May 2025

MAPPING THE DIGITAL GAP

Measuring Digital Inclusion and Media Use in Remote Aboriginal and Torres Strait Islander Communities

Wujal Wujal, Queensland

2024 Community Update Report

Acknowledgement of Country

We respectfully acknowledge the Eastern Kuku Yalanji people, the traditional owners for Wujal Wujal, and pay our respect to their Ancestors and Elders, past and present. We also acknowledge the Traditional Custodians and their Ancestors of the lands and waters across Australia where we work, live and undertake our research.

About the Mapping the Digital Gap Research Project

Mapping the Digital Gap is a 4-year research project working in partnership with local organisations in 12 remote First Nations communities, to generate a detailed account of digital inclusion and uses of digital services including news and media, track changes over time, and inform appropriate local strategies and services enabling informed decision making by remote Aboriginal and Torres Strait Islander people. It is a supplementary project to the Australian Digital inclusion Index, coordinated within the RMIT University node of the Centre of Excellence for Automated Decision Making and Society in partnership with Telstra.

Contact

Dr Daniel Featherstone
Project Lead

E: mtdg@rmit.edu.au
M: 0437 798 076
W: mappingthedigitalgap.com.au

The 'Mapping the Digital Gap' project received funding support from Telstra and the Australian Research Council Centre of Excellence for Automated Decision-Making and Society (CE200100005).

Copyright © 2025 Daniel Featherstone, Lyndon Ormond-Parker, Leah Hawkins, Sharon Parkinson, Julian Thomas, Kieran Hegarty, Jenny Kennedy, Shane Bowden, Alison Barton. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited.

Suggested citation: Featherstone, D, Ormond-Parker, L, Hawkins, L, Parkinson, S, Thomas, J, Kennedy, J, Hegarty, K, Bowden, S, Barton, A (2025) Mapping the Digital Gap: Wujal Wujal QLD Community Update Report 2024. ARC Centre of Excellence for Automated Decision Making and Society: RMIT University, Melbourne.
DOI: 10.60836/9rx0-y540

Acknowledgements

We would like to thank the following key contributors to this research:

Community Research Partner
Wujal Wujal Aboriginal Shire Council (WWASC)
wujalwujalcouncil.qld.gov.au
WWASC CEO: Kiley Hanslow
WWASC Mayor: Alister Gibson

Community Co-Researchers 2024
Vincent Tayley, Dallas Walker, IKC Coordinator Helen Teece

Research Participants and Stakeholders:
Thank you to all the community residents and local agency staff who generously participated in the surveys and interviews, providing the personal experience to make this research meaningful. We conducted 65 surveys with First Nations community residents in 2024 (86 in 2023, 41 in 2022). During research visits from 2022 to 2024, we undertook 44 interviews with community leaders, residents and the following stakeholder agencies:

- Wujal Wujal Aboriginal Shire Council
- Indigenous Knowledge Centre
- Wujal Wujal Justice Group
- Wujal Wujal Primary Health Care Centre
- Wujal Wujal Police
- Bana Yirriji Art Centre
- Bloomfield River State School
- Wujal Wujal RIBS/ Queensland Remote Aboriginal Media
- State Library of Queensland
- Dabu Jajikal Aboriginal Corporation
- Wujal Wujal Community Care Centre
- Wujal Wujal Store

Wujal Wujal research trips dates:
6–10 May 2024; 13–17 March 2023; 28 March–1 April 2022

RMIT University researchers:
Dr Daniel Featherstone
Dr Lyndon Ormond-Parker

Design/Research support: Leah Hawkins
Editing: Alison Barton
Photography: Daniel Featherstone
Cover photo: Wujal Wujal and Bloomfield River post flood, May 2024

CONTENTS

01. Executive Summary 4

Wujal Wujal at a glance 5
Key survey findings 5
What is digital inclusion? How is it measured? 6
ADII First Nations data dashboard 6
ADII 2023 report findings 7

02. Introduction 8

03. Media & Communications in Wujal Wujal (2024 Update) 14

04. Impact of 2023 Flood 17

05. Key Findings from Data Analysis 24

Communications access 24
Access to IT devices, Wi-Fi or shared facilities 30
Service delivery and use of online services 33
Access to media and news services 38
Affordability 40
Digital ability 42
Local digital media content production, archiving and sharing 47

06. Considerations for Local Digital Inclusion Plan 49

Appendix 1: Summary of survey results 54

Appendix 2: Community communications audit 64

Appendix 3: Photos of research activities 67

Figure 1: Research team Lyndon Ormond-Parker, Vincent Tayley, Helen Teece, Dallas Walker, Daniel Featherstone

01. EXECUTIVE SUMMARY

This report outlines updated findings from our second research visit to Wujal Wujal, an Aboriginal community located on the Bloomfield River in Cape York, North Queensland. The traditional owners are the Eastern Kuku Yalanji people. It was previously known as the Bloomfield River Mission, which was established by Lutheran missionaries in 1886. In 1979 it was re-named Wujal Wujal, after the sacred waterfalls nearby, and the Wujal Wujal Aboriginal Council was formed to manage the community. This changed name to Wujal Wujal Aboriginal Shire Council (WWASC) in 2004.

Wujal Wujal is located 71 kilometres south of Cooktown, 346 kilometres north of Cairns by the inland road, and 2,017 kilometres north-west of Brisbane. The WWASC Local Government Area covers approximately 64 hectares of land along the Bloomfield River, bounded by Cook Shire in the north, and Douglas Shire to the east, south and west.

Our first research visit in March 2022 identified a range of challenges for Wujal Wujal residents and service providers in terms of quality and reliability of mobile and telecommunications services, with low digital inclusion levels for First Nations residents compared with other Australians.

In December 2023, Wujal Wujal was significantly impacted by the devastating flooding that occurred following the severe Tropical Cyclone Jasper. The flood led to the destruction of over 40% of residential homes and many service facilities in the community, and destroyed many communications services immediately following the disaster, which we detail in Chapter 4.

Our third visit to Wujal Wujal was undertaken from the 6th–10th May 2024 amidst the massive disaster recovery and re-build effort and the recent return of most residents. Our sincere thanks to community research partner WWASC, Helen Teece, and co-researchers Vincent Tayley and Dallas Walker, for their contribution and guidance. Thanks also to all research participants, including 65 First Nations residents who undertook surveys and 12 community leaders and stakeholders who participated in interviews.

Building on the 2022 Community Outcomes Report and 2023 Update Report, this Update Report is intended to assist community agencies, leaders and residents to better understand the barriers to digital inclusion, develop local strategies to address local communication and media needs, and support planning and partnerships with government and industry stakeholders.

This report presents combined research findings from 2022 to 2024, outlining changes in First Nations digital inclusion over three years, updating communications and media services available in Wujal Wujal, and adding new findings and interview quotes to the analysis. The Digital Inclusion Plan has been updated with progress to date, including current or planned activities.

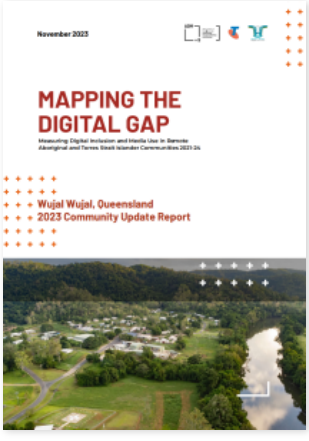
338 km
Nearest major regional centre by road (Cairns)

276
Population (ABS 2021); WWASC estimate is 550

94%
Aboriginal and/or Torres Strait Islanders

65
surveys conducted in 2023 (85, in 2023, 41 in 2022)

12
interviews conducted 2023 (11 in 2023, 21 in 2022)



Wujal Wujal at a glance

Distance	**2017 km**	to nearest capital city (Brisbane)
Dwellings	**73**	occupied dwellings
	3.4	people per ATSI household
Language	**39.9%**	ATSI people who speak an Aboriginal language
Income	**$332**	median ATSI personal income

Figure 2: View of Bloomfield River from Mt Pearce (Photo by Francis Walker)

Key survey findings

Below is a summary of weighted 2024 survey results, showing changes since 2022.

ACCESS

88% ⌄ own or share a mobile phone (97% in 2022)

95% ⌃⌃ of mobile phone users have pre-paid services (80% in 2022)

83% ⌄ have no form of fixed home internet (91% in 2022)

31% ⌄⌄ Never use the public phone (46% in 2022)

13% ⌃ have a NBN Sky Muster service (9% in 2022) ; 2% had Starlink in 2024

AFFORDABILITY

$213 ⌃⌃ avg fortnightly prepaid household mobile expenditure ($100 in 2022)

$237 ⌃⌃ avg monthly household expenditure on mobile and fixed internet ($111 in 2022)

73% ⌃⌃ compromise on internet speed or quality due to affordability (26% in 2022)

40% ⌃⌃ often or always cut back on essential household costs to afford internet; 6% sometimes (5% / 24% in 2022)

DIGITAL ABILITY

86% ⌃ Used internet in past six months (regular users) (83% in 2022)

86% ⌄ of regular users use online banking (97% in 2022)

86% ⌄ of regular users connect with family/ friends via social media (92% in 2022)

81% ⌄⌄ of regular users can send and receive emails (very or mostly true) (95% in 2022)

69% ⌃⌃ of regular users do online shopping (41% in 2022)

MEDIA USE

58% ⌃⌃ listen to Black Star radio/RIBS daily or weekly (18% in 2022)

24% ⌄ VAST satellite TV not working or not installed (30% in 2022)

76% ⌃⌃ watch commercial TV daily; 49% ABC (31% / 8% in 2022)

78% ⌃⌃ get news daily via commercial TV; 51% in-person (16% / 38% in 2022)

88% ⌄⌄ get emergency information in-person (70% in 2022)

Full 2022-24 survey results are available in Appendix 1. An updated audit of demographics and communications and media services available in Wilcannia is provided in Appendix 2.

What is digital inclusion? How is it measured?

Digital inclusion refers to equitable and reliable access to and use of information and communication technologies for participation in social and economic life.

The Australian Digital Inclusion Index (ADII) is a biennial national survey that measures three dimensions of digital inclusion: Access, Affordability and Digital Ability. ADII scores range from 0 to 100. The higher the score, the greater level of digital inclusion. ADII scores are relative, enabling comparisons across demographic groups and geographic areas over time.

The Mapping the Digital Gap project uses an amended version of the ADII survey to collect digital inclusion data. This enables us to compare results for the participating remote communities, towns and homelands with the national results collected by the ADII, and track changes in digital inclusion between and within these sites.

In 2021, Closing the Gap Outcome 17 was introduced to ensure First Nations people in Australia have "*access to information and services enabling participation in informed decision making regarding their own lives.*" Target 17 includes a target of equal levels of digital inclusion for Aboriginal and Torres Strait Islander people by 2026.

Combined with ADII data collection, the Mapping the Digital Gap project is helping, for the first time, to track progress towards Target 17 for remote, regional and urban First Nations people.

DIGITAL INCLUSION

ACCESS

- Reliable access to phone and internet
- Access to IT devices and/or facilities
- Access to trusted media, news and information

AFFORDABILITY

- Affordable phone and internet services
- Affordable devices

DIGITAL ABILITY

- Ability to use digital devices, software and online services
- Awareness of cybersafety, scams, and viruses

ADII First Nations data dashboard

The First Nations dashboard on the ADII website provides interactive charts and community-specific results from the ten research sites in 2022. The Mapping the Digital Gap 2023 Outcomes Report provides summary findings across all sites. These will be updated in 2024 with 2023 survey results.

View dashboard using the QR code below:

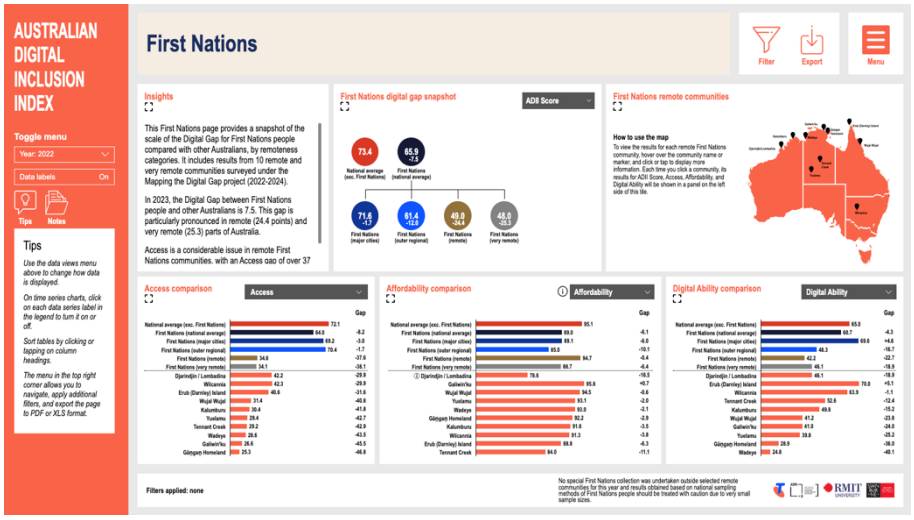


Figure 3: First Nations dashboard on ADII website. digitalinclusionindex.org.au/dashboard/firstnations.aspx

ADII 2023 report findings

The 2023 ADII found a digital gap of 7.5 points for First Nations people compared with other Australians. This gap widened substantially for people living in remote (24.4) and very remote Australia (25.3), where contributing factors include limited access to digital infrastructure and services, high internet costs relative to income, climate, geography and cultural context.

Based on our 2022 survey results, the average Australian Digital Inclusion Index (ADII) score for Wujal Wujal was 47.0, a gap of 13.6 points below the national average for non-First Nations Australians (Figure 4).

The key element of this gap was in the Access dimension score of 31.4, which was 40.6 points below the non-First Nations average, owing primarily to limited household internet access, patchy and slow mobile coverage, and high reliance on mobile devices. The Index scores (see Figure 4) shows small gaps for Affordability (-3.7) and Digital Ability (-1.0). However these gaps vary widely for different demographic groups as outlined below.

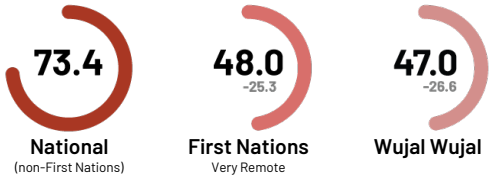


Figure 4: Wujal Wujal ADII scores compared to national average (non-First Nations) and very remote First Nations scores, based on 2022 surveys

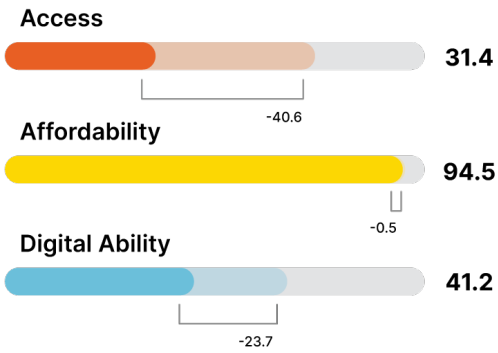


Figure 5: 2023 ADII scores for Wujal Wujal, with gap against national non-First Nations averages

Demographic gaps in Wujal Wujal:

The 2022 survey results found significant variations in digital inclusion between some demographic groups. These results demonstrate that targeted digital support activities would benefit these demographic groups in Wujal Wujal.

Gender gap

10.7

Women had higher average digital inclusion scores than men (51.4 compared with 40.7). The gap was particularly high in the areas of Digital Ability (48.1 compared with 31.4) and Access (35.4 compared with 25.7).

Disability gap

20.7

People with disability had average digital inclusion scores of 33.2 compared to 53.9 for those without disability. The gap was primarily in the areas of Digital Ability (17.0 compared with 53.1) and Access (21.3 compared with 36.3).

Employment gap

12.7

The average digital inclusion score for unemployed people was 45.1 compared to 57.8 for those employed (full-time or part-time). The gap was greatest in the areas of Digital Ability (41.6 compared with 58.9) and Access (24.7 compared with 40.0).

Education gap

39.7

Those who did not complete secondary school had an average digital inclusion score of 26.8 compared to those who completed secondary school (Year 12), who averaged 66.5 (39.7 gap). The gap was most noticeable in Digital Ability (4.4 compared with 77.0) and Access (17.7 compared with 43.2).

Age gap

50.9

Those aged 55–64 had an average digital inclusion score of 36.2, with those aged 75+ averaging 18.6, compared with a score of 69.5 for those aged 18–34 years (49.9 gap). The gap was greatest in the area of Digital Ability (22.0 for 55–64 / 0.0 for 75+ compared to 85.1), with Access also a big factor (24.1 / 2.5 compared with 43.5).

Demographic gaps also exist for those who speak a language other than English at home compared with those who speak only English (45.5 compared with 57.7), and for those living in group or shared households compared with couple with no children (37.5 compared to 64.8).

02. INTRODUCTION

The Mapping the Digital Gap project seeks to track changes in digital inclusion and media and communications use in 12 First Nations communities over three years. This report provides an update from our second visit to Wujal Wujal in February 2023, comparing the survey and interview results since our first visit in February 2022. It also seeks to track any progress on the suggested strategies for a local Digital Inclusion Plan and update the plan with any newly identified strategies or activities.

2022 findings

During our 2022 visit, we heard significant frustration by residents at the poor quality of communications services in Wujal Wujal, particularly the 3G/4G mobile service which was described as congested and slow, with low penetration inside buildings, and unreliable with regular dropouts, especially in wet season.

> "[Connectivity here is] bad ... Especially when we have wet season, [which lasts] from December right up to [April / May], everything not working [so] we can't ring out. We only just got to be in the house, no contact."
>
> - Kathleen Walker, Wujal Wujal elder/ traditional owner, 2022

Despite nearly 20 years of mobile communications in Cape York, and NBN Sky Muster availability since 2016, many of the issues of coverage, access and affordability reported in earlier studies (Brady et al. 2008,[1] Brady and Dyson 2010,[2] 2016[3]) remain similar today. Residents still rely primarily on pre-paid mobile access, have limited household connectivity and pay premium rates to use online services.

> "We'd like to see greater connectivity where people [can] stay connected to the world, [do] their personal online banking, or [for] communications to family. [We need] reliability and efficiency [and] competition [to] drives those costs down so that people have options."
>
> - Stephen Wilton, former CEO, Wujal Wujal Aboriginal Shire Council, 2022

A 2021 Torres Cape Indigenous Council Alliance report (Babacan et al. 2021[4]) identified reliable telecommunications as a critical element to regional sustainability across Cape York and the Torres Strait and outlined a regional strategy with six focus areas. Another report by the Rural Economies Centre of Excellence titled *Leveraging digital development in regional and rural Queensland: Policy Discussion Paper* (Marshall, Babacan, & Dale, 2021)[5] argued for a bold, holistic approach to improve both the hard

[1] Brady, F. Dyson, L.E., & Asela, T. (2008). Indigenous adoption of mobile phones and oral culture. In F. Sudweeks, H. Hrachovec & C. Ess (Eds.), Proceedings of the Sixth International Conference on Cultural Attitudes towards Technology and Communication (CATaC), Nîmes, France, June 24-27, pp. 384-398.

