93.3 FM TX SITE MOVE

DEC 2025 – 31 MAR 2026

DORRIGO WATER TOWER TEMPORARY SITE RELOCATION FROM MT FRANCIS LOOKOUT

■ RELOCATION PROPOSAL FOR DISSCUSSION

V1.0 06-12-2025

V1.1. 27-02-2026 (EXTERNAL DOC)

PREPARED BY:

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INTENDED AUDIENCES:

COMMUNITY STAKEHOLDERS

Bellingen Shire Council - BSC

2BBB Co-Op Board Members

Potential Contractors

Coffs Harbour Amateur Radio Club - CHARC

DEVELOPMENTAL STAKEHOLDERS

Community Broadcasting Ascociation of Australia - CBAA

Community Broadcasting Foundation - CBF

Australian Communications & Media Authority - ACMA

External Funding organisations – e.g. Telstra grants

EXECUTIVE SUMMARY:

2BBB Radio must move its 93.3mhz transmission facility from its long-time home at Mt Francis lookout to a location with suitable coverage to maintain operations for the community members of the Dorrigo Plateau, Thora Valley, Kallang Valley and down to the most Southern reaches of the Bellingen Shire Council encompassing Valla and Urunga.

This document forms informational and technical aspects for all parties to discuss and move forward in finding a new home for 2BBB's 93.3 FM service

SOME HISTORY:

The 93.3mhz License was granted in the early 1980's, originally on 90.5mhz as 2BBB's translator license for Dorrigo.

It was quickly upgraded to a higher power, independent license, that shifted to the current location at Mt Francis Lookout in approx. 1985 to encompass the whole shire during flooding and fire emergencies. It was chosen as technically the best broadcast location to meet the communities' needs as the highest point topographically that can cover the whole shire.

During the late 80's and into 1992, technical staff worked on getting the service and its service area to where it is now on 93.3mhz.

The 93.3mhz service is currently able to reach people from Valla to the up most reaches of the Thora and Kallang Valley's, it also encompassing Tallowwood Ridge to the Nth and in Megan heading northeast off the Plateau.

2BBB's 93.3 service has been the strong hold for many community listeners throughout the many years not only for disaster information but for community news and events.

With the loss of print news, the advent of nationalised news and program content in both commercial and national radio products, it is imperative that we all work together to find an appropriate location and funds to build the new transmission facility and maintain community communication and engagement.

As a personal side note. I would like to thank Mr. Robert Phillips, the original 2BBB broadcast engineer, for his excellent documentation and for building the forementioned foundations of what we have today. It is truly an honor to follow in his footsteps.

FURTHER COMMUNITY ASPECTS:

2BBB 93.3 is not the only community communications organisation that is looking for a new home due to this issue.

The Coffs Harbour Amateur Radio Club has VHF and HF repeater services at the current site also.

Repeater services create continuity between mobile users, the shires North, South and West of ours.

While not very visible to most community members, the WIA registered organisation forms a part of a larger emergency broadcast network. This club and others all over Australia form part of a larger network of transmission that engages with the community organisations during times of need.

They are often called upon to assist in natural disasters to satisfy the needs of many organisations for communications including search and rescue, fire ground radio repeaters, RFDS, Police, Ambulance and Air Rescue to fill in the gaps in the GRN and mobile coverage.

They can even keep 2BBB up to date with information and vice versa with members in both camps during times of need.

As an organisation with little to no funding, very little operational cost and being extremely impactful in the background of our community and those surrounding us, I have included a combined solution path to assist both CHARC and 2BBB in the transition from the Mt Francis Lookout site.

PATHS TO SUCCSESS:

PHASE 1 – DORRIGO WATER TOWER IMEDIATE AND TEMPORARY

Part 1: It is proposed to relocate to the Dorrigo Water Tower site ASAP to maintain coverage albeit poor coverage.

Part 2: If community sponsorship/contra / funding / ACMA allows, Relocate current Pole and Antenna to improve the above Part 1 temporary coverage.

PHASE 2 – FINAL SITE SELECTION – COVERED IN FINAL WORKING DOC

Part 1: Work towards 2 possible outcomes. In order of preference.

1. The best alternative site for 93.3 and CHARC on the Dorrigo plateau is the BSC's Griffiths Look out site.

2. Evaluate BAI's co share agreement costs and station useability of the MT Moombil national broadcast site.

Part 2: Fundraising, Lobbying, Community engagement to achieve the first above option.

