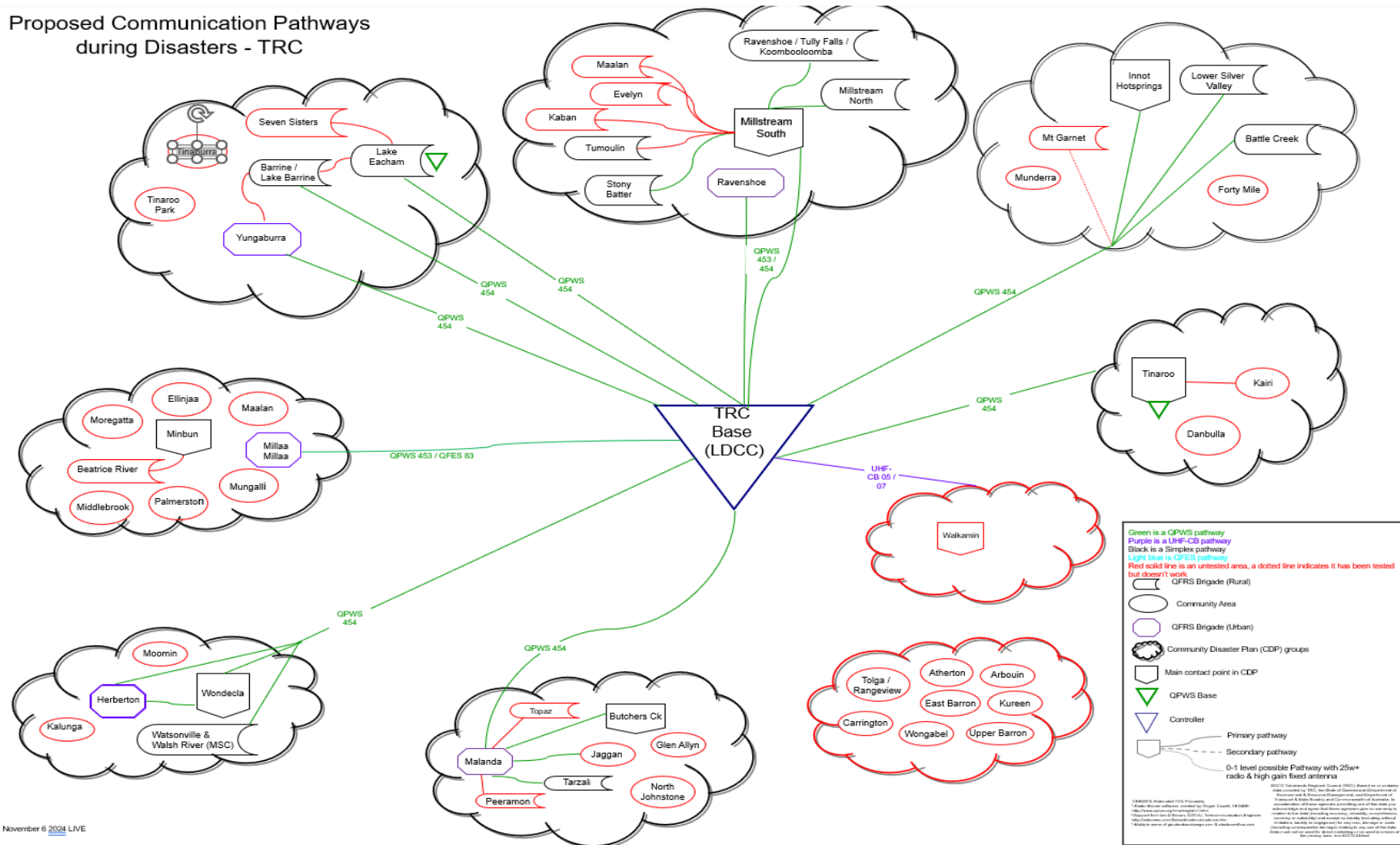
Appendix A: Repeater Towers in the TRC

QPWS, CB and TRC Towers in Tablelands Regional Council



Appendix B: Radio Network Diagram

Proposed Communication Pathways
during Disasters - TRC



Appendix C: Amateur Radio Operator PPRR Engagement Strategy

Introduction

Amateur radio operators around the world provide support communications and are sometimes the only communications during and after a disaster.

This strategy has been developed using the prevention, preparation, response and recovery (PPRR) methodology to assist our amateur radio operators understand how they can support the region's disaster management arrangements.

Prevention & Mitigation

This phase is characterised by activities to prevent or mitigate the impact of disasters. Telecommunications play a pivotal role and their failure can result in preventable loss of life and damage to property. Amateur radio operators can provide an alternative communication channel if traditional communications fail.

Amateur radio operator should establish a fixed, mobile or portable station and ensure their licence and call sign is maintained through the ACMA.

Preparation

The preparation phase is characterised by ongoing activities in which amateur radio operators plan, [prepare](#) and train for emergency situations and operators should ensure they can get their station back on air if the equipment is damaged.

Amateur radio operators are encouraged to join the Tablelands Radio and Electronics Club (TREC). Members will assist and support newly qualified operators with all aspects of amateur radio operations. TREC also runs training sessions and participates in events to practice their skills.

TRC will invite amateur radio operators to participate in relevant disaster exercises. This could be a small-scale communication exercise or a full Disaster Coordination Centre exercise.

Response

The role of the amateur radio operator is to assist with communication by receiving and passing messages inside / outside the region as required.

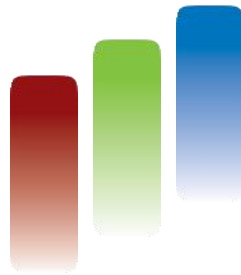
Amateur Radio can be used for emergency communication when landline phones, mobile phones and other conventional communications fail or are congested. The use of amateur radio in disaster is a worse-case scenario. We work to ensure we have resilience in our communications and have a range of solutions. Amateur radio operators should initially be at home ensuring themselves and their families are safe.

There is the potential for amateur radio operators to support communications in the Radio Room at the Coordination Centre, at evacuation centres and passing messages. This might be to assist communication between agencies, pass messages between locations or to assist Community Disaster Teams.

The role is to pass messages verbatim, not make assumptions or speculate and to stick to the facts. A log must be maintained.

Recovery

The phase of recovery is often the most protracted and resource intensive phase of a disaster. The role of an amateur radio operators ceases once traditional communications have been reinstated. If amateur radio operators were deployed they will be invited to take part in the debrief to identify what worked well and what needs improvement for the future



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