[2] Brady, F., and Dyson, L. E. (2010). A comparative study of mobile technology adoption in remote Australia. Cultural Attitudes Towards Communication and Technology. Perth: Murdoch University.

[3] Brady, F., and Dyson, L. E. (2016). Exploring the Contribution of Design to Mobile Technology Uptake in a Remote Region of Australia. In International Conference on Culture, Technology, and Communication (pp. 55-67). Springer, Cham.

[4] Babacan, H., McHugh, J., Marshall, A., Gopalkrishnan, N. and Dale, A. (2021). *TCICA Region Telecommunications and Digital Connectivity Review Final Report 2021*. Report prepared for Torres and Cape Indigenous Councils Alliance (TCICA) by Cairns Institute at James Cook University (JCU) and Digital Media Research Centre at Queensland University of Technology (QUT).

[5] Marshall, A., Babacan, H., & Dale, A. (2021). *Leveraging digital development in regional and rural Queensland: Policy Discussion Paper*. Rural Economies Centre of Excellence: QUT Digital Media Research Centre and James Cook University. Brisbane.

and social infrastructure needed "to achieve overall digital inclusion, social equality, and economic development" (p.ii). The report sets out six recommendations to Queensland Government, with a call to "address the urban–rural digital divide with appropriate place-based analysis, planning, and solution building" (Marshall et al. 2021, p. iii).

Telstra is the only mobile and fixed line telecommunications provider in Wujal Wujal. While there is 4G mobile coverage, the location of the tower on Mt Pearce leads to coverage 'shadow areas' in the south and west parts of the community and nearby settlements to both north and south. There is also reduced signal during rain or low cloud. Several research participants described the impact of recent outages, including a 10-day outage of mobile and fixed line communications in 2020 caused by cable damage.

Figure 6: Mobile tower at the top of Mt Pearce, south-west of Wujal Wujal

Natural disasters, such as cyclones or floods, as well as communications or power failures, have had a significant impact in Wujal Wujal in previous years, resulting in inability to coordinate emergency procedures, provide critical services, access cloud-based systems, or access EFTPOS and ATMs to purchase food and goods. These issues led to WWASC establishing the award-winning Wujal Wujal Emergency Management Network in 2017, providing emergency Wi-Fi and information services throughout the community. Following a significant flood event in 2019, WWASC also commissioned the development of a flood monitoring and early warning system, which is now finalised. However, both systems rely on costly communications infrastructure, backup power generation and storage, and offsite network management, with the operational costs being a financial burden for Queensland's smallest Shire.

In the 2022 Community Outcomes Report, we grouped key findings under the following headings:

- There is low household adoption of fixed home internet
- Pre-paid mobile is the primary means of phone and internet access
- Affordability is a significant concern
- The 4G network is congested, unreliable and patchy
- Effective communications is critical for health and safety
- Digital literacy levels are relatively high, but limited by mobile-only use and English literacy
- There is demand for community access computers, Wi-Fi and support to use online services
- Online learning is growing but face-to-face learning is still preferred
- COVID-19 led to increased use of videoconferencing for meetings, training and telehealth
- Cyber safety and scams are a growing concern
- Confidentiality and password security can be issues
- There is growing demand for high-bandwidth applications, but data speeds limit use
- Many households are without TV services or are paying subscription rates
- Local news sharing and radio services are important

2023 findings

Since our visit in 2022, the only upgrades have been the introduction of two NBN Wi-Fi hotspots at the Art Centre and Rural Transaction Centre (RTC), initial uptake of Starlink low earth orbit (LEO) satellite services by some staff, and the completion of the emergency flood warning system. Otherwise, research

participants described little change in the quality and reliability of communications services in Wujal Wujal since 2022, with some interviewees claiming that mobile and ADSL services are slower and less reliable.

Several interviewees described Wujal Wujal being at the end of the line, referring to the microwave repeater network from Cooktown, with limited capacity available to meet the ever-increasing needs of the community.

"[People living] in towns and cities, urban areas [are] so privileged [because] they have the ability to access services at their fingertips. But here in Wujal Wujal, there's no privilege like that ... We're really lacking [quality of] service, our download and upload speeds [are] nothing compared to other places."

- Kiley Hanslow, CEO, Wujal Wujal Aboriginal Shire Council, 2023

"There [are] black spots everywhere here [which] need to be fixed ... There [are] connectivity issues after issues here."

- Gina Manai, Coordinator, Aged and Disability Community Care Centre, 2023

The closure of the Wujal Wujal post office in 2022 reduced access to face-to-face banking and other services, with reports of increased elder fraud and travel costs to access services. There is a national trend of reduced face-to-face services and businesses across regional and remote Australia, with a transition to online delivery of government, banking and retail services. For many remote residents, it is increasingly difficult to access essential services due to limited household internet access and low levels of digital literacy. The cost burden to access services is also shifting to a user-pays model, further excluding vulnerable and low-income people from the services aimed at addressing these barriers

Figure 7: The Rural Transaction Centre where the post office was located.

"We need a good digital system in place [to] want to make it easier for people to access online services like Centrelink or MyGov or YouTube and other things."

- Bradley Creek, WWASC Mayor, 2022

Wujal Wujal has a range of internet access options including 4G mobile coverage, ADSL, Sky Muster satellite and, since 2022, Starlink low earth orbit (LEO) satellite services. However, other than the mobile service, all other services are post-paid only,[6] which have very low uptake by First Nations households.

There are free public access Wi-Fi services available at the Centrelink office and Indigenous Knowledge Centre during opening hours, as well as the two new NBN Wi-Fi hotspots at the Bana Yirriji Art Centre and the RTC in the centre of town, with the Art Centre hotspot being well utilised by staff, artists and visitors. Despite poor coverage and congestion on the 4G mobile network, there is limited uptake of Sky Muster

[6] Activ8me and one other NBN RSP now have a pre-paid month-to-month option for residential Sky Muster, however there is very little promotion or awareness of this option in communities.

services beyond local agencies and staff housing. With increased use of digital services for telehealth, and online meetings and training by agencies, we heard many stories of frustration from several agencies and staff told us they were considering transferring to Starlink.

Despite ongoing connectivity challenges, there is growing demand for broadband data by residents to access online news and information, social media, and online entertainment. Young people are particularly heavy internet users with streaming services (YouTube, Netflix, Stan, TikTok, Spotify etc.), gaming and other high-bandwidth applications increasing in popularity, with some individuals paying high monthly bills for unlimited data plans. Limited access to free-to-air TV services, due to VAST direct-to-home satellite services not working in most households, is exacerbating the demand for online streaming and subscription services, and further privatising the costs of entertainment.

The Bloomfield River State School (BRSS) continues to struggle with poor connectivity limiting use of online learning applications and resources. This is despite a new mobile tower being installed beside the school in 2021 (still awaiting connection into the school online system two years later in 2023). BRSS is 5.5 km north-east of Wujal Wujal, with about 95% of its 60 students being Indigenous. BRSS is one of four schools in Queensland rated as 'low connectivity' and having to run an offline version of NAPLAN tests. With digital skills increasingly critical for life and workplace requirements, the lack of ability to provide digital skills training in the school is limiting students' future opportunities.

"[There's little] opportunity for students to be able to engage in a digital future when we're really hamstrung at the base level …We're a long way behind [in terms of digital equity. If this was] a Brisbane school there would be just complete outrage about it."

- Michael Anderson, Principal, Bloomfield River State School, 2023

Staff from local agencies in Wujal Wujal talked about the importance of having reliable communications and the need for upgraded infrastructure for effective service delivery.

"[We] rely on that connectivity. If we didn't have that, we couldn't provide an effective service to community."

- Kiley Hanslow, CEO, Wujal Wujal Aboriginal Shire Council, 2023

Some described challenges in using cloud-based database systems for financial and client records management, remote servers, and online administrative systems, particularly as congestion levels on 4G and ADSL services increased throughout the day. As a result, those agencies with access to both fixed line and satellite services described alternating between the two depending on which was working best at any time.

"We need better connectivity … It's very frustrating when you can't get online [or] make a phone call."

- Mary-Louise Wilkinson, Acting Director of Nursing, Wujal Wujal Primary Health Care, 2023

Based on 2022 surveys, Digital Ability levels in Wujal Wujal are relatively low compared with other remote communities visited (Index score of 41.2 compared with First Nations very remote average of 46.1).

Residents have access to online computers and support to use digital services at the Indigenous Knowledge Centre and Centrelink office, as well as public Wi-Fi in both spaces during office hours. However, there is demand for more digital skills training and support, particularly by elders, people with disability and those with lower education or English literacy levels.

Most people told us they would prefer one-on-one mentor-style learning, using a 'just-in-time' approach of support for specific applications or tasks as needed, in contrast to infrequent group workshops. There is also demand for awareness-raising around issues such as scams, stranger danger for young people on social and gaming platforms, misinformation, and other cyber-safety issues. There is also demand for remote access to online education, telehealth and IT support for small businesses and local agencies.

Research participants also requested facilities and support for music, media, and cultural content production. There is a significant existing collection of language and cultural heritage recordings in need of archival storage and digitisation, with calls for establishing a cultural centre to enable sharing of cultural knowledge and local creative content with visitors and for inter-generational knowledge transfer.

2024 findings

Our 2024 visit followed the devastating flood in December 2023, which destroyed over 40% of residential houses and most agency buildings and community infrastructure. A major recovery and reconstruction effort was still underway five months later, with residents only just returning from evacuation centres in Cooktown, Cairns and Hopevale. We were impressed by the community's resilience, cohesion and cooperation, with the former Indigenous Knowledge Centre re-vamped as a Disaster Recovery Centre and WWASC administration centre since the destruction of the former Shire building and facilities.

We heard about the failure of the flood emergency warning system and the critical loss of all communications services over the days following the flood, hampering evacuation and recovery efforts and information sharing with emergency agencies. Starlink satellite dishes were sent out and provided primary communications in the following months while mobile and fixed line services were being restored. Starlink is now used as a primary service by most agencies in Wujal Wujal. The flood experience and extensive recovery effort is outlined in Chapter 4.

However, at the time of writing this report in April 2025, the 4G mobile service is still very slow and patchy, with reports of regular dropouts during rain and inside buildings. Some recent communications improvements completed in 2022-23 had been lost, with the destruction of the emergency warning system (since replaced), the small cell mobile tower at the clinic (installed shortly before the flood) and the Wi-Fi hotspot at the Bana Yirriji Art Centre destroyed in the flood. While much work has been done to re-establish critical infrastructure and services, there is still significant work to be done to provide robust, reliable and resilient communications and media services for Wujal Wujal.

The most significant change since our 2024 visit is that a community-wide Wi-Fi mesh service has been installed with Regional Connectivity program funding, providing in-house Wi-Fi repeaters and VoIP phones in all households. WWASC have advocated for this for several years to improve household internet access and address affordability issues with most residents reliant on prepaid mobile phones for voice and data use. This network, using Sky Muster and Starlink backhaul, provides an alternate broadband and phone service, given the currently unreliable mobile service. We look forward to seeing the impact of this network during our final visit in April 2025.

Media and news services had also been greatly impacted by the flood, with the Wujal Wujal RIBS studio and broadcast facility destroyed (since re-built and operating again at the RTC) and many flooded houses losing the VAST satellite dishes, with these not replaced as part of the re-build. People referred to the

importance of radio and TV services for reliable news and information, including prior to and during the cyclone. There were renewed calls for a broadcast television service to be re-established in Wujal Wujal rather than return to VAST delivery and reliance on costly and problematic set top boxes. However, the importance of having local news and information was highlighted by the high level of engagement with the Wujal Wujal TC Jasper Recovery Facebook page, which kept residents informed of clean up and re-build efforts while away from the community.

Despite the upheaval that people had been through, we had high participation in our surveys. The key findings from the weighted results are shown on page 5, highlighting the changes over the three years of surveys, with full survey 2022-24 results outlined in Appendix A. While the 2024 results show similar trends to previous years, we urge caution when comparing results due to residents having just returned home from other locations and services having been severely disrupted.

One notable finding is that affordability has increased significantly as as a critical issue. Our survey found that average household expenditure for both mobile and fixed line services had increased from $111/month in 2022 to $237/month is 2024. The percentage of respondents who often or always cut back on essential household costs such as food or bills had increased from 5% to 40%, and those who compromised on internet speed or quality to prioritise affordability was up from 26% to 73%. This is consistent with findings in other remote communities, with ongoing use of pre-paid mobile as a primary means of access, yet data use having increased dramatically. It is hoped that the new Wi-Fi mesh network will help to reduce this key barrier to digital inclusion.

Updates to proposed Digital Inclusion Plan

Communications is typically a state or federal government responsibility, with decisions and timeframes often determined by telecommunications services providers or funding programs. This can leave local residents and agencies feeling disempowered with limited input to the solutions needed in their communities. We have proposed development of local digital inclusion plans as a way to address this.

The 2022 Outcomes Report included a proposed digital inclusion plan, outlining a list of potential strategies to improve digital inclusion based on input from research participants. Building on the suggested strategies in the 2022 and 2023 reports, an updated Digital Inclusion Plan is provided in Section 6. This includes new strategies proposed by residents and stakeholders, as well as a summary of progress or planned activities for each item listed.

We recognise the challenges in implementing a local digital inclusion plan, with no agency having the specific remit to lead communications and digital support programs, and limited capacity within already stretched agencies. However, WWASC have been proactive in advocating for improved services in the community over several years, including the Wi-Fi hotspots and mesh network. Despite having limited resources to self-fund activities, WWASC see this plan as a useful tool for advocating for improved services and leveraging external funding and support.

> "[The Digital Inclusion Plan is] an essential piece of the equation. [It provides] the basis of what I use to go and advocate [for] funding and work in that space to increase services and connectivity for the community."
>
> - Kiley Hanslow, Wujal Wujal Aboriginal Shire Council CEO, 2023

As part of our ongoing research work with the Wujal Wujal community in 2025, the Mapping the Digital Gap team can assist with development of this plan.

03. MEDIA & COMMUNICATIONS IN WUJAL WUJAL (2024 UPDATE)

Existing telecommunications services

Mobile coverage

The 4G mobile coverage from the Mt Pearce tower covers the central town area, with patchy or no coverage to the north and south of the town. There is a separate 4G tower at Ayton, 7.5 km northeast of Wujal Wujal, and a 4G small cell tower beside the Bloomfield River State School 5.5 km from Wujal Wujal (installed 2022). Apart from this, there is only 3G or no coverage along most of the road to Ayton due to hilly terrain several areas have poor connectivity (especially south of Wujal Wujal and China Camp). In late 2023, Telstra installed a 4G booster at Wujal Wujal Primary Health Care Centre to address low coverage to the west side of town, however this was destroyed in the December 2023 flood.

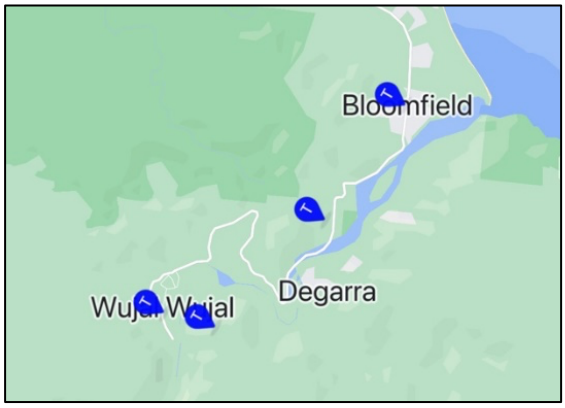


Figure 8: Location of mobile towers at Wujal Wujal, Ayton and beside BRSS (Source: Aus Phone towers app)

Backhaul to community

Telstra backhaul to Wujal Wujal is provided through microwave with multiple hops from Cooktown 71 km away. The microwave also connects to a local exchange in Ayton which services communities along the route (Rossville, Helenvale, Bloomfield) as well as Wujal Wujal. The cable was broken near Ayton during the flood and the repaired cable is still exposed awaiting road repairs.

Landlines

Landlines are available to most service agencies and some residences, however the vast majority of residents surveyed do not have landlines and use mobile for primary phone use.

Fibre to the premises

Previously, the Wujal Wujal Health Care Centre and WWASC had direct fibre connections. However, since the flood these have been replaced by Starlink backhaul.

ADSL access

Telstra provides ADSL services to existing customers, mostly agency building and staff houses. However, we are unaware of any of these being in use since the flood.

NBN services
Wujal Wujal is designated as a satellite delivery zone under NBN planning. However, due to having 4G coverage, there has been low household take-up of Sky Muster services in the community, even by service providers.

NBN Wi-Fi network
Australian Private Networks has installed a free community-wide Wi-Fi network in 2024 with Regional Connectivity program funding to operate for seven years. Each residence has had an in-house repeater and VoIP phone provided.

Public phones
There is one public phone near the Rural Transaction Centre (RTC) in the middle of town. Another is located in the town of Ayton. Our survey found the public phone has limited use, despite now being free to use. The APN community Wi-Fi solution included a new solar-powered phone booth with satellite connection providing free Wi-Fi, located over the Bloomfield River bridge in Degarra.

Wi-Fi hotspots
Free Wi-Fi is available at the the Centrelink office for access to Centrelink, government, and banking services. NBN Wi-Fi hotspots were installed at the RTC in July 2022, and the Bana Yirriji Art Centre in January 2023), using Sky Muster Plus satellite backhaul. The art centre was badly damaged in the flood and the Wi-Fi is no longer available.

Community managed networks
WWASC previously managed a hybrid network and server, with point-to-point microwave links to the Shire depot, IKC, post office, art centre and staff houses. The Iterra satellite, server and network equipment were all destroyed in the 2023 flood.

Emergency communications
Following 2019 floods, a flood monitoring and early warning system was developed to provide advance notice of floods (completed 2022). This system failed due to the power of the 2023 floodwaters washing away sensors. It was replaced in 2024 with a LIDAR monitoring system which sends SMS warning messages to residents in Wujal Wujal and Degarra when the river level is 50cm below bridge (ref: pg.40 Council Leader Winter 2024).

Telemetry
WWASC also runs a telemetry system for monitoring water pumps, sewerage plants and other municipal services around the community. The system runs off the 4G network.

HF / UHF radio
There is some use of HF or UHF radio by WWASC, Police, Rangers, and SES, including for land and sea rescue, but satellite phones are more commonly used by police and other agencies when working in remote locations.