PHASE 3 – FINAL SITE CREATION – COVERED IN FINAL WORKING DOC

Develop the final site into a long-term professional site for both 2BBB and CHARC for the community and the volunteers that serv it.

PHASE 1 – URGENT TEMPORARY SITE:

BSC'S DORRIGO WATER TOWER – DWT – PART 1

As this site relocation has a short deadline for the COB March in 2026, the requirement to find a temporary home in the interim is a necessity for 2BBB 93.3mhz and for the CHARC to be operational, Both with significant coverage losses across the community. See Coverage map 1.1 below

Part 1 Assuming the ACMA approves the temporary or modified License, it keeps all parties on air until funds can be accessed, and site selection decided with minimal cost and interruption to all parties involved.

It is proposed that 2BBB install a 10" shipping container at the DWT site to house the transmission equipment required.

Antenna infrastructure added to the eastern water tower roof boundary structure / safety railing in the same manner BSC currently have installed on the western water tower for their water and septic telemetry radio antennas installed.

Power and comms will be installed in the same fashion as BSC has for its services via catenaries to and from various points on site. Works carried out by local contractors with minimal impact on BSC's services.
(Mains utility feed in will be assessed and upgraded if required & afforded. In the interim, transmission services will be wound back to accommodate lead in capabilities if required)

Impacts on Council - Minimal outages to power. Site, ladder cage and power access required to 2BBB lead project manager and approved contractors to conduct work both in and out of normal business hours.

Raised electricity use cost to be discussed. BCS currently covers 2BBB's power cost at Mt Francis. It is expected to not exceed current usage.

Impacts on Community - Reduced coverage of both services, mainly to the West coastal areas, South Coffs to Valla and to the Kallang & Thora valleys. Quite significantly, please review Current Coverage Map of Mt Francis look out in comparison to Coverage map 1.1 below.

Cost

Component	Description	Cost Inc GST
Transmission hut	Singel use 20" shipping container	$5,016
Transmission eq	2kW antenna - B46BHPSS, cable, connectors, frieght	$2,193
Electrical	Destination SB, Cable, Rigger	$3,400
Site Prep	Vegetation Removal and disposal.	$1,650
Miscellaneous parts	From list below	$1,739
Labour	Manufacturing, riggings, design documentation, build	$9,460

Project Management		$7,457
	Sub Total	$30,916
	10% Contingency	$3,092
	Total	**$34,007**

PHASE 1 – URGENT TEMPORARY SITE CONTINUED:

BSC'S DORRIGO WATER TOWER – DWT – PART 2

As the Part 1 component of Phase 1 leaves us all with an undesirable coverage result, the relocation of our existing Antenna and Pole will somewhat improve the temporary coverage across the community for 2BBB 93.3 service. See coverage map 1.2 below.

Please Note. Part 2 works can possibly be delayed if Phase 2 and then 3 – future site selection and development, comes about quickly, Resources and cost can be diverted to that pathway.

Part B Allows 2BBB to transmit at its full licensed power assuming the ACMA approve the temporary or modified License.

Once funding arrangements can be made, the proposed relocation of the existing transmission pole and antenna will replace the DWT existing power pole. Existing Feed In and existing MSB will also be upgraded if required.

It is proposed to ask the current landowner if our pole and antenna can remain on the existing site until funding allows for their relocation to the DWT or alternative future site.

Impacts on Council – Again minimal power outages, Site access required by 3rd parties as before. Upgraded Power Pole. Feed In and MSB if required.

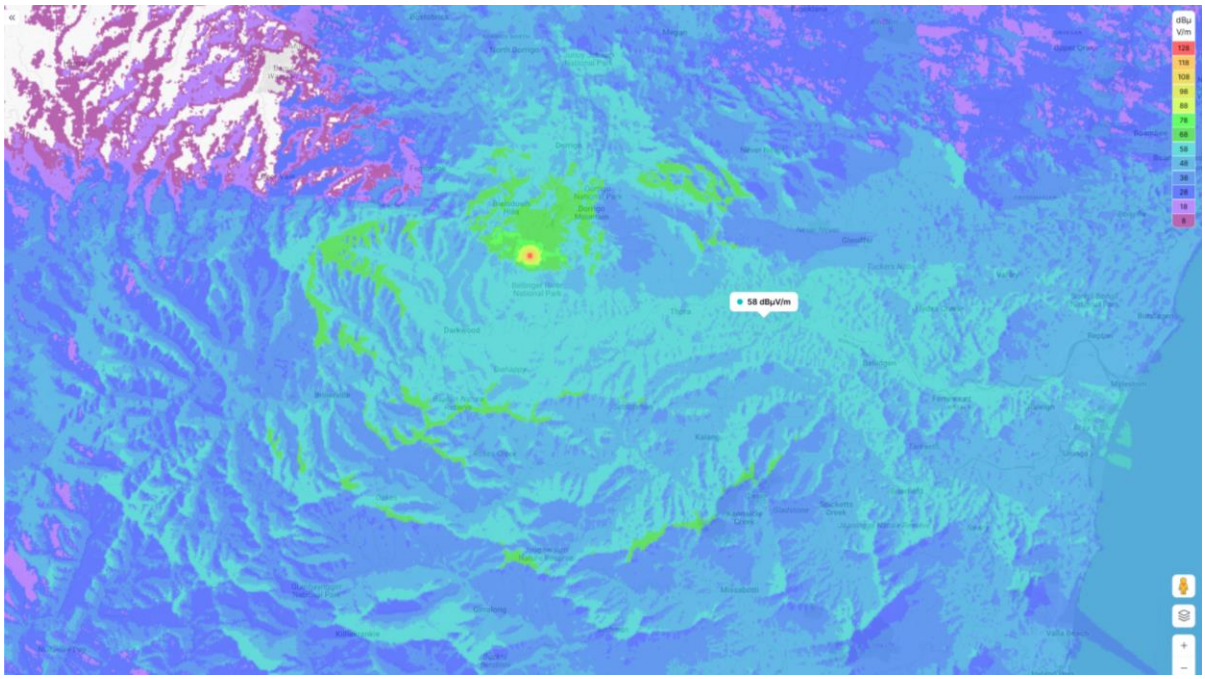
Impacts on Community – Increased coverage of 93.3 from Part 1 coverage, However, it is still not near the current coverage and barley passable Mono coverage to the greater Shire. Coverage map 1.2 below.

Cost – These costs are currently in negotiation with our primary contractor, arrangements of co contribution, sponsorship options and grant funding are being discussed and processed.

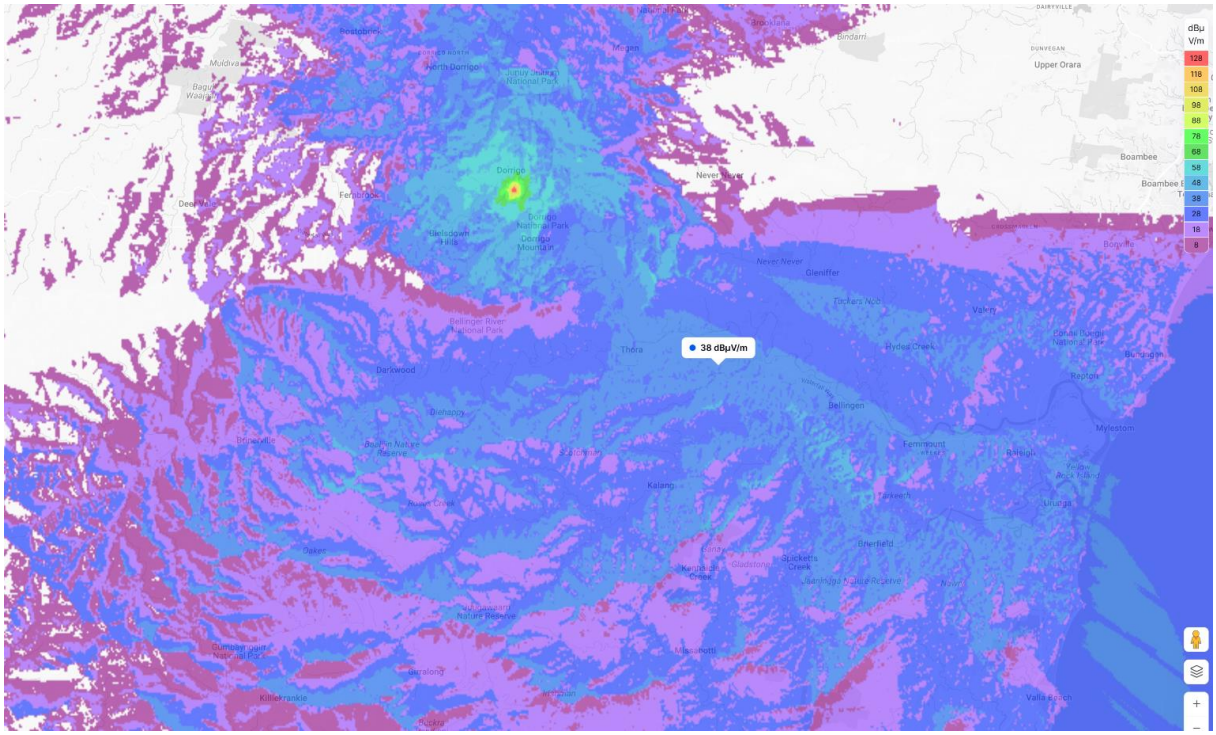
The outright commercial price is TBA, expected to be in the order of $15,000 to $25,000 however it includes pole extraction, relocation transport and installation, all rigging works to remove and reinstate the current antenna array, all required BSC DWT site electrical work.