Media Services

Radio services

Black Star Radio 107.7 FM is the only FM service, with Wujal Wujal RIBS previously providing local radio on weekdays. The RIBS studio was destroyed by the flood, bit is to be re-built at the RTC. ABC radio services are available via FM from Ayton, but do not reach Wujal Wujal.

Newspaper

Ayton Store sells the Torres and Cape News but there are no First Nations newspapers available (e.g. Koori Mail).

TV services

Free to air TV is only available via VAST satellite direct-to-home, however the VAST service is not working in about 25% of houses due to lack of maintenance or set top boxes not working. The cost of replacing these is approximately $395 at the local store. TV services are also accessed online via 4G or Wi-Fi, with some Foxtel use.

Local news

WWASC runs a Facebook page with local news or activities and distributes a monthly newsletter which provides health updates, upcoming events/meetings/visits in community, public holidays, school events, messages from police, Justice Group etc and local history. A Wujal Wujal Recovery Facebook page was set up to keep residents informed during the recovery effort. Information is also shared on community noticeboards and a new digital sign located by the RTC.

Access and support facilities

Community Access facilities

The IKC (relocated to Charlie's Tourism Centre) is open 8 am to 3 pm Monday to Thursday and provides community access computers, library facilities, and language and cultural projects. The IKC also provides IT support and runs occasional skills workshops through State Library of Queensland. The Centrelink office at the RTC opens 2.5 hours a day and has a computer available for accessing Centrelink, banking and government services.

IT support

Support services for accessing and using online services provided at IKC, Centrelink office and by Wujal Wujal Justice Group.

Mobile phones and recharge sales

Available from Wujal Wujal store and Ayton store.

04. IMPACT OF 2023 FLOOD

The remote Aboriginal community of Wujal Wujal in far north Queensland was one of the most significantly impacted by the devastating flooding that occurred following the severe tropical cyclone Jasper in December 2023. Flood maps categorised the flood as a one-in-2000-year event, however with climate change effects ever-worsening, the community is expecting more. The 2024 interviews reveal the devastation, resilience, and consequences that have impacted the interviewees' lives and the effects on their community and communication systems.

Background

Category Two ex-Tropical Cyclone Jasper brought very heavy rains over Wujal Wujal and the Bloomfield Valley causing catastrophic flooding. Two-metre rainfall from the storm system following the cyclone broke the Bloomfield River levee banks on the night of 17th December 2023, causing enormous structural and ecological damage in Wujal Wujal and throughout the Bloomfield Valley.

Figure 9: Flattened trees line the Bloomfield River months after the flood

Wujal Wujal Traditional Owner, Vincent Tayley, said that while the community had experienced cyclones and floods before nothing prepared them for the disaster, with floodwaters suddenly rising and engulfing houses in the middle of the night.

> **"I didn't expect the flood [to] be this high, none of the community [had] expect[ed] something like this to come along ... It was just a big disaster for us ... people lost everything in their houses and their personal items. So, just emotional and just sad for us."**
>
> **- Vincent Tayley, traditional owner / resident, 2024**

The flood hit so quickly that they had no warning. The flood warning system had been initially activated at 11am the previous morning. But at about 9pm a wall of water blasted down the river valley, washing the flood sensors off the bridge without triggering the alarm.

- "When we got told to evacuate, [the] community [were] just helping each other, just passing the message on to everyone else ... because our PA, the alert system ... went under ... once we got the call saying get out, [we] just ran across the road and just yelled out. Everyone got out. It was scary, especially for the younger kids." (Dallas Walker, resident / Defence Force member, 2024)

Community members alerted and helped one another in the darkness.

- "It was scary at first. It was just dark. It happened so fast ... we got a phone call saying to go outside and check the water. So I went outside with a torch and the water was rising. So I ran back inside, got a few clothes, my IDs, my phone, my charger, my dog. I just chucked all of them in the car and moved to higher grounds." (Dallas Walker, as above, 2024)

Residents and professional staff helped each other reach higher ground or take shelter in houses.

- "A few of the mob, they've been up on their roofs, tied up on the trees, just to try and keep themselves up there, you know, because the flood been right through there." (Vincent Tayley, as above, 2024)

Some people spent the first night in trees several metres taller than two-storey houses. A group of people trapped at the clinic were forced to climb onto the ambulance and clinic roof, aware that crocodiles may be in the floodwater.[7] As the flood rose, people stood on house rooves using palm fronds to support themselves. The power failed about 11pm, leaving people trying to survive in complete darkness.

The river rose to 13.8m high, filling the narrow valley where Wujal Wujal is located. As well as houses, key community facilities were submerged and destroyed, including the Shire administration building and depot, art centre, health clinic and police station.

Figure 10: The Bana Yirriji art centre was one of many facilities destroyed in the flood

- "The art centre was devastated and crashed and smashed. And our our administration building [and] My Pathways employment office went underwater … Forty-three per cent [of] houses went under and so that's an awful lot for a small community where housing was already an issue … The community was filled like a bowl … huge trees and debris and shipping containers [came down]. People … were very distressed … everything was gone." (Kiley Hanslow, as above, 2024)

Vehicles, boats, UHF radios and satellite phones, intended for emergency transport and communications, were also lost due to the rapid rise of floodwaters.

- "Our depot went under and our admin centre went under. So, we've lost all of our equipment in that regard." (Kiley Hanslow, as above, 2024)

Figure 11: An aerial image of Wujal Wujal indicates the extent of the flooding (Source: WWASC Disaster Recovery Centre)

[7] https://www.theguardian.com/australia-news/2023/dec/18/north-queensland-floods-nine-people-trapped-on-hospital-rooftop-in-wujal-wujal-cairns-airport-closed

Rescue

Emergency evacuation teams could not reach the community for three days as rain continued to fall. While the mobile service worked for the first two days following the flooding, emergency services could not reach the community from Ayton.

Landlines initially worked, providing a critical mode of communication immediately after the flood.

- "I had a landline and it worked up till the last day before our [evacuation], which was good [but] people with mobile, they were on and off. [Nobody] could get through by either text or whatever else." (William Harrigan, WWASC Cultural Officer, 2024)

Figure 12: Road section where landslide occurred awaiting repair, May 2024

However, a landslide broke the fibre optic cable about five kilometres from Ayton about two days after the flood, causing an outage of all fixed line and public phones in Wujal Wujal. Beyond that time there were no fixed line services until the fibre optic cable was repaired temporarily in March 2024. Residents were unable to contact family members outside of Wujal Wujal.

- "No fixed line, no, no nothing. There was nothing … Nobody knew whether you were alive or dead because you couldn't contact anyone." (Lawrence Fry, Wujal Wujal Justice Group Support Worker, 2024)

Despite the power outage, the mobile tower at the top of Mt Pearce continued to function initially on back-up battery power. The ABC reported that Telstra switched off 4G at 11pm on the 17th to preserve power in the batteries, leaving only the 3G network[8]. This enabled residents and emergency service workers to make calls and send texts during the immediate aftermath of the flood.

- "I had people ringing me to try and get the SES boat over, but they [couldn't help]. Like, we had [huge] trees … coming down [and] power lines being down from the flood. [But after that] no-one [could] pick up that reception [or] good coverage." (Vincent Tayley, traditional owner / resident, 2024)

The batteries on the mobile tower ran out after about two days, leaving the community without any working communications system.

"By this time communications had run out. So we had no communications [at a time] when it was important for them to get into touch with their families … To have communications in a time like that was really important. But we didn't have it. Community effectively had lost everything at that stage.

- Kiley Hanslow, Wujal Wujal Aboriginal Shire Council CEO, 2024)

- "You didn't know what was happening because you couldn't get the messages in to say, 'We're sending helicopters in to get you out.' Those messages weren't [conveyed with] no way of communication." (Helen Teece, IKC Coordinator, 2024)

[8] ABC blog: Views from the roof of the Wujal Wujal health clinic 18/12/23 8.30am AEDT; Reporting by Larissa Waterson

The water supply also ran out and power was cut. Without critical services, the entire community had to be evacuated.

> "[We had] no phones, no water, no sewerage, no power for about three and a half weeks … Nobody could stay here … Every day you had to go find water." (Lawrence Fry, as above, 2024)

There were also reported outages in both mobile and fixed line services at nearby Ayton, 10 kms away, where the SES was based. With satellite services destroyed or not working due to heavy rain, there was no means of communications by emergency services and police at Ayton with Wujal Wujal.

> "They didn't have any sort of mobiles, nothing, no landline, nothing over there [at Ayton]. And we couldn't receive anything from Wujal because [the connection] only has a certain distance it covers … Even up until three weeks ago (March 2024), Ayton didn't have mobiles."
>
> - Garry Ashworth, resident / former Councillor / SES staff member, 2024

Some residents were ferried by boat to Ayton while others awaited helicopter evacuation. However, the rescue effort was thwarted by ongoing rainfall, with many waiting an entire day only to be told in the evening that no helicopter could come due to ongoing rain.

> "When the event happened, we couldn't get people out [for] three days … Every time the ADF tried to come in with their choppers there was [a] wall of water and nobody could get out." (Lawrence Fry, as above, 2024)

After two days helicopters were eventually able to reach the community[9], with residents evacuated over the following week. The National Indigenous Times (NIT) reported that Australian Defence Force Chinook helicopters evacuated around 200 residents to Cooktown.[10]

Figure 13: The 4G mobile tower at the top of Mt Pearce, overlooking Wujal Wujal, with microwave links to Mt Misery via McCullough's Hill tower

After nearly a week without communications, Queensland Government arranged for two Starlink satellite dishes to be sent out on a rescue helicopter. These were set up at the CEO's house and the Indigenous Knowledge Centre, one of the only intact public facilities, repurposed as the disaster recovery centre. While only providing localised Wi-Fi access, the Starlink services provided the only reliable connectivity in the community for many weeks.

With ongoing rainfall and cloud cover, the solar cells at the Mt Pearce mobile tower were not recharging the batteries. Fuel had to be helicoptered in to refuel the small back-up generator every few days, until a larger tank was later installed. But the microwave link between Mount Misery and Mount Pierce remained unreliable. Helicopters were required to transport technicians in to replace the output card at Mt Misery, which also linked to Ayton. This was not able to be replaced for two weeks due to inclement weather.

[9] https://nit.com.au/19-12-2023/9107/evacuations-begin-in-far-north-queensland-aboriginal-community-amid-devastating-floods

[10] https://nit.com.au/21-12-2023/9141/town-overcomes-setbacks-to-welcome-wujul-wujul-flood-evacuees

Recovery

Multiple agencies worked together to re-build the local community over the next four months. Flooded residential houses and agency buildings were stripped back to their frames, dried out and re-built.

Figure 14: Posters showing the extent of the clean-up and recovery effort

During the recovery period, the community was declared a 'Community in Isolation' and Telstra provided a temporary 'cell on wheels' at the aged care centre for two weeks to provide connectivity for recovery workers. This was subsequently removed once mobile services were re-activated.

Social media was used to keep people informed and updated about the recovery efforts. The Council Facebook page and later the Tropical Cyclone Jasper Recovery Facebook page were essential hubs for communicating with people about recovery progress. Websites such as DATSIC, the Department of Communities and Cape York Partnerships Community Recovery Group became hubs for sharing videos of the huge reconstruction effort. Some community members also shared updates during displacement.

> "[It] helped people to remain informed through the Tropical Cyclone Jasper Recovery Facebook page about everything that's been going on, all our recovery efforts. [We acknowledged] everyone who helped us [from] the Community Recovery group there through CYP, through Ganguard, through My Pathways, everyone banded together to help ... We've proven that stakeholders can work together, [which is] something we [want to] continue."
>
> - Kiley Hanslow, CEO, WWASC, WW, 2024

+ "It was great because every time you'd bump into one of the residents from Wujal would be, "Oh, did you see the new shop?" And I was like, "Yeah, cool." Lucas Creek, WWASC Councillor, WW, 2024)

People began to return to Wujal Wujal four months after the disaster. Professional staff focused on getting residents home as safely and quickly as possible from temporary homes, hotels and caravan parks in Cooktown, Hopevale and Cairns.

During our visit, work was underway to complete renovations of the Charlie's Tourism Centre for the IKC to relocate there, given the transformation of the previous IKC as a Local Disaster Communication (LDC) and administration centre for the community.Electricity has been restored to the Charlie's Tourism Centre, walls have been replastered, and painting and fit-out was underway. In the longer term, WWASC is working towards establishing a permanent admin centre when finances allow.

Communications impacts and restoration

During our 2024 visit, we saw the broken fibre optic cable had been temporarily re-joined near Ayton, providing fixed line phone and ADSL services, although the cable was laying exposed by the road awaiting repairs. Roadworks were still underway in April 2025 with the fibre optic cable stretched between trees to prevent damage by machinery.

Figure 15: Recovery crews were still removing fallen trees and debris and repairing roads in May 2024

When residents returned to community in May 2024, the 3G/4G mobile services were working, although there were still issues. The Mount Pearce Tower was functioning, although we heard reports of outages at night due to battery capacity and lack of solar recharge. There were also reports of recent issues with the power to the Mt Misery repeater tower. After power had been restored to the tower in early 2024 the output card blew, which took two weeks to replace.

Figure 16: Replacement fibre optic cable at site of landslide

Roadworks were underway in Wujal Wujal during our visit in May 2024, with many houses still under construction or fitout. However, rooftop equipment including VAST satellite dishes were permanently lost, with no replacement included in the reconstruction. Councillor Robert Bloomfield estimated that eighteen or nineteen submerged houses lost satellite dishes.

WWASC's digital network, storage and website was previously delivered via an on-site server, which was destroyed in the flood. In addition, the Telstra-provided emergency Iterra satellite system on the WWASC admin building was destroyed along with the power systems. This provided the backhaul for the emergency communications network, rendering it unusable.

Fortunately, backup had been provided off-site meaning very little digital data was lost. Since the disaster, Council have moved entirely to cloud-based data storage. This addressed issues with the previous system, with the on-site server slowing internet speeds and created a single point of dependence and congestion. Additionally all archived paper records, which had been stored in a 'records management demountable', were lost. State Archives has since assisted in salvaging some records. It is not clear what has happened to video recordings and photographs stored in the demountable.

Figure 17: The former Shire administration building was in the process of being cleared for re-build during our visit

Community recommendations

Improved communications resilience is critical in the case of future disaster events, with a focus on longer-life battery and automatic generator backup, output cards, LEO satellite redundancy and improved warning systems. Existing systems failed the community, with improved resilience in both power and communications needed to prepare for future catastrophic events. On three previous occasions, Ergon power poles have been knocked over by trees or landslide, leaving the community without power or connectivity. At one point this put the Mt Pearce mobile tower out of use for almost three months.

Residents drew attention to previous communication failures, including a nine-day outage in communications across the region as a result of a battery issue at Mount Misery Station.

- "They [need] to replace [the Mt Misery repeater. It] is very, very old and it continually breaks down … Numerous times there [are] complications at Mount Misery." (Lawrence Fry, Wujal Wujal Justice Group, 2024)

Garry Ashworth advocated for a community workshop to identify communications strengths and weaknesses and build an action plan for disaster response.

- "Because of the landslides [and] this one-in-2000-year flood … we need [an] action plan to get this stuff fixed." (Garry Ashworth, resident / former Councillor / SES staff member, 2024)

Prior to the Cyclone Jasper flood, mobile and fixed line connectivity in Wujal Wujal already had significant limitations, as outlined in previous reports. While the data speed had reportedly improved, there was a lack of reliability of communications services. NBN Sky Muster services were reported as functional in dry season, including for backhaul of Wi-Fi at the IKC and art centre, however wet weather caused regular connectivity issues. Mobile services from the Mount Pierce tower remain unreliable and lack adequate coverage, particularly with the loss of the short-lived small cell mobile tower at the clinic. Residents urged more robust communications designed to withstand the tropical conditions, with some noting that Starlink is a suitable solution.

> "The internet and mobile towers are great to use throughout the season when there are … no dramatic weather events such as flooding or cyclones or a tree falls over somewhere and knocks out the tower or knocks out a power line … once the power's out, well you've really got nothing to connect up to."
>
> - Lucas Creek, WWASC Councillor, 2024

Vincent Tayley noted that improved support from Telstra is required along with an emergency warning system upgrade to manage disasters of that magnitude. Other residents raised concerns about 000 emergency access during disasters.

Dallas Walker suggested training community members to work as SES staff. Others say advocacy with Telstra is paramount in replacing the microwave repeater network from Cooktown with fibre optic cable, including as the backhaul to the Mt Pearce mobile tower. A microwave link within Wujal Wujal from Mount Misery supports communications including mobile services. Fibre optic could therefore be a viable alternative.

The disaster led to renewed efforts to establish a community-wide Wi-Fi network in Wujal Wujal, with an application for Round 3 the Regional Connectivity Program with network provider Australia Private Networks (trading as Activ8me). The application was approved in August 2024[11], providing 7-year funding for free broadband Wi-Fi internet and telephone connectivity for all households in Wujal Wujal[12], as well as maintenance. The Wi-Fi network was installed in late 2024, with reports that it is now working well after initial teething issues.

[11] https://www.infrastructure.gov.au/sites/default/files/documents/round-3-regional-connectivity-program-funded-projects-9august2024.pdf
[12] The same network model used in some WA communities including Kalumburu (see https://apo.org.au/node/325753)

05. KEY FINDINGS FROM DATA ANALYSIS

This section builds upon the themes outlined in the 2022 and 2023 reports, with most topics identified prior to the flooding event. While the section has been updated, many of the topics have been retained where the issues or proposed actions remain relevant beyond the flood recovery effort.

Our 2024 visit was in May, with most Wujal Wujal residents having only recently returned from being evacuated to Cooktown or Cairns for several months following the flood. As outlined in the previous section, communications services had been severely impacted by the flood, with some services recently or yet to be repaired. These factors limit the usefulness of comparison with previous results.

See Appendix 1 for the full set of comparative survey results from 2022, 2023, and 2024, following data cleaning and weighting against ABS data. The results in this report may differ slightly from the 2022 and 2023 reports which provided raw survey results prior to weighting.

Communications access

The 4G network is more unreliable and patchy post flood, with a more resilient network needed

The 4G mobile service remains very slow and patchy, with poor signal strength leading to calls regularly dropping out, especially inside buildings. This is hampering service delivery and leading to frustration by residents and agencies in the community, with a feeling that nothing is being done to address the issues.

As reported in the previous chapter, the mobile service at Wujal Wujal dropped out after two days following the flood event once the battery life ran out on the Mt Pearce tower. There were several points of failure that left the town without mobile communications for many weeks, including limited battery life and challenges re-fuelling back-up generators by helicopter, signal loss over the microwave links from Mt Misery via McCullough's Hill during heavy rain, and the output card at Mt Misery taking two weeks to replace. These multiple network failures point to the need for a more resilient mobile network in the Bloomfield Valley as well as redundancy systems in case of future natural disasters.