Conclusion – This gets 2BBB and CHARC on air at the cutoff date and upgraded, post cutoff date to a slightly better coverage, in a temporary way to allow time for the next phases 2 and 3 to continue and lead to a suitable site relocation for the future generations of the BSC and wider community.

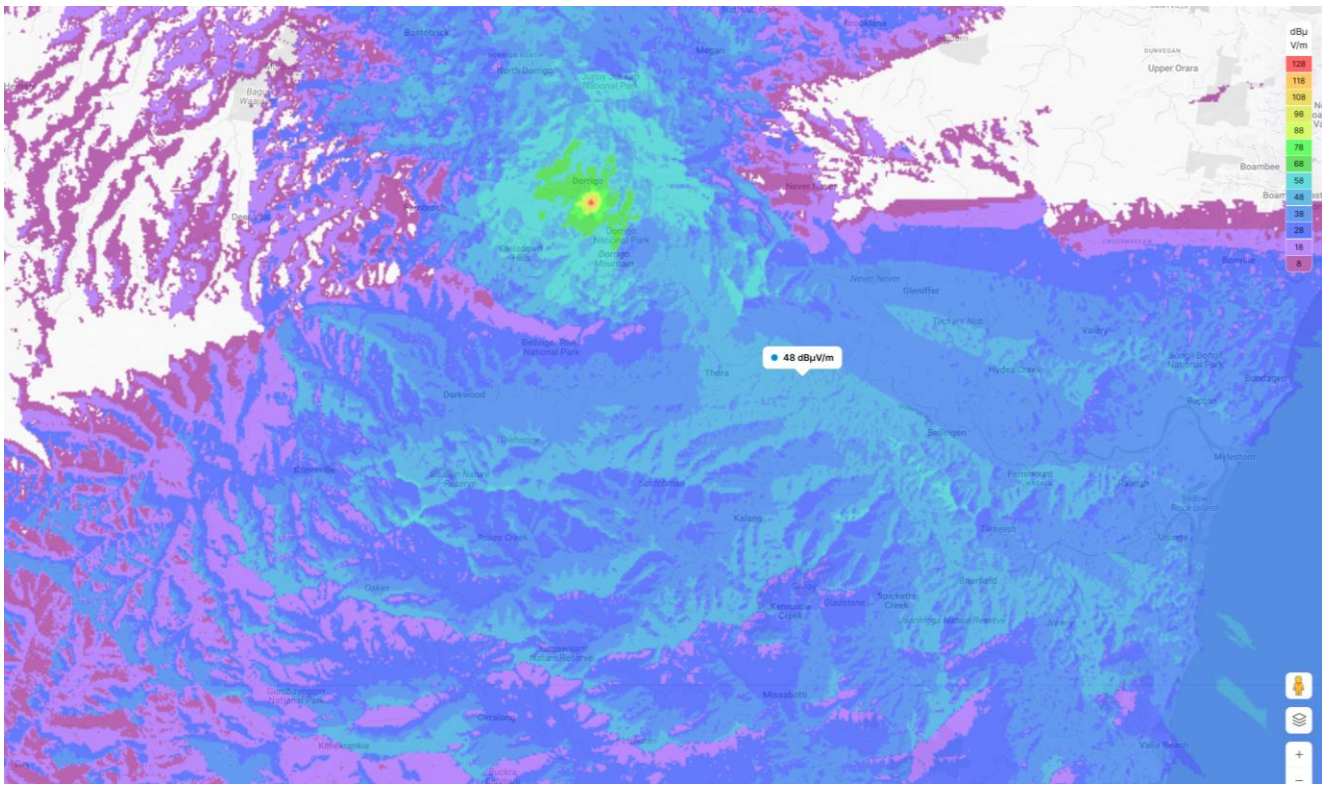
Current Coverage Map from Mt Francis Lookout @ 5kW



Phase 1 Part 1 Initial Coverage map 1.1 from Dorrigo Water Tower @ 2kW



Phase 1 Part 2 Coverage map 1.2 from Dorrigo Water Tower @ 5kW



Standards to assist in reading the Legends above

38 dBuV/m = Fringe FM Mono coverage, may be received with high gain dedicated receiver systems, but not considered useable.

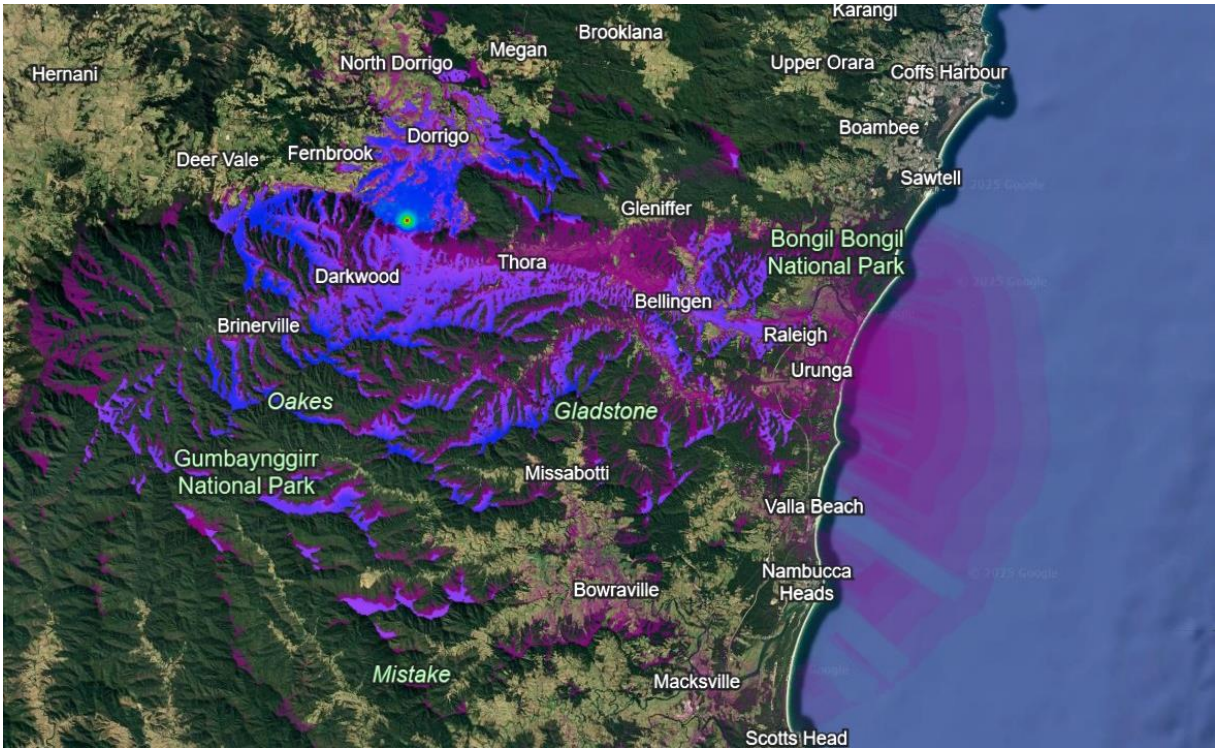
48 dBuV/m = Useable Mono coverage for quality receiver systems