Telstra has since received funding for improved network resilience and upgrade to 12-hour battery storage at the Bloomfield Exchange and repeater transmission network and the Wujal Wujal tower, under the Australian Government's Mobile Network Hardening Program. However a timeline for the upgrade has not yet been provided, with a more reliable mobile service a high priority for the community.

It is not clear if the transmission quality will also be upgraded as needed. Since 2022, we have heard numerous reports of poor signal strength and low speeds due to congestion. The service is especially poor when the microwave link from the Mt Misery tower is impacted by rain or heavy cloud. We undertook speed tests in May 2024, with very slow speeds of 2 Mbps download / 0.2 Mbps upload in the town centre during the day. This compares with reports of download speeds of 200-300Mbps on the upgraded mobile service in Aurukun.

We heard that the mobile service had improved prior to the flood, so it is unclear why this has deteriorated so much since the service was restored.

- "Before [the flood], communications were going well. We had a really good improvement in our comms … the data speed was working really well in the community." (Kiley Hanslow, WWASC CEO, 2024)

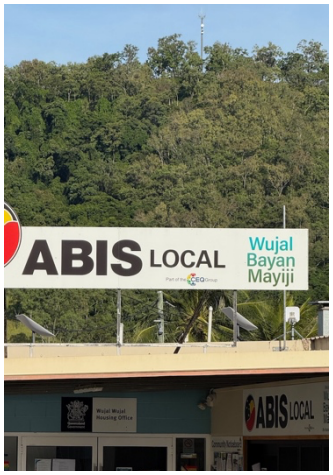


Figure 18: The mobile tower can be seen atop Mt Pearce, beyond new ABIS supermarket

As outlined in previous reports, the Mt Pearce tower coverage is strongest in the central town area, but there is weak or no signal in some signal 'shadow' areas in the western side of Wujal Wujal, including the art centre, clinic, most staff houses, and houses near the oval. Following ongoing demand for improved coverage in this area, a Telstra small cell mobile service was finally been installed on the clinic roof in late 2023. Staff at Wujal Wujal Primary Health Clinic reported that this improved 4G coverage in the vicinity.

Figure 19: The western side of town (in bottom half of photo) and foothills (right of bridge) are in a signal shadow zone from the Mt Pearce mobile tower

- "[Telstra installed the small cell] on the old clinic [at the] end of last year [which] did improve mobile connection to the 4G network. It was quite noticeable in the area." (Vincent Connellan, Director of Nursing, Wujal Wujal Primary Health Clinic, 2024)

However, the improved coverage was short-lived, with the new Telstra small cell destroyed when the clinic was flooded, with no plans for replacement at the time of our visit. With a temporary clinic built on higher ground, and fixed line services yet to be connected, the clinic staff had returned to reliance on the patchy 4G service for calls and emergency contact.

- "There is no landline computer or telephone service, so everything relies on the 4G network, which is not favourable for the type of work we do." (Vincent Connellan, as above, 2024)

Some homelands along both sides of the Bloomfield River could previously access 3G services only, which allowed basic phone access. There were concerns raised about whether they would lose the service following the 3G switch-off, which was finalised in October 2024. We were not able to get any updates during our 2024 visit, but have heard of the loss of coverage in other parts of Queensland in areas considered by mobile network operators to be 'fortuitous coverage'.

Pre-paid mobile is the primary means of phone and internet access

88% of survey respondents in 2024 said they own or share a mobile phone (down from 97% in 2022), with 95% of these smartphones. 96% said they use a mobile phone for making phone calls, with 12% using a community office or workplace phone (multiple choice). Of those with mobile phones, 95% used pre-paid services. 99% of respondents said they use their smartphone as a primary means of internet access.

There is one Telstra public phone in the Wujal Wujal town centre and one at Ayton Store, which provide free calls. These provide an important backup service when mobile services are not working or when residents do not have mobile credit, however the phone in Wujal Wujal had only been re-activated shortly before our 2024 visit following the flood damage to the fibre optic cable. As a result, only 3% of respondents said they use the public phone for calls, down from 24% in 2022.

Figure 20: Telstra public phone in use at the Rural Transaction Centre

There is very low household use of fixed line telephones, with none of the 65 survey respondents having a home phone. However, one elder told us that he does not use mobile and prefers to use a fixed line phone because of its reliability in the wet season.

- "[The landline is] better in the wet … the Telstra [mobile] tower cuts off up here [a lot] during the wet season [but the] landline still works … I haven't really used mobile much [and] I'm not really interested in internet, costs too much money." (William Harrigan, WWASC Cultural Adviser/ traditional owner, Wujal Wujal, 2023)

The flooding caused by Tropical Cyclone Jasper led to a landslide cutting the fibre optic cable near Ayton in the days after the flood (see figure 12), causing an outage of all fixed line and public phones in Wujal Wujal. However, it provided a valuable mode of communication up to that time.

- "I had a landline and it worked up till the last day before our [evacuation], which was good [but] people with mobile, they were on and off. [Nobody] could get through by either text or whatever else." (William Harrigan, as above, 2024)

Beyond that time there were no fixed line services until the fibre optic cable was repaired in March 2024.

- "No fixed line, no nothing. There was nothing." (Lawrence Fry, Wujal Wujal Justice Group Support Worker,2024)

There is low household adoption of fixed home internet

Most Wujal Wujal households (83%) did not have any form of fixed internet service in 2024, however this was down from 91% in 2022. 13% of survey respondents reported having an NBN Sky Muster service at their home and 2% had ADSL, with 2% with Starlink. However, most staff houses in Wujal Wujal have Sky Muster or Starlink, partly due to their location having limited 4G coverage. Some people living in nearby villages outside of the 4G coverage area also had satellite services.

Residents expressed reluctance to sign up for Sky Muster services primarily due to concerns about affording monthly bills on low incomes. Residents also cited challenges in the application process.

Of those using Sky Muster services, there were mixed reports about the service with some users describing issues such as dropouts with cloud cover (especially during the wet season), high costs of plans, the need for higher data limits, and congestion during peak periods.

- "We have good internet [with Sky Muster]. We don't have very good [mobile] reception at home [so I use] Facebook [to make calls. The satellite] does go out a lot because of the storms [or] cloud, it's just constantly going on and off that, the modem thing. But apart from that, it's not that bad." (Vicki Burrows, Bana Yirriji Art Centre, Wujal Wujal, 2023)
- "I study myself, and I've got a Sky Muster dish at home on the roof. [It is] a lot quicker in the morning than in the evenings." (Vince Connellan, Director of Nursing, Wujal Wujal Primary Health Care Centre, 2022)

While Sky Muster Plus Premium services were introduced in 2023, providing speeds up to 100 Mbps and unlimited data for about $99/month, there was low awareness or uptake of this product.

Starlink satellite use has increased significantly

Most local agencies have now taken up use of Starlink Low Earth Orbit (LEO) satellite services. Its advantages over other technologies such as high speeds, low latency and unlimited data[13] mean it can aid high two-way data speeds. Agencies reliant on high-bandwidth applications reported improved use of videoconferencing and cloud-based networks. While there is high household adoption by agency staff, it was felt that the high monthly cost of $139/month, as well as up-front equipment costs, made it prohibitive for First Nations households.

- "One staff member recently had it put onto his house and he thinks it's absolutely fantastic. It is a hundred and thirty dollars a month … I currently pay 50 for broadband satellite … [so] that's more money every month. But I have made recommendations to Council that we set up Starlink access as possibly a substitute for the back-up satellite to maybe reduce those costs." (Wendy Rowlands, Information Management Officer, WWASC, 2023)

We heard about the improved experience of using Starlink for home schooling, including better reliability during the wet season.

Figure 21: Starlink services are now being used by most agencies and staff houses

- "There's just no lag there. All their online classes, no issues. Before we were having a few issues, it was a little bit hit and miss sometimes. [With] Sky Muster, as soon as you had any cloud cover it's basically non-existent. [With] Starlink, you don't seem to have that problem … When you get extreme weather events it does still sort of take a toll [but not if it is] overcast, raining, it doesn't affect it." (Martin Higgins, Acting Sergeant, Wujal Wujal Police, 2023)

Following the flood, the Wujal Wujal police had Starlink services installed at their homes while awaiting the police station to be re-built. Staff were relieved at having a stable internet connection, which facilitated recovery efforts, emergency communications and daily operations.

- "They set up a Starlink for us, probably a couple of weeks after [the flood], and that's [what] everyone [including] relieving staff used to contact the outside … Until I think February, we didn't have any phone connection, unless you had Starlink, so that saved the day for whoever had Starlink at their house." (Police Officer, Wujal Wujal Police Station, 2024)

During the flood crisis, Wi-Fi from the Starlink connection at the Ayton store was made available for use by community members.

- "There was 50 people trying to ring through, trying to organise loved ones. And without [the] people that stepped up, I think that we would've had a lot bigger disaster than what it was." (Garry Ashworth, former WWASC Community Development Officer / SES, 2024)

Communications are critical for health and safety

During rain events or cyclones, the community typically loses all satellite communications services. The mobile service, which relies on a microwave link to Mt Misery for backhaul, is also affected by heavy rain. Residents expressed a need for a more resilient mobile network, with upgrades to the Mount Misery repeater station and Cooktown fibreoptic connection, to ensure communication security at critical times.

[13] Note: The new Sky Muster Plus Premium product now offers unlimited download.

> "It even affects someone's ability to call 000 and an emergency as well. And that's vital for some. That's life dependent. And that's such an essential service. Connectivity [is] such an essential service, especially in a remote community."
>
> - Kiley Hanslow, CEO, WWASC, WW, 2024

The 4G signal is generally weak or non-existent beyond the town due to the tower's location and very hilly terrain. Interviewees highlighted the need for addressing coverage gaps along the Bloomfield Track and Rossville Bloomfield Road towards Cooktown to improve access to communications when emergency help is required.

- "There's a lot of time when you're driving between here and Cooktown and other places around where it just drops out … no service whatsoever. So, if you break down in that area [or] come off the road, you've got no way to call anybody." (Lawrence Fry, Wujal Wujal Justice Group, 2024)
- "[We] drive a couple of minutes out of town either way and the radios and [mobile] drop out. [We need] that ability, wherever we are, if something goes down, something urgent, we can call comms straight away without any issues." (Martin Higgins, Acting Sergeant, Wujal Wujal Police, 2022)

In recent years, there have been several serious incidents on the popular Bloomfield Track through Cape Tribulation from Port Douglas where there is no communications access other than satellite phone.

- "Since I've been here for eight years, we've rescued about nearly 19 people [from] the coast road, between here and Cape Trib[ulation where there is] no signal. And three of them were fatalities." (Victor Mills, Director of Works and Building Services, Wujal Wujal Aboriginal Shire Council, 2022)
- "A couple of months ago [a man] rolled a car [at] seven o'clock at night [and] had to lie there until another car came past [12 hours later and called once] they got [to] phone signal. That was about 15 kilometres outside of Wujal. He wasn't very far away but [he] couldn't use his phone." (Mary-Louise Wilkinson, Acting Director of Nursing, Wujal Wujal Primary Health Care, 2023)

People can also get into trouble while fishing at sea with rapidly changing tides.While SES and the Rangers urge fishers and travellers to carry satellite phones, EPIRBs, Zoleo or other emergency devices, many are not prepared or rely on mobile phones. While some recent mobile phones enable emergency messaging via LEO satellite, this is not yet a standard feature and other devices are recommended.

Outages and flooding have led to the need for back-up systems

Prior to the flood, Wujal Wujal experienced regular power and communications outages resulting in loss of fixed line or mobile connectivity or both. This impacted on critical services including healthcare.

- "There was a week [in 2021] where the fibre optic cable had a break in it, that we had no internet, no telephones or anything. [During an outage] we can't do much. [We] can't [communicate] with the outside world [or] look up any of their electronic records [or] call a doctor or anything to get advice or to escalate care, to get someone out of here." (Mary-Louise Wilkinson, Acting Director of Nursing, Wujal Wujal Primary Health Care, 2023)

Limitations in communications affected residents' ability to make 000 calls or contact the Wujal Wujal health service, causing delays for medical staff and patient care.

Healthcare services not only require robust networks but also backup systems so they do not have to rely exclusively on 4G networks when weather events compromise landlines and fibre networks. The current system relies on VPN coverage because Starlink Air Bridge is a private network.

> "Setting people up on a VPN network connect … isn't done [in a] timely [way] so a new nurse or doctor coming to the clinic usually is waiting days to get that up and running through our IT Department. There's lots of delays in getting the information that we need for caring for patients. Yes, very big complications so far." (Vincent Connellan, Director of Nursing, WW Primary Health Centre, 2024)

Since the flood, the clinic has installed a Starlink satellite redundancy system and has two satellite phones. One satellite phone had been sent for repair, leaving the clinic with only one Iridium satellite phone to rely on. Despite communication challenges though, the health centre does advise residents to continue calling 000 in emergencies.

Figure 22: The newly opened temporary Wujal Wujal clinic, May 2024

Following the 2019 floods, WWASC had previously installed an Iterra satellite backup system in 2020 following the impact of extended outages on emergency communications and service delivery.

As well as redundancy satellite connectivity, the system included a network managed server, point-to-point microwave links to WWASC facilities (depot, IKC, Centrelink office and art centre) and emergency communications network when the primary connection failed. This was seen as critical to ensure reliable broadband access during disasters.

> "[The Iterra is] invaluable to us particularly during disaster management. Because if [the network is] going to go down, that's when it's going to happen. And we desperately need communications during those operations." (Wendy Rowlands, Information Management Officer, WWASC, 2023)

However, the system was very costly for a small Shire. As detailed in previous reports, efforts have been underway to find a more cost-effective solution. There were also challenges in utilisation of the emergency Wi-Fi communications network. Individuals struggled to get the necessary codes for its use, compounded by a sluggish connection.

> "We had 13 weeks of use out of that. [But the system was too complex and] did not work … People were trying to get the codes [to] utilise it [but] it just did not work … It was working in the council building, but it was still slow." (Garry Ashworth, former WW Shire Council and SES, WW, 2024)

With the loss of the Iterra satellite and the emergency communication system not functioning during the 2023 flood, WWASC have abandoned this system. And is currently using a simpler and more cost-effective solution with Starlink dishes on each WWASC facility and cloud-based server.

A community-wide Wi-Fi mesh network was also installed in 2024 to provide household internet access, although this uses NBN Sky Muster satellite backhaul which is less reliable in wet weather.

The flood warning system did not work when needed

Following a 2019 flood event, WWASC commissioned an Emergency Monitoring and Communication telemetry system, known as SCADA (Supervisory Control and Data Acquisition) with a community-wide Wi-Fi telemetry system. The award-winning system was designed by IAGU Networks with Queensland Government funding. The flood monitoring and early warning system was finalised in 2023.

While this system was intended to notify the community of high upstream water levels, we heard reports of the siren startling residents even when the flood risk was low.

- "[The flood warning system] triggered [several] times over the last month. We had a fair bit of rain so as soon as [water] goes over the sensors on the bridge [sirens go off in town]. It's very loud and the speakers are right in the middle of town and there was complaints particularly from the old folks because it's very loud and goes off without warning." (Wendy Rowlands, Information Management Officer, WWASC, 2023)

Unfortunately, the flood monitoring system did not work at the critical time it was needed. As outlined in the previous chapter, the flood warning system triggered at about 11am on the day of the flood, when the river was still low, but the rapid flood waters washed away the sensors, so it did not trigger the warning siren when it was needed before flood waters hit the community during the night.

WWASC Cultural Officer William Harrigan advocated for a coordinated Council approach to ensure an updated communication system is in place for emergency response preparedness.

- "I think it's up to the council and everyone here to decide what's the best communication system we should have … everything helps after a devastation." (William Harrigan, WWASC Cultural Officer, 2024)

Technical support is challenging and costly

With no technicians local to Wujal Wujal, there are high costs and time delays for technicians coming from Cooktown, Cairns or further afield. WWASC currently contracts a Toowoomba-based company for much of its IT support, mostly provided remotely. To reduce costs and repair times, WWASC is reviewing the arrangement. There could be savings if other Wujal Wujal agencies cooperated on technical support contracts to consolidate technical support visits.

The closest Telstra shop is in Cairns, which is a four-hour drive from Wujal Wujal. A resident with a mobile phone technical issue described making the day trip to Cairns but having to wait in a long queue for two hours to be served. They were then told to come back the next day due to difficulty in verifying the phone ownership on the database. The very dissatisfied resident returned to Wujal Wujal with the issue unresolved. The resident said that long waits for service at the Telstra shop are common.

Access to IT devices, Wi-Fi or shared facilities

A new community-wide Wi-Fi mesh network has improved household connectivity

Building on an NBN trial of a community-wide Wi-Fi mesh network in Aurukun in Cape York, Queensland, there were calls by WWASC for a similar solution for Wujal Wujal.

- "I'd like to see a community-wide Wi-Fi mesh …. like Aurukun. They had [a poor] service just like us [but] now they're getting up to 300 megabytes per second … They were involved in a [NBN] trial to provide a community-wide Wi-Fi mesh coverage and it's advanced them significantly … that would help with connectivity [here]." (Kiley Hanslow, Wujal Wujal Aboriginal Shire Council CEO, 2023)

NBN have recently installed community-wide Wi-Fi mesh networks in 23 communities across Australia as part of 2024 Budget measures to address First Nations digital inclusion,[14] to address the issue of affordability limiting uptake of fixed broadband services by remote First Nations households. These networks are provided free of charge for 5 years, using a number of Sky Muster Plus Premium satellite services for backhaul, providing high speed and unlimited data. However, a limitation of the model is it primarily provides outdoor access due to low penetration of Wi-Fi in metal houses.

WWASC were keen to have internet access inside houses, not only outside, due to heat and wet season impacts. WWASC also pushed for funding to have a Starlink LEO satellite service as backhaul for the community Wi-Fi network due to experience of Sky Muster being less reliable in rain and heavy cloud.

Funding was approved under Round 3 of the Regional Connectivity Program, with the network rolled out by Activ8me in late 2024. This provides free internet access for up to 7 years as well as network management and maintenance. While a more expensive model than those rolled out by NBN, this was needed to address the lack of household internet and reliability issues with the mobile and fixed line services. We are looking forward to hearing community feedback when we return in 2025.

NBN Wi-Fi hotspots

In 2022, NBN installed Wi-Fi hotspots at the Rural Transaction Centre in the middle of town and at the Bana Yirriji Art Centre under its 'Communities in Isolation' program using Sky Muster Plus backhaul. These welcome additions addressed priorities outlined in the 2022 Digital Inclusion Plan.

However, the Art Centre was destroyed in the flood, along with the Wi-Fi hotspot. Prior the the flood, this hotspot was being well used by community residents and visitors. With very limited Telstra mobile coverage at the Art Centre, and no Optus or Vodafone services in the community, the Wi-Fi hotspot enabled tourists or visitors to access Internet and Wi-Fi calling. Artists and staff also used the service.

- "It's been really good. The artists [now] get on YouTube and look at other art galleries and stuff, so they're really liking it. Also makes it so we can use SAM [arts database] in the studio for [uploading] photos and [we're] saving data on our phones now." (Vicki Burrows, Bana Yirriji Art Centre, 2023)

However, we previously heard demand for additional Wi-Fi access at the Wujal Wujal Aged and Disability Community Care Centre (ADCCC), located directly across the road from the RTC.

- "If we want Wi-Fi we've got to go over to the admin building [but there is] no Wi-Fi here … I've asked for it. [But with staff changes, they] put it in, they go, it breaks down, and then it just goes on, so on and so forth. [So we] use our hotspot on our phones which aren't that great either." (Gina Manai, Coordinator, Wujal Wujal Aged and Disability Community Care Centre 2023)

With the installation of the new community-wide Wi-Fi mesh network, there is no longer the demand for more Wi-Fi hotspots within Wujal Wujal. However, there is still a need in the settlements outside of the town with limited or no mobile access. An Activ8me solar-powered public phone was installed at Degarra in 2024, with satellite backhaul enabling Wi-Fi access in the vicinity of the phone, addressing part of this need.

[14] https://www.infrastructure.gov.au/media-communications-arts/first-nations-digital-inclusion

Community access computers and IKC use

Wujal Wujal offers good support to access and use online services, but residents report interest in more training and support. Some local agencies (e.g. Centrelink, IKC, Justice group) provide IT support to access online services.

The Centrelink agency, run by WWASC at the Rural Transaction Centre, is open weekdays and has a computer available for accessing Centrelink, banking and other government services.

Figure 23: Centrelink worker Janie Daisy working with Marie Shipton on Centrelink access computer, 2023

- 'When people go on Centrelink payments, they can use those computers to set themselves up for MyGov … people haven't got the money [for home computers] and everyone is low income … The internet is there for everyone to use at Centrelink [for free]. They can come and sit on the veranda and connect to the Wi-Fi." (Marie Shipton, Elder/ Cultural Advisor, Wujal Wujal, 2022)

The Indigenous Knowledge Centre (IKC) has been an important resource for Wujal Wujal residents for many years, providing a library, three access computers, meeting and training space, local and cultural history records, and a children's zone. The centre has provided free Wi-Fi vouchers for users via a NBN Sky Muster service. We had previously heard suggestions of other services the IKC could offer.

- "I'd actually love to see a homework centre here … Also language programs for our elders [and] basic computer training. [We could have] a bank of laptops here, in the middle, set up for computer training, and just run the basics. [We could also screen local] histories [for] our older people." (Kiley Hanslow, Wujal Wujal Aboriginal Shire Council CEO, 2023)

Following the flood, the IKC had been re-purposed as the Disaster Recovery Centre, with the IKC in the process of being relocated to the newly refurbished Charlie's Tourism Centre during our visit. A Starlink dish provided by Queensland Government shortly after the flood to provided a primary form of connectivity for staff and work crews at the Disaster Recovery Centre, while fixed line and mobile services were being repaired. This proved to be far more reliable than the existing Sky Muster service, which failed regularly during the heavy cloud and rain.

Figure 24: Resident Keshiah Sykes using the computer at the former Indigenous Knowledge Centre, 2023.

Service delivery and use of online services

The post office closure had an impact for residents

The post office, which was run by WWASC, closed in 2022. Following the passing of the post office manager, WWASC did not have the staff or resources to meet the stringent compliance requirements to maintain the service. WWASC returned management to Australia Post who then outsourced the mail and parcel delivery element of the post office services to the Wujal Wujal Supermarket.

However, many face-to-face services previously provided by the post office, including banking services, licensing, registration, and bill payment are no longer available. After a decades' long campaign to open the post office, there was disappointment from residents that it had closed.

- "It's had a huge impact on community, especially in their ability to access banking services. The shop has taken over the postal services, but it's not optimal. The shop will receive mail and hand the mail out [and] they have an e-Parcel out service [but it] doesn't sell envelopes [or] stamps." (Kiley Hanslow, Wujal Wujal Aboriginal Shire Council CEO, 2023)

Residents now travel to Cooktown, 71 km away, to access services previously offered at the post office.

- "Even paying registration and everything. Everyone did everything at the post office. [Now they're] having to go to Cooktown, but a lot of people don't have cars to go to Cooktown … There's been a lot of services falling through the gap because of that." (Courtney Rollins, Wujal Wujal Store worker/ resident, 2023)

We also heard that obstacles to paying fines can result in jail time.

- "If [someone] get[s] a fine, they have to pay SPER [Centrelink deduction payment system]. If they don't pay their fines [then] the police issue a warrant and arrest them. [As a result], people can end up in jail [which is] very sad. [The lack of access to] banking facilities [can mean] people are ending up in jail." (Wendy Rowland, WWASC Information Management Officer, 2023)

The closure of the post office has had a big impact on residents who prefer face-to-face banking services. The store has an ATM for cash withdrawals, however some elders prefer to use passbooks rather than key cards for their banking.

- "Before we used to have a bank here at the Post Office, and that was good. A lot of [elders] had passbooks [and] that was easy for them. Now having to transfer over to a key card is difficult. They don't understand the machines [or] passwords." (Gina Manai, Coordinator, Wujal Wujal Aged and Disability Community Care Centre 2023)

Figure 25: ATM in the new ABIS supermarket

We heard that the shift to online banking has led to increased elder financial abuse, pointing to the need for more digital training and support (see Digital Ability section below).

Videoconferencing is used for meetings, training and remote engagement

In 2023 we reported that post-COVID, videoconferencing was playing an important role for most agencies for meetings, court proceedings, training and professional development. This can reduce the need for travel, saving staff time and expense.

- "We certainly use the Teams on the computers a lot, which is an excellent … education [and] meeting tool. And it's saved lots of money with people not having to travel to meetings. They can just dial in on their computer and talk to everybody as a group." (Mary-Louise Wilkinson, Acting Director of Nursing, Wujal Wujal Primary Health Care, 2023)

The Wujal Wujal Justice Group described extensive use of videoconferencing for connecting young people at boarding school with their families, for counsellors to talk with prisoners, and families to connect with people in hospital or prison. However, in 2022 and 2023 agencies reported challenges with using videoconferencing due to connectivity issues.

- "We do a bit of training via Zoom … that internet is … not reliable, it drops in and out so things freeze, we have to then maybe get on the phone or maybe leave till another day." (Rachel Salam, Wujal Wujal Justice Group, 2022)

The rapid increase in two-way video traffic and high-bandwidth applications had added pressure on already over-loaded communications services in Wujal Wujal, with reports of congestion and dropouts impacting on the quality and reliability of videoconferencing. Since the shift to Starlink by many agencies, the issues of congestion, latency and dropouts have reduced significantly.

Telehealth & connectivity

Teleheath is being used regularly at the interim Wujal Wujal Primary Health Care clinic, now via the Starlink service. Telehealth can improve health outcomes through more immediate diagnosis and treatment, reduce patient travel costs to regional centres for consultations, reduce emergency evacuation flights, and provide expert support to clinic staff.

- "Telehealth is certainly embraced by both the community and the doctors in Cairns and it's invaluable and it saves us a lot of money and patient travel services and expense. [Clients] don't have to travel to Cairns … to have a 20 minute, half hour consult with the doctor, it can be done on telehealth. We have the TEMSU [Tele Emergency Management Service Unit] and the RSQ [Retrieval Services Queensland] who can dial in when we're having an emergency and assist us … You have medical officer [support via] the video conferencing." (Mary-Louise Wilkinson, Acting Director of Nursing, Wujal Wujal Primary Health Care, 2023)

Telehealth has been used to undertake on-site treatment and emergency procedures.

- "[We can now use teleheath to] do treatment onsite … We did it recently with a woman in labour … to guide the nurses through the birth." (Vince Connellan, Director of Nursing, Wujal Wujal Primary Health Care Centre, 2022)

While the clinic's fixed line connectivity is reliable, mobile telephony is still highly unreliable at the clinic and nearby accommodation, affecting emergency communications.

- "[Telehealth quality is] good but our [mobile] telephone service isn't … I can't use my mobile phone in the building half the time. We have our on-call mobile phones [but] you don't always have connectivity in the accommodation. If there's an emergency, it can be frustrating for people trying to get a hold of you when you've only got that one tiny little bit [of signal] on your phone … Sometimes you don't have any [signal]. We've had occasions where we've had to use the satellite phone." (Mary-Louise Wilkinson, as above, 2023)

Health agencies are still trying to move to a common patient records system

Despite multiple efforts over recent years to develop a standard patient records system in Queensland, we heard in 2023 that the latest system, RIVER, has been abandoned three years after its release.

- "[Queensland Health have been] trying to get a state-wide digital health record so that you can be seen anywhere in Queensland and your records [are] accessible by any doctor that you go to. Unfortunately … the first system that they rolled out wasn't compatible to the needs of the primary health care clinics. [So] that got scrapped after three and a half years and millions of dollars later and we went with the RIVER [system, which] works well in most communities [but] doctors have not come on board with it. [So] we're currently using four different systems. And they're scrapping RIVER and [looking for another system] that everybody agrees on." ((Mary-Louise Wilkinson, Acting Director of Nursing, Wujal Wujal Primary Health Care, 2023)

This has resulted in inefficiency and continued reliance on paper-based records.

- "The doctors use Medical Director, and they electronically email their notes across to the RIVER [system] that we use. All medications are written on a paper chart. It's very complicated. And not timely either." (Mary-Louise Wilkinson, as above, 2023)

However, all paper-based medical records were destroyed in the flood. Records are now being integrated to an electronic system within the Cooktown Cluster.

- "We've had to start from scratch on that however we have been using our electronic system quite well. [There are still] different electronic systems, doctors work off one and nurses work on the other. However, at the start of June … we will be connecting to just one system. The Cooktown Cluster will be working on one medical record system, which will improve a lot." (Vincent Connellan, Director of Nursing, WW Primary Health Centre, WW, 2024)

Aged and disability electronic care plan system

In 2023, we were told that the Wujal Wujal Aged and Disability Community Care Centre, operated by WWASC, has been working on implementing a new electronic care plan system with client care plans on tablets connected to a cloud-based management tool. Despite best efforts by staff, poor mobile connectivity and technical issues have led to frustration in using the system.

- "We've recently [moved to using] electronic care plans [so we can] take the tablets to the client's homes and we can pull up their care plan to see what care they need on that day [and] tick off what we're doing so everyone knows what's going on. The client [provides] input [and] it gets sent to me [to assign to a] specialist or a nurse [or] the clinic. [But] at the moment it hasn't been [working], which is very frustrating. [There are connectivity issues] to the point where [we may] just pack that up and do something else. [The care is still] being done [but] the documentation [is not working]." (Gina Manai, Coordinator, Wujal Wujal Aged and Disability Community Care Centre, 2023)

School connectivity and student online access has finally improved with Starlink installed

In 2023, the Bloomfield River State School (BRSS), located between Wujal Wujal and Ayton, reported good attendance rates averaging about 85%. Of the 60 students, 95% were Indigenous. However, the school had long struggled with poor connectivity impacting the use of online learning applications and

resources. BRSS was considered a 'low bandwidth school' by Education Queensland, along with schools in Kynuna, Valkyrie and Norfolk Island. This limited use of online training and resources.

- "We can't connect as a low bandwidth school … There's no point in having the hardware [for students] to have them sitting idly by. [So] we've got these remote places that do not have (a) the hardware or (b) the connectivity [or] the technicians to actually make it a viable thing." (Michael Anderson, Principal, Bloomfield River State School, Wujal Wujal, 2023)

Being low bandwidth means that these schools had to do an offline version of NAPLAN tests. This exacerbates challenges with NAPLAN for children with low English and digital literacy.

- "[Most students are] already a couple of years behind academically in comparison to a mainstream green leafy school. [For many] English is their second language, and many will be coming from a trauma background, have hearing issues [or have moved between schools. On top of] those factors [we] overlay that with a computer-based test for kids with low literacy [and] very limited digital expertise … We're not really closing a gap. [But it's] not for lack of effort from people on the ground." (Michael Anderson, as above)

Basic administrative functions were also very challenging and frustrating for staff, limiting their ability to join Teams meetings or participate in online professional development. The Principal summed up the level of frustration of school staff over the lack of progress.

- "Our internet is rubbish [but nothing is] happening about it. The teachers agree that it's actually a critical piece of infrastructure that could really be game-changing for the students [but] there's a palpable frustration that somewhere, someone's dragging their feet." (Michael Anderson, as above)

While a new 4G tower installed by the school in early 2022 enables mobile communications now, this had not improved network connectivity within the school. Despite plans by Education Queensland to upgrade communications systems at the school, this was yet to be implemented.

- "We were scheduled to be upgraded [but] it hasn't happened, and [it] appears to be a thing that is not going to happen [as] other schools have taken priority." (Michael Anderson, as above)

During our 2024 visit, we heard that a Starlink business grade service had been installed at BRSS in late 2023. This transformed their connectivity, enabling internet access by students in the classrooms for the first time as well as improved use of cloud-based applications and videoconferencing by staff.

- "At the end of Term 4 [in 2023], we had Starlink installed and that made a huge difference … I can actually do my work at least twice as fast as I usually do." (Brita Upite, Business Manager, Bloomfield River State School, 2024)

Fortunately the school was not severely affected by the flood and the network was functioning well during our 2024 visit.

Figure 26: BRSS has had Starlink installed after years of being a 'low connectivity' school

Connectivity has improved at the police station

In 2023, we heard that the fixed line broadband at the police station had slowed down in the last year.

- "This last couple of months it's actually even worse than what it has been previously. Downloading body-worn [camera footage] got to the point the other day where we [had to drive] to the station in Cooktown to download some footage [to use for] a brief of evidence, because it just wasn't happening here." (Martin Higgins, Acting Sergeant, Wujal Wujal Police, 2023)

Queensland Police was planning an upgrade to Starlink in 2023, however this did not arrive until after the flood.

- "They're [planning] a Starlink business [grade service] here at the station to improve our connectivity [and] speed everything up. [That will make] a massive difference … I've now got Starlink at home, and the internet's faster compared to anything I've come across, [even] better than the national broadband that I had in Cairns." (Martin Higgins, as above)

Figure 27: The police station was refurbished following the flood, and now has Starlink

The Police Station was partially submerged in the flood and had to be fully renovated. This had just been completed when we visited in May 2024.

WWASC has moved to a cloud-based server after years of issues with its on-site server

The flooding tragedy underscored the vulnerability of local storage systems and prompted transition to cloud-based data storage to enhance future disaster resilience. WWASC previously ran its administrative systems and records from the local server, as well as the emergency communications network and its website, which was very slow. While the server was backed up off-site, with records able to be retrieved, paper-based records and other archived materials stored in a demountable were mostly destroyed.

- "We unfortunately lost … all of our paper records [in] the records management demountable [that] went right under [water]. We just lost everything out of there. So, State Archives helped us to manage all of that. But, moving to the cloud for our records, it was the right thing to do for Wujal and it would also help us to be more resilient to future disasters." (Kiley Hanslow, WWASC CEO, 2024)

Despite the backup system, power outages could still cause failure of communications networks required for community operations, records systems and disaster management.

- "[If] there's a power outage, mainly during thunderstorms, [the WWASC] network goes down every time. [So] it's a matter of rebooting servers and various switches around the place to get people up and running which we do remotely with our IT company." (Wendy Rowlands, as above)

Previously, we heard plans by WWASC to move to cloud-based systems due to unreliable connectivity and power in Wujal Wujal limiting access to records and the website in the case of an outage or network issue. This was also driven by well as concerns over cyber-security, efficiency and cost, with the Iterra redundancy satellite service costing a huge $6,000 a month. The flood led to this process being fast-tracked, with WWASC moving all its record-keeping to a cloud-based server in 2024.

The shift in 2024 to a cloud-based server and Starlink connectivity has significantly improved speed and reliability of access to records, as well as security of the records.

Access to media and news services

A quarter of households do not have free-to-air TV services

The VAST direct-to-home satellite TV service was installed in about 2013, replacing local broadcast of a limited range of TV services. Our 2024 survey found that VAST TV services were not working in 24% of households, however with many residents with houses being re-built were yet to return to the community this figure was likely much higher. WWASC Councillor Robert Bloomfield estimated that eighteen or nineteen submerged houses lost satellite dishes, with these not replaced as part of the re-build.

Figure 28: More households are without VAST TV services since the flood

The main cause of VAST not working was due to set-top box failure or damage or deterioration of satellite equipment. Additionally, the smart cards within the box requires activation, which can be very challenging without reliable mobile and internet access. Residents returning from post-flood evacuation found that their set top box required re-activation, with some struggling to do this.

While Queensland Housing do provide on-request maintenance of satellite dishes, this does not cover the set top boxes, which cost $395 at the new ABIS store. A common technical issue is the power unit in the VAST set-top box being 'blown' by surges in the community power supply, with no surge protectors installed as part of the initial rollout.

> + "They came in, installed it [VAST equipment at my house in 2013]. *i*t was all good [but] within about a month of installation we had a power surge and mine blew out … I couldn't really afford [to] spend another $400-500 to buy another VAST box … Even now it's still happening. The VAST box is blowing out on [local people]. It's pretty expensive [to] buy the VAST box and then get a satellite technician to come and realign the dish." (Bruce Harrigan, Wujal Wujal Shire Depot 2022)

In 2023, we heard that most rooms in the Aged and Disability Care facility did not have TV services.

> + It would be nice if we had a TV in [the common room]. TVs in their rooms aren't that great, there is always issues with [satellite connections]. We have radio but it drops out. [TV] is something we do want to get." (Gina Manai, Coordinator, Wujal Wujal Aged and Disability Community Care Centre 2023)

An impact of the loss of free-to-air TV services has been increased demand on broadband services for streaming of movies and TV content. This adds a significant cost burden, especially on pre-paid data rates, but also increases congestion on the 4G network making Internet-use difficult during peak hours.

The community has expressed interest in re-establishing television broadcast services if it were funded, as it would save household maintenance and mobile data costs for residents.

> + I like the idea of a [TV] broadcasting service [being set up if] it's possible. [Residents would] be happy to have a broadcasting service again." (Kiley Hanslow, Wujal Wujal Aboriginal Shire Council CEO, 2023)

Councillor Robert Bloomfield also believes a TV transmitter with an antenna on the roof of each house is preferable to a return to VAST satellite dishes following the flood.

Local news sharing and radio services

Our 2024 survey found the most common sources of news and information are online sources (76% daily), followed by commercial television (50% daily), direct and in-person communication (49% daily), Facebook (49% daily) NITV (42% daily), as well as local noticeboards (39% daily). This was a significant change to use of online sources compared to previous year, as this was likely a more accessible source of information for many while evacuated in Cooktown or Cairns.