58 dBuV/m = Useable Stereo coverage for quality receiver systems

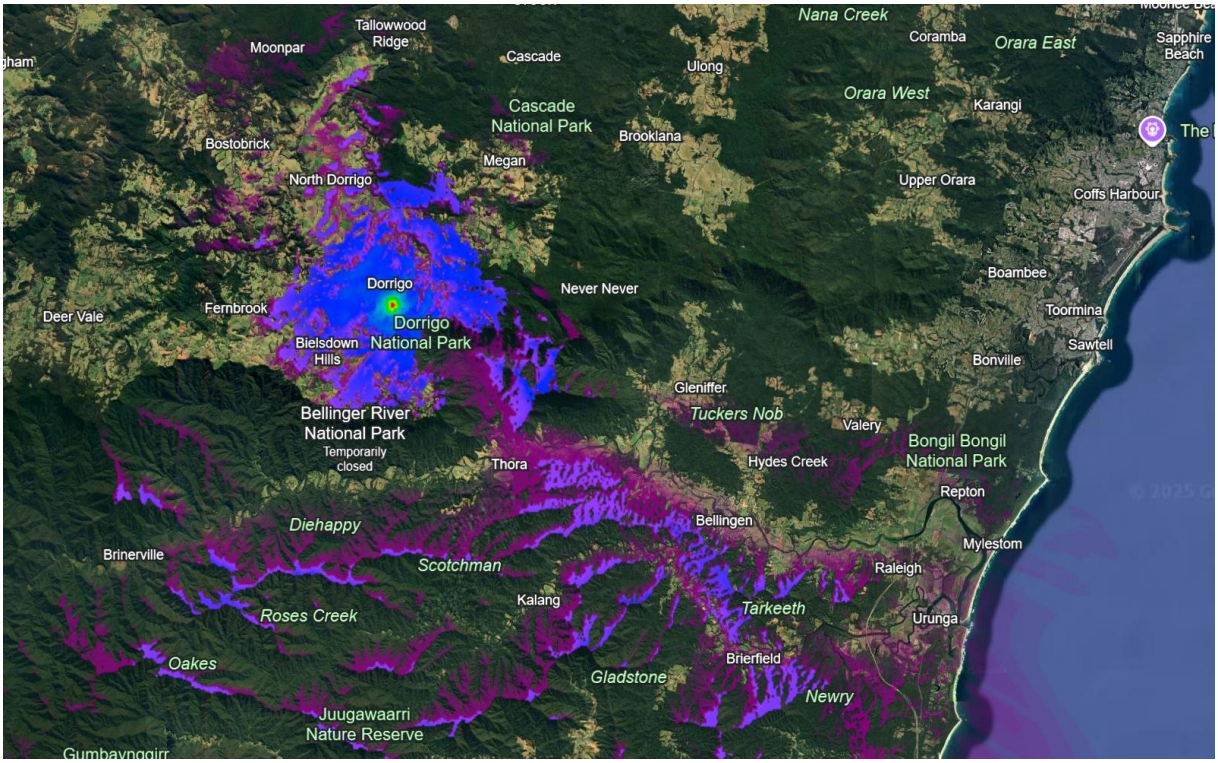
As you can clearly see even the upgraded part of the Dorrigo Water Tower project, Phase 1 Part 2 of 5kW from the water tower is only partly meeting the coverage prediction for acceptable MONO FM 48dBuV/m coverage in the wider shire area. Effectively only serving the Plateau.

COVERAGE MAPS:

a. Current CHARC



b. Phase 1 Part 1 CHARC – DWT


Nana Creek
Coramba
Orara East
Sapphire Beach
Tallowwood Ridge
Moonpar
Cascade
Ulong
Orara West
Karangi
Cascade National Park
Brooklana
Bostobrick
Megan
North Dorrigo
Upper Orara
Coffs Harbour
Boambee
Dorrigo
Never Never
Deer Vale
Fernbrook
Dorrigo National Park
Toormina
Bielsdown Hills
Sawtell
Bonville
Gleniffer
Tuckers Nob
Bellinger River National Park
Temporarily closed
Valery
Bongil Bongil National Park
Thora
Hydes Creek
Repton
Diehappy
Bellingen
Mylestom
Brinerville
Scotchman
Raleigh
Kalang
Tarkeeth
Roses Creek
Urunga
Oakes
Brierfield
Gladstone
Newry
Juugawaarri Nature Reserve