Figure 29: Carmel Haines in Wujal Wujal RIBS studio in 2023. The studio was destroyed in the flood but is to be re-built at the RTC building

Local information channels provide reliable, trusted sources of information, countering misinformation on social media. Community channels used to share updates of current events and upcoming activities include WWASC and other Facebook pages, monthly newsletters, noticeboards, and RIBS radio.

- "We put a lot on the radio. We're getting a new digital sign put in, so it'll be on that and Facebook, yeah and word of mouth around here, things go round pretty quick, so noticeboards are a big thing as well. If you put something on the noticeboard, people tend to read that." (Kylie Mills, IKC Coordinator, 2022)

Black Star Radio is the only FM service in Wujal Wujal. With the local RIBS not currently operating since the studio was destroyed in the flood, the Black Star radio provides regional news and weather, information messages and programming when the RIBS is not broadcasting. While the RIBS radio station was destroyed in the flood (to be re-built), our 2024 survey found that 58% of people surveyed listen to First Nations radio services daily or weekly, compared with 9% for the ABC AM radio service and 13% to commercial radio stations. These results include recent experience in Cooktown or Cairns.

Black Star is regarded as an essential communication system for informing the community of emergencies and providing local updates, including during Cyclone Jasper.

- "Keeping people informed [is critical]. Everything started to fade away in the last 24 hours before the cyclone was going to hit us … and we thought we weren't in the firing line at the time, but it came to a reality where it was at the last hour before it hit everyone [thought it wouldn't] hit here because it was so calm and peaceful and dull and no breeze. [I had] my radio on [which alerted me to the danger so I was using my landline to inform] all these different people." (William Harrigan, WWASC Cultural Officer, WW, 2024)

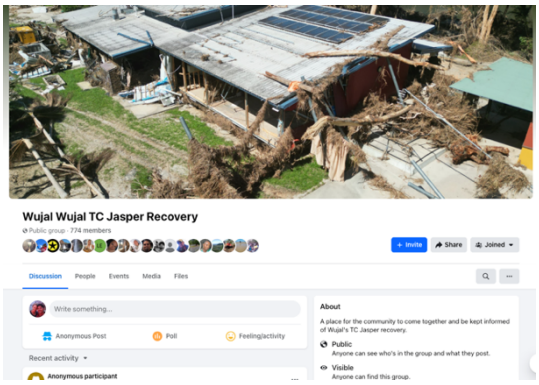


Figure 30: A Facebook page was set up to keep the community informed during the flood recovery

Following the flood, WWASC set up the Wujal Wujal TC Jasper Recovery Facebook page to keep evacuated residents and stakeholders informed of the progress of the re-build and clean-up effort. This helped to maintain communication and cohesion among members of the dispersed community.

Affordability

Affordability is a significant concern, with high costs of living

With most Wujal Wujal residents on low incomes, the cost of internet access and digital devices are a significant burden. The average combined household expenditure for phone and internet services has risen significantly in recent years, from $111 in 2022 to $237 in 2024, adding to cost of living challenges.

The 2024 figure was despite pre-paid mobile vouchers being provided to residents at evacuated centres by Queensland Government, however reflects the reliance on mobile devices and high data use during that period. It is hoped that these costs will reduce since the introduction of the Wi-Fi mesh network in Wujal Wujal.

In our 2024 survey, 73% of respondents said they compromise on internet speed or quality to prioritise affordability, well up from 26% in 2022. In 2024, 40% of respondents said they often or always cut back on essential costs such as food or bills to afford internet access, and a further 6% sometimes cut back. This is a major increase since 2022, when 5% often or always cut back and 24% sometimes cut back.

With increasing cost of living a major issue for Wujal Wujal residents, trying to cover basic needs on Centrelink payments or low wages continues to be a major challenge.

- "When I get paid, I buy my groceries and then I buy my power card and then I top up my phone with what is left. My family borrow my phone because I have credit. They use the phone and then give it back to me. Sometimes I run out of credit and can't call." (Survey comment, 2022)

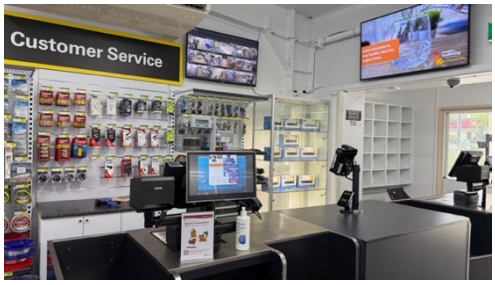


Figure 31: The new ABIS supermarket has better range and prices

- "I spend a lot of money on my phone but I don't use the internet. I have to call a lot of people [to] stay in touch with them. It's expensive. [I bought] a phone that was $200 [and] I'm always buying $30 Telstra credit a fortnight but it runs out. When I have credit I'm not the only one who uses the phone. My family members come through and ask [to use it]." (Survey comment, 2022)

Previously, limited grocery options was also an issue in Wujal Wujal, with residents regularly travelling 10 km to Ayton for some supermarket items. This issue had reduced in 2024, with the newly opened ABIS Local supermarket in Wujal Wujal providing a much bigger range of food and other essentials than the previous local store and at better prices.

Despite rising costs, First Nations residents prefer pre-paid over post-paid services

Most Wujal Wujal residents use pre-paid mobile services as their primary means of phone and internet access. The most commonly purchased pre-paid cards cost $39 and provide 15GB of data, which at $2.60/GB is a much higher rate than post-paid plans. We heard calls for more affordable pre-paid data rates in remote communities.

- "If Telstra was willing to do some sort of remote plan … where they could get more data and still only have $30 contract, I think that would massively help people out." (Courtney Rollins, Wujal Wujal Store worker and resident, 2023)

Telstra have since introduced a Pre-Paid Community Mobile Plan in 2024, a 14-day plan which provides 25GB of data for $25. Wujal Wujal is included on the list of eligible sites for the card. However, given the introduction of the free community-wide Wi-Fi network, this plan may have limited benefit in improving affordability for Wujal Wujal residents. Better Life Mobile, which uses the Telstra network, also offers low-price data options to Cape York communities.

High uptake of streaming services, gaming and other online entertainment has resulted in growing data usage and need for more regular pre-paid recharges.

- "You buy $30 or $50 credit and it goes in a couple of days [because of video streaming]. My nephews and my son[s] all are on TikTok or Facebook … I have Netflix. [Now] hardly everyone got credit on their phone to log in." (Junibel Doughboy, Bana Yirriji Art Centre, Wujal Wujal, 2023)

Despite high costs, people prefer pre-paid because they can pay what they are able to afford at the time, rather than commit to a billed service they may not be able to pay when it is due.

- "I reckon everything should be like that [pre-paid], it's what's accessible for people … I reckon [Sky Muster] should be prepaid too … [It's like electricity and] the mobile that you got to top up every time, so I think everything else should be like that too, otherwise we're finding ourselves deep in debt when we commit to [post-paid] services like that, whereas with the top-ups we've got full control of it." (Katherine Gibson, Manager Wild Honey Café, 2022)

There is limited community awareness about differences in data costs between pre-paid and post-paid services. Most mobile plans now have month-by-month billing with no excess data costs.

- "[Most people are] on prepaid, they're only getting very limited data [and are] quickly going through credit. [If they come into the store and] want a $10 [pre-paid voucher I tell them] you're not going to get anything for this. If you get the $30 then you'll get a whole month's worth. [But it's still] a very small amount of data … I'm on a contract and I get 180 GB of data because I don't have the internet at home. [Most] people here don't have the internet at home … They [need] someone explaining how to best [get] value with plans." (Courtney Rollins, Wujal Wujal Store worker/ resident, 2023)

However, post-paid plans are not available to purchase in Wujal Wujal. Signing up for one requires a trip to Cooktown or Cairns. In 2022, we heard from a few residents on costly post-paid plans about the financial burden on low and unreliable incomes.

- "[I'm] paying at least $300 [a] month [but] I'm struggling now … I only just got this Telstra bill that I try stick with [but with] no work on Fridays anymore for council, it's just sort of creeping up on me … which means I have to make more sacrifices to other stuff." (Resident, 2022)

Device affordability is a challenge for many

The cost of smart phones was raised as an issue, with regular replacement of phones and limited local options.

- "It costs a lot of money, [about $200-300 for a mobile phone]. We have three shops in the area, and when you want to buy a mobile phone you have to go to Cairns or Cooktown. They're the nearest towns [to buy a phone. Older people find non-smart] phones are easier for them to use." (Marie Shipton, Elder and Cultural Advisor, 2022)

Pre-paid credit is a valued commodity in the community [with] demand by young people on parents and grandparents to buy smartphones and pre-paid vouchers, or share data via hotspots, to enable access to online content including social media, streaming and games.

Digital ability

Digital ability levels have changed little since 2022

Wujal Wujal respondents had slightly higher levels of digital ability in 2024 than the average for all remote communities visited (16.4 out of 30 compared with average 15.5 in 2024), however there had been only minor change since 2022 (16.0 out of 30).

In our 2024 surveys, of the 72% of people who regularly use the internet, the most common applications they used were online entertainment services (87% in 2024, up from 64% in 2022), social media (86%, down from 92%), online banking (86%, down from 97%), accessing government services (85%, up from 81%), and online shopping (69%, up from 41%). With digital transformation of services to online delivery, digital literacy is now a necessary life skill.

- "Those days of walking into Centrelink [or a bank], they're disappearing. It's all going digital, it's all going online. [But a lot of people] don't have that education on the internet and how to use it. So, it's all very well upgrading all the systems … but without that education, it's just not going to work." (Agency representative, 2022)

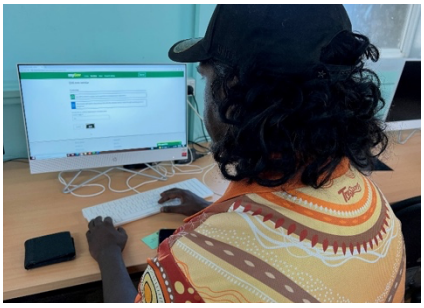


Figure 32: Resident using online services on IKC computer, 2022

However, skills development in using more advanced applications on computers, including Microsoft Office software, is hindered by primary reliance on mobile devices (97% usage compared with 29% who also use desktop computers or laptops). Also, English text literacy can be another obstacle to digital literacy, with 86% of recipients saying they understood written English very well and 51% having attended school to Year 10 or lower.

Confidentiality and password security can be issues

With shared devices and a lack of systems to store login details such as passwords, these are often kept in insecure places such as on scraps of paper or on the phone itself. This can lead to issues where others may be able to access bank accounts, social media accounts or other online services.

Marie Shipton described helping people set up email addresses and Centrelink or MyGov login passwords as part of her Centrelink job. A time-consuming aspect of setting up online services is sourcing identification documents (birth certificate, licenses etc).

- "[If people need ID documents] they used to come there to Centrelink. [I helped] customers [to check] your bank details … set your BSB and your account number and what password [and I told them] you just don't show it to anyone." (Marie Shipton, WWASC Cultural Liaison Officer, 2023)

With regular requests for support with finding or re-setting passwords, Marie would advise people about the importance of keeping passwords private.

- "A lot of passwords are written in books [which] is not okay … If people had phones that remembered their passwords [with] face ID to get in there that would be very beneficial, [as a family member] couldn't just come and grab the phone. [But there is] very high turnover [of phones]. So, the security

password thing I don't really have an answer for." (Courtney Rollins, Wujal Wujal Store worker/ resident, 2023)

The Wujal Wujal Primary Health Care Centre sends out messages by text about upcoming appointments or specialist visits, however, are careful not to send personal information due to device sharing.

- "Mobiles are usually shared, at least between partners, can be even between larger family groups. We don't want to give personal information out, so [we just text the] type of appointments that we've got going." (Vince Connellan, Director of Nursing, Wujal Wujal Primary Health Care Centre, 2022)

Cyber safety is a growing concern, especially for children

Cyber safety and digital literacy were also critical issues raised, with interviewees stressing the importance of educating residents about scams.

- "[Online safety] needs to be taught in community [to] help the older ones be aware of things that can be done incorrectly and scam type situations." (Helen Teece, IKC Coordinator, 2024)

The 2024 survey results indicate reasonably high online security and cyber-safety awareness, with most people knowing how to set privacy settings (66% said 'very true' or 'mostly true'), decide what personal information is safe to share online (75%), set/ manage secure password (71%) and change who they shared content with on social media (75%).

However, local agencies identified a range of cyber-safety issues prevalent in the community including online bullying and harassment, accessing of inappropriate content, grooming, scams, and social media posts causing family disputes. This is causing some people to avoid social media.

The primary platforms used are Facebook, TikTok (preferred choice for younger people) and Instagram. However, some people expressed concerns about inappropriate use of social media:

- "I worry for kids [using] TikTok, Facebook, all those things where [strangers can] communicate with them … I don't think parents are aware what the kids are accessing either." (Kylie Mills, IKC Coordinator, 2022)

With mobile phones becoming a primary means of access to entertainment by young children, they were described as form of digital babysitter, with some young children now having their own phone.

- "Mobile phones [are being used as a] babysitter for the children … Kids are just given the phone and are distracted that way rather than any parenting intervention and stuff. That seems to be a big thing here. [The pre-school coordinator told me] she has to check the little three- and four-year-old's bags and take their mobile phones at the beginning of the day, which is quite horrifying." (Mary-Louise Wilkinson, Acting Director of Nursing, Wujal Wujal Primary Health Care, 2023)

Without parental control settings on phones, there is a risk of children accessing inappropriate content or encountering strangers on social media or gaming apps. The local school delivers some formal lessons to students on safe internet use and online stranger danger. However, Wujal Wujal Justice Group urges training on these topics for adults, which they say needs to be locally delivered and culturally appropriate.

- "[There needs to be] more education around [cyber bullying and] education on how to safely use the internet [for parents and] elders … I think we all need to be educated more." (Rachel Salam, Wujal Wujal Justice Group, 2022)

Scams are increasingly prevalent via text and social media

Ove the three years, scams via calls, texts and online messages have become more commonplace.

- "We get a few 'Send through your bank details' [messages] trying to make out they're a bank [or] Medicare. '[Click here] and put your account in here.' It's very tricky … People could easily be fooled [especially if] you're a bit old, they're probably confused." (Vicki Burrows, Bana Yirriji Art Centre, Wujal Wujal, 2023)

Several interviewees described being victims of scams.

- "Last week I was a victim to cybercrime … [I was] just paying some bills through my bank and then my phone rang [claiming to be the bank. I] just followed the prompts that they were telling me to do and boom, $5000 gone." (Resident, 2022)
- "I had my wages taken out of my [Westpac] account [a] year ago, [about $1700]. By the time I checked my account it was all gone, the whole lot. [So I] looked up that person on Facebook. [They were] from Perth somewhere." (Resident, 2023)

Domestic & Family Violence Counsellor Debbie Corbett described a recent example of a scam, with people receiving legitimate-looking messages asking them to 'click here' for a disaster recovery payment, which turned out to be a scam.

While Indigenous Consumer Assistance Network (ICAN) and Justice Group try to build awareness of scams, many residents do not know how to discern or avoid scams, or identify legitimate messages.

- "I had people come in and show me text messages [saying] it's a scam, they're forever thinking there's a scam going on [but] sometimes it's something they need to open." (Courtney Rollins, Wujal Wujal Store worker and resident, 2023)

According to ICAN, gift card scams are becoming prevalent in Queensland communities[15]. More information about scams can be found in the ACCC 'Little Black Book of Scams'[16], with updates and on the Scamwatch website (www.scamwatch.gov.au). New scams can be reported to the police or on Scamwatch website. ICAN provide financial advice to people affected by scams.

Elder financial abuse is a growing issue

Elder abuse has been described as a growing issue since our 2023 visit, with family members transferring money from elders' bank accounts to their own or using elders' debit cards.

- "That's a big issue here at the moment. A lot of elder abuse, financial abuse … They need that support to transfer money [so] they get somebody else to do it and a lot of the times money gets taken out or transferred elsewhere. [Family members] can get a hold of their passwords, transfer money without them knowing and [it can be] big money over periods of time. So, it's a big issue … to the point where people want to take their life because it's too much, they can't deal with it." (Gina Manai, Coordinator, Wujal Wujal Aged and Disability Community Care Centre, 2023)

[15] https://www.choice.com.au/consumers-and-data/protecting-your-data/data-privacy-and-safety/articles/scams-targeting-indigenous-australians-on-the-rise
[16] See: https://www.accc.gov.au/system/files/Little%20Black%20Book%20of%20Scams%20-%20Final.pdf

ADCCC and Wujal Wujal Justice Group are working together with ICAN to highlight the issue and provide better financial and digital support to address elder abuse.

> + "Recently we've done a letter to Council with a lot of the service providers [to] see if Council can … support [programs to address] elder abuse. You are not going to eliminate it but I think highlight it and bring it to light and everybody come onboard with that … I've had posters up around the place just to bring that to forefront to highlight domestic violence [and] elder abuse. [But it's] ongoing, it needs to have everyone onboard now." (Gina Manai, as above, 2023)

However, more digital support is needed for elders to help reduce issues of elder abuse, improve scam and cyber-safety awareness, and build confidence in use of online services.

> + "Definitely if they could do it all themselves they wouldn't have to rely on the young ones to help them. [We need] training days for the elderly people [and have] a service there so if they do need help, they can just walk into an office, and someone will be there to support them." (Courtney Rollins, Wujal Wujal Store worker/ resident, 2023)

Interviewees raised a range of other financial management issues within the community, including use of high-interest loans, online gambling apps, transfer of mobile phones purchased by elders, funeral fund contributions (including the recent collapse of the Youpla Funeral Fund). All of these lead to family's applying financial pressure on elders. While ICAN provides support and advice regarding financial matters, they cover many communities and can only spend visit each occasionally. It was felt a whole of community approach was needed to address these issues.

There is demand for digital skills training and support

Since 2022, we have heard demand for more training and support, especially for the elderly, people with a disability and those with low English literacy (see survey comments at end of Appendix A). Support is particularly needed to address the multiple barriers to using online services, including sourcing identification and filling out online forms.

> + "[To use] MyGov [you need to set up] an email address to get the email sent through [with] a code to be able to log into MyGov. [Poor eyesight can also be] an issue. Not knowing how to navigate [websites], numeracy and literacy problems … A lot of the elderly people have never used a computer or a phone [and] don't know how to use a keyboard." (Courtney Rollins, Wujal Wujal Store worker/ resident, 2023)

Low digital skills and English literacy can result in anxiety and other social issues.

> + "[Having digital skills] would also relieve a lot of anxiety [and] issues at home because sometimes people might get a letter [or bill] that that they don't understand, they don't know how to pay for it. That can [impact on] what happens at home, violence and stuff like that. So, if we can take some of that pressure away, then I think that would help massively." (Courtney Rollins, as above, 2023)

Digital skills development is typically driven by the need to undertake an often time-sensitive task such as accessing MyGov, activating a SIM, doing online banking, completing a form or paying a bill online.

> + "My 80-year-old mother-in-law [struggles with] going online to look at Ergon Energy [bill]. She didn't realise that she could [pay bills online. There's] a lot of things that people here don't realise [they can do] digitally. Or they're

> scared to put their key card [details] into an app … they don't understand the security side of it." (Courtney Rollins, as above, 2023)

WWASC's draft Corporate Plan 2022–2027[17] includes objectives of providing community access, skills development and cultural content access through the IKC. The IKC can apply to State Library of Queensland to run digital skills workshops under its new Digital and You program (digitalandyou.com.au). Previously Tech Savvy Seniors workshops have been popular with demand for more digital training and support, especially for elders.

> + "[The IKC] was running some programs to help seniors try and become more competent with IT usage and their banking and various superannuation claims and stuff like that … Particularly seniors who have relative difficulty dealing with phones now that it [all] has to be done digitally." (Wendy Rowlands, Information Management Officer, WWASC, 2023)

Digital mentor support would reduce pressure on service providers

While Centrelink and IKC staff and other service providers regularly assist clients with using online services and other digital needs, they often don't have time amidst busy schedules. There is demand for full-time digital mentor support to provide one-on-one peer support.

> + "[We need] that person to actually sit down and support [elders] because a lot of them need that support [to use online services like], Centrelink [and] Medicare, you've got to go online … They are not going to grasp it [quickly]. English isn't the first language [and] IT is nobody's first language here. [We need] that person [for two] or three days a week." (Gina Manai, Coordinator, Wujal Wujal Aged and Disability Community Care Centre, 2023)

A demand-driven ('just-in-time') mentor model can be more appropriate for supporting digital skills learning than running occasional workshops ('just in case' learning) which may cover topics that are not be relevant or timely.

Courtney Rollins described the demand for digital mentor support across the community.

> + "Everyone is so far behind technology-wise [and] they're not really learning that much computer skills [in school]. So definitely it's a huge need, especially now we're going into completely digital world. And we've still got people who don't know how to use a phone or internet banking or any of that type of stuff, [especially] the elderly [and people] struggling to read and write [and] people with disabilities." (Courtney Rollins, Wujal Wujal Store worker/ resident, 2023)

She described regularly helping people to use phone and online services outside of her paid work.

> + "[I help people with] mobile phone things, activating phones, paying bills, helping out with MyGov, anything really on the internet that they need help with … I like to help [if] they're struggling with [something] I can fix for them and teach and show." (Courtney Rollins, Wujal Wujal Store worker/ resident, 2023)

Interviewees suggested a range of other tasks that a digital mentor could undertake including help setting up and using online services, scam and cyber-safety awareness, cultural knowledge and heritage support, newsletters and social media, and helping families with funeral notices and pamphlets.

[17] www.wujalwujalcouncil.qld.gov.au/assets/Uploads/Draft-Corporate-Plan-2022-to-2027.pdf

While the Shire has a limited budget to self-fund such a role, there was general support for the concept.

- "That would be good if we had the funding for it for sure … that position would be best placed in the IKC here and could actually really be a benefit for community." (Kiley Hanslow, Wujal Wujal Aboriginal Shire Council CEO, 2023)

A WWASC Councillor also urged opportunities for young people to undertake digital learning and training in accounting, office administration, retail and skills for local jobs.

- "If the [Dabu Jajikal] Rangers can give them [young people] training [in using digital tools], it would be really good. It would show them a bit confidence then and they [can take up responsibility]." (Robert Bloomfield, WWASC Councillor, WW, 2024)

Online learning is used but face-to-face learning is preferred

Online training enables community members to learn without leaving the community and is being used by some people, including use of YouTube self-learning videos. In 2024, 51% of survey respondents said they had done some form of online learning or study in the last six months, down from 61% in 2022.

- "I reckon the internet is good for online training. I've done it twice [with] business admin and we just finished a mental health one … some were through video. Connection was okay because it was in the community, if we were over [south side] that wouldn't have worked at all." (Junibel Doughboy, Bana Yirriji Art Centre, Wujal Wujal, 2022)

However, we heard that that only a few local residents use online learning, with face-to-face training and support the preferred model for most.

- "I reckon face-to-face training would be better, hands-on training … Our mob are visual people … A really good facilitator/trainer would be [crucial], who has a lot of people skills that can come and understand and connect with our people." (Katherine Gibson, Manager Wild Honey Café, 2022)

Local digital media content production, archiving and sharing

Online content platforms are being used to store local art, stories and cultural knowledge

Prior to the flood, Bana Yirriji Art Centre was using the Story Art Money (SAM) database to document artworks and artists stories.

- "We get them to write out their stories and sometimes I translate it into language and English. The artists [often] prefer some languages in their artwork. [People can see the stories through] these QR codes now." (Junibel Doughboy, Bana Yirriji Art Centre, Wujal Wujal, 2023)
- "[We invite artists to] look at your stuff [on SAM], this is what you've done, this is what you've sold, these are the stories. It's an archive as well as anything else." (Vicki Burrows, Bana Yirriji Art Centre, Wujal Wujal, 2023)

Fortunately, with SAM being a cloud-based system, all of these records are stored safely while the Bana Yirriji Art Centre gets re-established.

The Dabu Jajikal Aboriginal Corporation (DJAC) Ranger program also does a lot of documenting of cultural knowledge and information about cultural sites. In 2023, the team had recently been doing grave site mapping, developing cultural trails including midden sites, and turtle and dugong monitoring. They used iPads and the free platform, Queensland Globe, to map watercourses and vegetation zones. The

Rangers also use the Lucid app to help identify plant species in the region. Hosted by James Cook University, the app contains information on between 3000 and 4000 tropical-region plant species. DJAC has set up a website and Facebook page to publicly share updates on their work.

DJAC was investing in an Environmental Systems Solution as an overall land management system, which includes animal, plant and fishery tracking, introduced species management, mapping of cultural fire burning, a secure platform to develop and build a locally specific cultural heritage database. However, rangers identified the need for improved mobile connectivity more digital skills training to enable use of online platforms and communication tools needed for their work.

There is demand for local production and archiving of language and cultural records

The IKC also provides local history books, photographs and records, with demand for more of the locally relevant content to be available for access via phones or computers. A number of cultural video productions have been made over the years, but are only on DVD which few residents use nowadays.

WWASC Councillor Robert Bloomfield identified a desire for young people to increase their participation in local media content production to increase their digital skills, to share local stories and support language and cultural identity.

> + "I [would] like to see the young people get up and engage [at the] IKC… Get in there and look on the laptop and see if there's training there … It's their time to step up [and] make their own videos or music or take photos, put their newsletters together." (Robert Bloomfield, WWASC Councillor, WW, 2024)

We heard about a series of cultural recordings undertaken on homelands by the Ranger programme about 20 years ago. Also, the WWASC cultural officers have worked with the Wujal Wujal Justice Group to record cultural stories and oral histories. WWASC Cultural Advisors Marie Shipton and William Harrigan work with the Justice Group to record cultural stories and knowledge. We also heard about language teaching at the school, building on a history of language documentation since the mission era.

> + "We've got a young bloke here, he's in his 60s, but he teaches language at school and got a lot of recording of everyday … language … They've been passed down [from] the church-run days, ATSIC day, to the local government council to what we've got today, everything is being recorded." (William Harrigan, WWASC Cultural Officer, 2024)

Over the years, there have been a number of projects to document cultural stories of country and oral histories, including by local filmmaker Nelson Conboy. However, there is limited access to this content. There are also concerns about the state of the collection following the flood, which inundated the WWASC storage container and some records at Nelson's house.

While the IKC provides access to a range of archival photographs and books and State Library of Queensland provide access to a state-wide online archive, there is no digital archival system for residents to access locally produced media productions and cultural and historic content.

> + "We keep [records in the] Indigenous Knowledge [Centre] and the Justice [Group] keep another record because mostly the older people work over there [and] they've got all the knowledge of it recorded." (William Harrigan, as above, 2024)

With most records not readily accessible, and high risk of loss of on-site materials, there was demand for the setup of a digital archive system. If resourced, this could be a role held by the IKC with support from the State Library. The language app developed by the Australian Literacy and Numeracy Foundation could be useful for documenting the Kuku Yalanji language and collating existing records.

06. CONSIDERATIONS FOR LOCAL DIGITAL INCLUSION PLAN

Developing a local Digital Inclusion Plan would enable a coordinated whole-of-community approach to address some of the challenges outlined in this report. It would also provide a useful tool for advocacy to government, industry, and fundraising efforts. Strategies outlined below are based on input from community stakeholders and are provided as possible options for local planning to improve communications services and digital inclusion in Wujal Wujal. These are not intended to be prescriptive, nor are they listed in order of priority.

Based on our 2023 interviews and discussions, the proposed Digital Inclusion Plan has been updated with new/revised strategies and a column for progress/ next steps, to track progress on the actions over time.

Identified issue	Possible actions	Potential stakeholders	Progress/ next steps
Access			
Patchy 4G coverage in town and to homelands along the Bloomfield River, with reduced reliability since the flood	Advocate to Telstra and Queensland Government to upgrade 4G mobile services to improve speed, reliability and coverage in Wujal Wujal. Advocate for replacement 4G small cell tower following the destruction of previous one on clinic in flood. Seek Regional Connectivity Program funding for mobile coverage in unserved areas	WWASC Telstra Queensland Government Australian Government (DITRDC)	**HIGH PRIORITY - Need for major upgrades to mobile network to ensure resilience in wet season and during disasters, including upgrade to Mt Pearce mobile tower to provide full coverage of Wujal Wujal and Degarra**
Need for fast, low latency broadband services by WWASC and other service providers	Investigate alternate business-grade broadband options to meet WWASC needs (and other agencies), such as trial of Starlink satellite service by WWASC	Queensland Government WWASC	WWASC and most agencies have moved to Starlink for fast, reliable broadband needs **Advocate for NBN delivery in Wujal Wujal and Ayton to be upgraded from Sky Muster to fibre-to-the node or fixed wireless**

Identified issue	Possible actions	Potential stakeholders	Progress/ next steps
Improved redundancy for WWASC - Current redundancy system (Iterra) used by WWASC is very costly (Note: Iterra dish and on-site server destroyed in 2023 flood)	Review options for more affordable redundancy system in case of fixed line outages and wet season impacts, or change plan to pay only when used	WWASC Queensland Government	WWASC have since moved to Starlink and cloud-based data storage since flood; However, the loss of fibre optic connectivity and iTerra means a redundancy backhaul service is still needed.
Need for improved emergency communications plan, including for remote road and sea rescue	Explore options for expanded use of HF radio, UHF radio and satellite communications for safety and emergency communications in areas without mobile coverage	Wujal Wujal Police Wujal Wujal Health Care Centre SES WWASC	UNDERWAY- Disaster communications planning undertaken post the 2023 flood, with increased use of satellite phones and devices
Need for more up-to-date community access computers and software in Indigenous Knowledge Centre	Seek funding through State Library of Queensland (SLQ) for new community access computers and regularly used software, including learning games Discount software available through Connecting Up	Wujal Wujal IKC SLQ Connecting Up	**UNDERWAY**- SLQ have established 'Growing IKCs' and 'Regional Digital Development programs to support councils and IKCs
Need for public Wi-Fi hotspots to provide affordable access to online services	Seek NBN Wi-Fi hotspots in key public spaces (Note: Wi-Fi available at IKC and Centrelink during office hours)	WWASC NBN	**DONE** - Two NBN hotspots installed at Bana Yirriji Art Centre (February 2023, since destroyed in flood) and Rural Transaction Centre (installed July 2022)
Demand for affordable broadband access in residential areas	Seek funding to have Wujal Wujal considered for an NBN Wi-Fi Mesh network, similar to Aurukun (NBN WI-FI trial site)	WWASC Queensland Government NBN co	**DONE** - RCP funding approved to APN to install community-wide Wi-Fi Mesh network in 2024; Longer term strategies needed beyond Wi-Fi project

Identified issue	Possible actions	Potential stakeholders	Progress/ next steps
VAST direct-to-home satellite TV services not working in 25% of houses High household cost to replace set top boxes and maintain satellite equipment	Advocate for funding to replace VAST direct-to-home TV services with digital TV broadcasting of 16 Freeview channels and ICTV in Wujal Wujal.	WWASC Australian Government Queensland Government	WWASC supportive of seeking to upgrade to broadcast TV Remote and Regional TV Audit underway by Australian Government to review options
ABC AM radio service very patchy and low signal	Consider re-establishing ABC FM radio broadcast (e.g., ABC FNQ) from Wujal Wujal RIBS facility Ask Qld Government for funding for ABC radio service maintenance for emergency information	WWASC/ Wujal Wujal RIBS NIAA QRAM	Yet to do
Affordability			
Primary use of pre-paid for data (high cost data)	Check if ABIS supermarket is supplying the new Telstra Pre-Paid Community Mobile or Better Life Mobile plans	ABIS Supermarket	Yet to do
Limited awareness of pre-paid and post-paid mobile or satellite service options	Provide easy-to-read materials in store, IKC and post office (posters, brochures) and radio messages outlining affordable mobile and internet service options via Telstra, NBN Sky Muster and other providers	Wujal Wujal IKC Wujal Wujal Store QRAM/ RIBS Telstra NBN co	Yet to do, however data costs are reduced by the Wi-Fi mesh network and VoIP phones now in Wujal Wujal households
Need for affordable mobile devices	Seek a supplier of refurbished mobile devices to reduce costs.	Wujal Wujal IKC Better Life Mobile NBN / Work Ventures	Laptops were supplied to households on NBN School Student Broadband Initiative by Work Ventures (2024)

Identified issue	Possible actions	Potential stakeholders	Progress/ next steps
Digital ability			
Need for more regular IT and mobile use training, particularly for seniors; cyber-safety issues prevalent, particularly elder financial abuse.	Provide more regular training opportunities in-house at IKC and through SLQ Digital and You digital training and resources Increased awareness and strategies to address cyber-safety, online privacy and security, online banking.	Wujal Wujal IKC SLQ ADCCC (Aged and Disability Care) Wujal Wujal Justice Group ICAN	IKC to deliver targeted training, support and cyber-safety awareness for elders. ICAN / Justice Group / ADCCC to source resources relating to online security, elder abuse, scams etc.
Concerns around cyber-safety issues among young people, especially online bullying and inappropriate content	Arrange cyber-safety awareness workshops in school and IKC. Locally targeted awareness campaign- posters, radio promos and updates to promote online safety.	Wujal Wujal IKC Justice Group ICAN Bloomfield RSS QRAM/RIBS Office of e-Safety	IKC and School to source resources from Office of e-Safety, Queensland Dept of Education, SLQ etc
Mentor support in use of government and online banking services when needed Limited banking service since Post Office closed in 2022	Employment of Digital mentor/ IT support roles at IKC to support people to access government and online services Extend Centrelink office hours and role to provide support in use of MyGov, Centrelink, banking apps	WWASC Centrelink Wujal Wujal IKC SLQ	WWASC in favour of digital mentor role at IKC if funding provided, discuss with SLQ
Demand for IT skills for workforce readiness and use of online services	Provide specific training workshops or one on one support in workforce readiness skills as needed (e.g. MS Office, keyboard skills, file management etc.).	My Pathways (CDP provider) Wujal Wujal IKC	My Pathways or IKC to provide one-on-one support
Need for professional development in digital applications, software and IT policies	All agencies to include induction and workplace training in use of relevant digital systems /applications, and awareness of agency IT policies and security	All agencies	Ongoing, but potential for inter-agency cooperation

Identified issue	Possible actions	Potential stakeholders	Progress/ next steps
Media production and archiving			
Strong interest in media and music production of local stories, language and cultural content	Explore possibilities for facility for multi-media production and archiving within community, including at IKC or Art Centre	WWASC / RIBS Wujal Wujal IKC Justice Group	Low priority post flood- IKC has been used for media production previously
Archiving of locally produced content, cultural and historic content	Setup archiving system for locally specific multi-media content, history, language and cultural recordings. Seek relevant material from State Library of Queensland, AIATSIS and other collections	Wujal Wujal IKC State Library of Queensland AIATSIS	SLQ have online archive system but no local archive currently in place. Wujal Wujal IKC to seek advice from SLQ and AIATSIS
Other Identified Needs			
Lack of local IT and technical support	Arrange IT technical services company as a regular service provider to support multiple agencies' needs (reduce travel costs).	WWASC	WWASC undertaking review of IT services and support.
WWASC webpage very media content heavy, making it slow to open and navigate	Engage web design company to help update website, reduce file size of media content and ensure site is mobile friendly and meets accessibility standards.	WWASC	Website upgrade yet to be done

Figure 33: The former WWASC administration building was inundated during the flood

Appendix 1: Summary of survey results

This section provides the full list of survey results undertaken with First Nations participants in Wujal Wujal from 2022-24. There may be variation to results published in the previous outcomes reports which used 'raw' survey results, prior to cleaning and weighing against ABS statistics.

Demographics	2022	2023	2024
Gender	58% female; 42% male	54% female; 46% male	42% female; 58% male
% Aboriginal respondents	100%	100%	100%
Education			
Completed year 11 or 12	9%	29%	43%
Completed year 10 or below	62%	56%	37%
Holds tertiary education qualification (certificate, diploma, degree)	29%	15%	20%
Employment			
Employed or on CDP	32% (16% of these full-time)	29% (31% of these full-time)	29% (35% of these full-time)
Unemployed	39%	31%	25%
% looked for work in past month	8%	15%	16%
Welfare			
Receives Centrelink payments	69%	92%	96%
Most common payments	Family Tax Benefit (33%), Parenting Payment (33%)	JobSeeker / Youth Allowance (33%), Healthcare Card (29%)	JobSeeker / Youth Allowance (47%), Healthcare Card (36%)
Housing - Live in a multi-generational or shared household	47%	48%	69%
Average number of people per household	3.6	4.2	4.2
% with long-term disability or health condition	32%	33%	32%
% speak language other than English at home	86%	89%	83%
ATSI languages spoken (multi-choice question)			
Aboriginal English	1%	10%	57%
Other (please specify)	11%	5%	1%
Understanding of English (very or quite well)			
Spoken English	85%	90%	91%
Written English	84%	86%	84%

Income			
Average weekly household income	$827.19	$1,009.29	$1,089.84
Households with weekly income of $1–$399	0%	9%	5%
$400–$999	46%	47%	42%
$1000–$1999	5%	19%	29%
above $2000	3%	6%	9%
No household income	0%	0%	0%
Phone use	**2022**	**2023**	**2024**
Primary devices used for phone calls			
Mobile phone	100%	83%	96%
Public phone	23%	37%	12%
Phone in community office or workplace	27%	21%	3%
Fixed line telephone in home	0%	0%	0%
No phone access	0%	7%	3%
Reliability of public phone			
Stated the public phone was reliable	25%	37%	31%
Stated the public phone was not or sometimes reliable	29%	11%	38%
Do not use the public phone	46%	52%	31%
Rate of mobile phone ownership	97% (57% of these smartphones)	74% (94% of these smartphones)	88% (95% of these smartphones)
Pre-paid mobile phone use			
% of phone owners on prepaid services	80%	99%	95%
Average number of prepaid services per household	2.1	2.7	3.1
Expenditure			
Average monthly household expenditure on pre-paid mobile	$100	$124	$213

Media use	2022	2023	2024
Radio Access (multi-choice question)			
Via car radio	24%	50%	74%
Via radio at home	24%	40%	42%
Via phone or tablet	32%	12%	27%
Never listen to radio	11%	11%	7%
Radio programs listenership			
Local First Nations radio service	18% daily or weekly, 61% occasionally	51% daily or weekly, 28% occasionally	58% daily or weekly, 28% occasionally
ABC Radio	4% daily or weekly, 18% occasionally	21% daily or weekly, 22% occasionally	9% daily or weekly, 41% occasionally
Commercial radio	1% daily or weekly, 17% occasionally	17% daily or weekly, 11% occasionally	13% daily or weekly, 30% occasionally
Radio Access (multi-choice question)			
Watch on TV via VAST satellite	76%	74%	67%
Via phone	18%	24%	N/A
Only via USB/DVDs on TV	9%	14%	N/A
Only watch TV outside of home	0%	11%	15%
Never watch TV	1%	7%	2%
VAST TV Access			
% with working VAST service	70%	83%	76%
Without working VAST service	30% (61% not sure why, 39% due to set-top box not working)	17% (82% due to set-top box not working, 25% due to TV not working)	24% (71% due to damaged dish or cabling, 62% due to set-top box not working)
Most popular sources of TV and online content (multi-choice question)			
Commercial TV	31% daily, 21% weekly	57% daily, 27% weekly	76% daily, 14% weekly
ICTV	11% daily, 5% weekly	18% daily, 17% weekly	50% daily, 6% weekly

YouTube	14% daily, 9% weekly	35% daily, 18% weekly	49% daily, 13% weekly
ABC TV	8% daily, 13% weekly	29% daily, 11% weekly	49% daily, 4% weekly
Primary sources of news and information (multi-choice question)			
Commercial TV	16% daily, 32% weekly, 8% occasionally	65% daily, 20% weekly, 6% occasionally	78% daily, 3% weekly, 14% occasionally
Direct / in-person communication	38% daily, 19% weekly, 24% occasionally	84% daily, 2% weekly, 8% occasionally	65% daily, 13% weekly, 13% occasionally
Facebook	24% daily, 1% weekly, 3% occasionally	42% daily, 14% weekly, 8% occasionally	50% daily, 10% weekly, 2% occasionally
NITV	11% daily, 2% weekly, 34% occasionally	15% daily, 21% weekly, 52% occasionally	40% daily, 10% weekly, 36% occasionally
Local noticeboards	18% daily, 22% weekly, 29% occasionally	11% daily, 39% weekly, 30% occasionally	32% daily, 19% weekly, 38% occasionally
Other social media	20% daily, 1% weekly, 6% occasionally	25% daily, 6% weekly, 9% occasionally	32% daily, 5% weekly, 9% occasionally
First Nations radio	8% daily, 11% weekly, 20% occasionally	33% daily, 17% weekly, 26% occasionally	28% daily, 17% weekly, 33% occasionally
Primary sources of emergency information (multi-choice question)			
Direct / in-person communication	70%	73%	88%
Text message from police or emergency services	32%	15%	61%
Commercial TV	46%	51%	54%
Facebook	34%	35%	48%
Online emergency services	46%	19%	48%
Local noticeboards	57%	26%	45%
First Nations radio	46%	29%	39%

Internet use	2022	2023	2024
Latest internet use			
Have used the internet in the past week	53%	56%	65%
In the past month	10%	11%	4%
Never uses the internet	34%	28%	19%
Rate of internet use (of respondents who had used the internet within the last three months)			
Use the internet almost constantly	38%	37%	45%
Several times a day	15%	17%	26%
About once a day or several times a week	30%	29%	20%
Regular internet users (The following indented sections refer to respondents who had used the internet within the last six months)	63%	68%	72%
Primary online devices (multi-choice question)			
Smartphone	96%	95%	99%
Smart TV	40%	43%	34%
Desktop computer	25%	24%	11%
Portable laptop or notebook computer	39%	12%	11%
Games console	19%	16%	10%
Tablet	2%	6%	4%
Use of Internet provided by others (multi-choice question)			
Public space with free Wi-Fi	2%	40%	52%
At houses of friends or family	34%	20%	40%
Shopping centre, retail, or service busines	0%	1%	27%
At public library	31%	10%	26%
Concern about amount of time spent online			
Extremely concerned	16%	19%	Not reported 2024
Moderately concerned	15%	5%	Not reported 2024

Slightly concerned	31%	23%	Not reported 2024
Not at all concerned	8%	51%	Not reported 2024
Low internet users	37%	32%	28%
Reasons given for not using the internet more – low internet users (multi-choice)			
Not confident using the internet	36%	52%	60%
Internet is too expensive for me	21%	19%	2%
internet is not a priority for me	68%	46%	No data
No access to the internet	12%	48%	2%
Use of fixed internet services			
Does not have fixed home internet	91%	92%	83%
NBN including NBN satellite/Skymuster	9%	5%	13%
Satellite (other than NBN Skymuster)	0%	1%	2%
ADSL	0%	3%	2%
Data allowances of those with fixed broadband			
Have less than 49 GB / month	0%	24%	3%
Between 50-199 GB / month	88%	33%	41%
Above 200 GB / month	13%	10%	0%
Have unlimited internet data	0%	33%	57%
Frequency of exceeding fixed broadband data limits within the last year			
1 - 5 times	35%	30%	0%
6-11 times	12%	5%	24%
Every month	6%	5%	59%
Use of mobile broadband services			
No mobile broadband device	87%	91%	91%
Use a Wi-Fi dongle / device	13%	2%	7%
Use a laptop/tablet SIM	0%	0%	2%
Use other mobile broadband device	0%	7%	1%
% of services that are on pre-paid plans	9%	100%	100%

Mobile broadband data allowances			
Less than 10 GB / month	51%	3%	11%
Between 11–40 GB / month	17%	51%	76%
Between 41–100 GB / month	14%	12%	9%
Above 100 GB / month	11%	4%	4%
Unlimited mobile data	0%	40%	0%
Frequency of exceeding mobile broadband data limits within the last year			
1 - 5 times	9%	42%	61%
6-11 times	0%	0%	22%
Every month	82%	0%	0%
Affordability	**2022**	**2023**	**2024**
Total monthly household expenditure on phone and internet services	$111	$169	$237
% of respondents who cut back on essential household costs to afford personal or household internet			
Sometimes	24%	1%	6%
Often or always	5%	13%	40%
% of respondents who compromise on internet speed and/or quality to prioritise affordability	26%	56%	73%
Digital Ability	**2022**	**2023**	**2024**
Regular internet users (The following sections refer to respondents who used internet in last three months)	83%	83%	86%
Basic digital ability metrics			
Connect to a Wi-Fi network	68%	80%	86%
Use a mobile device as a Wi-Fi hotspot	81%	80%	76%
Open a new browser tab	97%	77%	76%
Send and receive emails	95%	84%	81%
Download and then open a file	MISSING	MISSING	MISSING
Find and install apps	79%	71%	78%

Online security and cyber-safety awareness			
Add or remove friends or followers on social media	91%	78%	84%
Decide what personal information to share online	91%	70%	75%
Set/manage secure passwords	81%	79%	71%
Identify which apps/software are safe to download	87%	66%	70%
Set/adjust privacy settings	68%	75%	66%
Check if information is trustworthy	66%	69%	61%
Online content creation			
Produce online content	63%	48%	46%
Post videos	67%	57%	65%
Create websites	8%	35%	38%
Awareness of online copyright law	66%	37%	56%
Use of smart devices			
Connect smart devices (e.g. smart TV) to the internet	96%	74%	73%
Adjust smart device privacy and security settings	77%	63%	67%
Primary online activities (activities undertaken in past six months)			
Online banking	97%	94%	86%
Accessing government services	81%	94%	85%
Online shopping	41%	62%	69%
Comparing prices of products or services	49%	50%	66%
Tracking packages	34%	57%	65%
Looking for housing / accommodation	54%	44%	58%
Looking for work	39%	45%	57%
Online learning / study	61%	43%	51%
Online buying / selling	40%	55%	49%
Booking medical appointments	84%	46%	48%

Social media use (activities undertaken in past six months)			
Keeping in touch with family or friends	92%	83%	86%
Meeting new friends or reconnecting with old friends online	92%	75%	80%
Engaging with community	92%	70%	71%
Online entertainment (activities undertaken in past six months)			
Used online entertainment services	64%	88%	87%
Attended an online music, arts, or cultural event online	19%	45%	45%

2024 Comments:

Post-flood experience:

- We just came back from Cooktown last week. When the flood came we had no communications. Where my house is below Mt Pearce I get hardly any mobile reception, it needs fixing. In Cooktown, the recovery mob helped people with mobile vouchers so they could keep in touch with family who were all spread out.
- I had a phone line at home but I disconnected it after the flood. I'm waiting to get a mobile phone. When the flood came I stayed up all night, luckily my house wasn't flooded.
- People moving back in today

Mobile service quality/ signal penetration/black spots:

- The mobile has been down a lot before the flood and since the flood.
- Concerned that sometimes it does not work especially in wet weather/cloudy days. Need phones & internet to work in emergency times.
- The mobile here is really slow. It makes it hard to do a job interview. We need better internet in the town, so people can get it at home.
- Better internet coverage. The community needs 5G installed.
- Yes we frequently lose connectivity in Wujal Wujal.
- Just that I don't have service much even though the tower is just above my place, but the trees block it making it sometimes a bit hard in the house.
- Signal is too slow.
- Upgrade Telstra so it's more reliable.

Internet service quality / affordability

Affordability

- Would like a mobile phone.
- My mobile got washed away in the disaster so I can't afford another one.

Digital skills/support needs

- Telstra need to unlock my phone
- I can't activate the SIM on my phone because of lack of identification.

TV access:

- I live in a caravan and have no TV so can't watch news, which is important to me.
- The VAST set top box isn't working now since we came back but we don't know how to check it or reactivate the smart card. We can't afford a new box.
- Need to fix TV.
- I've got Foxtel for TV but will cancel that and just use the phone.

Figure 34: Wujal Wujal Falls, 2022

Appendix 2: Community communications audit

About the Community	
Community Name:	Wujal Wujal
Traditional owners/ Language group	Kuku Yalanji
Location (Coords)	15.9476° S, 145.3182° E
Region	Cook
LGA/Shire/ Regional Council	Wujal Wujal Aboriginal Shire Shire
Land Council	Cape York Land Council
Regional Service Centre, distance	Cooktown 71 km; Cairns 346 km (inland route)/ 320 km (coastal route); Brisbane 2017 km
Remoteness (ABS)	Remote
Population Data - ABS 2021	
ABS link	https://abs.gov.au/census/find-census-data/quickstats/2021/LGA37570
ABS link – Aboriginal and Torres Strait Islander (ATSI) Quickstats	https://abs.gov.au/census/find-census-data/quickstats/2021/IQSLGA37570
Total population	276; (WWASC survey found 550 in 2021)
ATSI population	258 (94%, 2% not stated); WWASC estimate 480 (2021)
Gender breakdown	45% male, 55% female
Median age and breakdown	Median age 29; 32.7% 0–19 years old; 15.8% 20–29; 17.7% 30–39; 9.7% 40–49; 13.5% 50–59; 8.4% 60–69; (2.3% 70+
Number of families and number of children per family	70 families; Avg 1.9 children for families with children, 1.2 for all families (including without children)
Language groups, number of speakers	92 (33.3%) speak Kuku Yalanji, 12 speak other languages
% ATSI people who speak language at home	39.9% ATSI people speak an ATSI language at home
% ATSI people who speak English at home	150 (54.3%) speak only English at home
Employment levels (15+)	25.7% in the labour force. Of these, 46.8% worked full-time, 34.0% part-time; 8.5% away from work.
Education levels / No of people attending	16.4% Year 9 or below; 15.8% Year 10; 10.9% year 11; 12.6% Year 12; 25.7% Cert 3 or 4; 1.6% Tertiary; 17.5% unstated or unknown
Number of occupied dwellings	73 occupied private dwellings
Average people per household and bedroom	Avg 3.4 people per household; 1.3 people per bedroom
Median weekly ATSI household income	$779
Median weekly ATSI personal income (15+)	$321
Average weekly rent	$75 for ATSI households

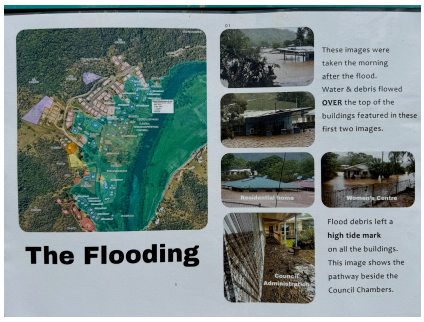
Community Services and Plans	
Community Layout Plan	See: https://capeyorknrm.com.au/sites/default/files/2020-05/plansceam_wujal-wujal_aboriginal_shire.pdf
Agencies in community	Wujal Wujal Aboriginal Shire Council, Bloomfield River State School, Centrelink (at RTC), Justice Group, Lutheran Church, RIBS radio station, Store, Women's Centre, Wujal Wujal Kindergarten, Wujal Wujal Police, Wujal Wujal Primary Health Care Centre, Bana Yirriji Art Centre
Visiting agencies	Indigenous Consumer Assistance Network (ICAN), Ergon Energy, Telstra, NBN Co, State Emergency Service, emergency response agencies and contractors
Existing Community Development Plans	Draft Corporate Plan 2022–27: https://www.wujalwujalcouncil.qld.gov.au/council/corporate-documents
Power supply/type/backup in community; relevance to telecommunications	Power supply from Cooktown; WWASC has local backup generators (100kVA) at depot to maintain key services
Use of power cards in households	Yes, Ergon Energy; can buy from WWASC, Wujal store, Ayton Store; only WWASC can apply rebate
Communications modes available	
Public phones	Telstra phone in front of RTC, one at Ayton store (10 kms away)
Home phones	Very few; since replaced by VoIP phones in all households as part of Wi-Fi network installation in 2024
Mobile –4G, 5G, small cell (satellite backhaul), provider, location of base station	4G tower Mt Pearce; 4G small cell at clinic (installed 2023 but destroyed in 2023 flood); 4G tower by Bloomfield River State School; 4G at Ayton
Coverage description	See Telstra coverage map: https://www.telstra.com.au/coverage-networks/our-coverage
Business grade services – locations	Wujal Wujal Aboriginal Shire Council; Wujal Wujal Primary Health Care Centre; Wujal Wujal Police Station
Fibre to community	Yes
Satellite services, number, locations, provider	Most staff residences and agencies have NBN satellite service; initial staff uptake of Starlink services.
UHF or HF radio	UHF used for emergency communication by police, health; also by Rangers for on-country work
Status of services	Telstra mobile service remains slow, patchy and unreliable
Communications Programs History	RCP funding for Wi-Fi mesh network, installed 2024
Any planned upgrades?	Telstra received funding in 2024 for network hardening and longer life mobile batteries for Wujal Wujal/ Degarra; WWASC awaiting QRA funding for repairs to fibre optic cable
Emergency information system	Emergency flood warning system completed 2022, sensors destroyed in flood
Telemetry network	Monitor water pumps, sewerage, weather station; connects via 4G network, with up to 72-hour satellite backup

Media services available	
Radio services broadcast	Black Star 107.7 FM, ABC AM (faint signal)
TV services	VAST direct-to-home satellite delivery (not working in about 25% of houses); some houses have Foxtel services
RIBS radio station	Yes; RIBS broadcaster works 7.30 am to 4 pm each day
RIMO	Queensland Remote Aboriginal Media (QRAM, based in Cairns)
Other media services	WWASC have a Facebook page and distribute a monthly newsletter; Ayton Store has Torres and Cape News
Community access facilities	
Internet access facilities	IKC provide 3 computers, 3 iPads, plus training tablets, printer, laminator, binder etc
Public Wi-Fi availability and mode	IKC has free Wi-Fi by vouchers; Centrelink Wi-Fi for government / banking services only; NBN Communities in Isolation Wi-Fi services at the RTC (22/722) and art centre (January 2023)
Access computers available in other facilities	Centrelink (for Centrelink purposes only); staff at Post Office helpful with IT support
Programs supporting community access	State Library of Queensland deliver Deadly Digital Communities and Tech Savvy Seniors program through IKC
Expenditure data	
Expenditure on mobile prepaid cards	No details
Any cost saving mechanisms in place	Shared Wi-Fi at IKC and Centrelink office; free NBN Wi-Fi at RTC and art centre; WWASC aggregate Shire facilities data use
Training / support	
Digital training participation	No details
Nature and provider of training programs	IKC runs occasional Deadly Digital Communities or Tech Savvy Seniors workshops; School does child cyber-safety training
Vocational training options available	My Pathways offers some courses (not digital)
Any workplace digital skills training	Clinic does on-the-job training for staff; Artsworker does training in Story Art Money (SAM) database
Staff/resources to support digital skills/access	IKC; Centrelink; Post Office; Wujal Wujal Justice Group (cyber-safety/ scams)
Use of online services / applications	
Apps or digital tools in use	SAM database well used at Art Centre; server in RIBS for running radio; State Library of Queensland OneSearch archive portal
Telehealth usage	Being used extensively at Health Care Centre
Online education or training	Staff at Shire, Justice Group, police, school, clinic all do online training via Zoom and Teams
Online court hearings or prison visits	Justice Group do some court hearings and prison visits online
Cyber-safety or scam support	ICAN helped residents recover funds from the Youpla funeral fund that collapsed

Appendix 3: Photos of research activities

Figures 35 & 36: Co-researcher Dallas Walker doing survey with Alice Stanley; Alice Walker doing survey on iPad

Figures 37 & 38: Lyndon with co-researchers Helen Teece, Vincent Tayley, Helen Teece, Dallas Walker; Daniel and Lyndon with WWASC Cr Robert Bloomfield & CEO Kiley Hanslow



Figures 39 & 40: Posters showing the flooding impact and recovery effort

Figures 41 & 42: The IKC has been re-established in the Charlie's Tourism Centre