

New South Wales Mid North Coast flood impact and resilience research

Easterly Trough Low, May 2025

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Risk Frontiers



Version	Release history	Date
1.0	Initial release of document	21/08/2025



Australian Government

Natural Hazards Research Australia receives grant funding from the Australian Government.

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Publisher:
Natural Hazards Research Australia
ISBN: 978-1-923057-36-4
Report number: 56.2025
August 2025
Cover: Risk Frontiers
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Introduction

Between 22 - 25 May 2025, an Easterly Trough Low (ETL) triggered severe weather along the New South Wales Mid North Coast, including gale-force wind warnings for the Coffs Coast and Macquarie Coast, as well as intense rainfall and major flooding across the Manning, Hastings, Macleay and Nambucca catchments.

Floodwaters on the Manning River at Taree exceeded the 500-year Annual Recurrence Interval (ARI). The Bureau of Meteorology (the Bureau) reported that much of the area between Taree and Port Macquarie had four times its average monthly rainfall during the May floods. Taree and Wingham more than doubled their previous rain records for May, with both towns receiving more than 700mm¹.

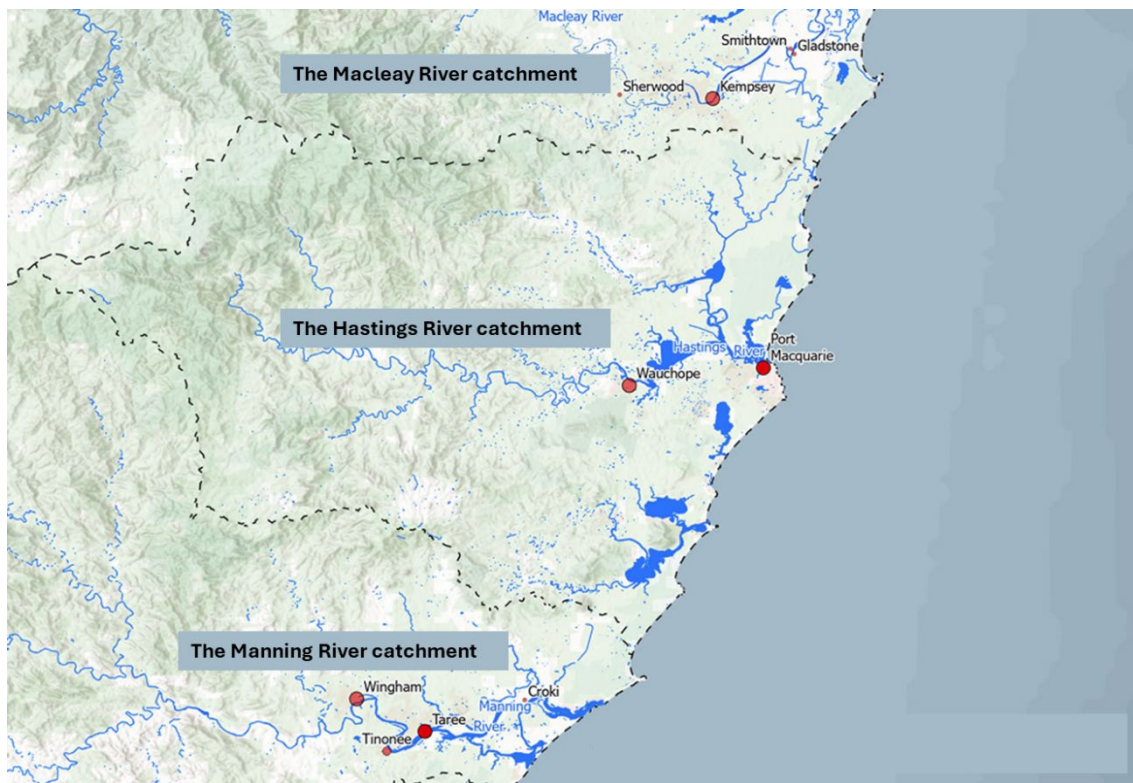


FIGURE 1 - THE THREE MID NORTH COAST NSW CATCHMENTS MOST IMPACTED BY SEVERE FLOODING BETWEEN 21 AND 25 MAY 2025 - MANNING RIVER, HASTINGS RIVER AND MACLEAY RIVER

By Sunday morning, 25 May 2025, there were five confirmed fatalities, with an estimated 10,000 homes damaged and 50,000 people evacuated. More than 5,000 homes and businesses lost power and key transport routes, including the Pacific Highway, were closed due to flooding and landslides.

¹ ABC News - Rainfall records smashed during Mid North Coast severe weather
<https://www.abc.net.au/news/2025-06-04/rainfall-records-smashed-mid-north-coast-floods/105374418>, 4 June 2025.



Overview

On 2 June 2025, Risk Frontiers deployed a team of four to the Mid North Coast of New South Wales to observe and report on severe flooding in the area (Figure 1). The survey team spoke with residents, business owners and recovery workers in impacted areas and recorded the observations of impacted residents and business owners. The team also recorded flood depths, noteworthy structural damage to built assets and geomorphic impacts in rural areas. The team visited severely flood-impacted towns and rural areas in several catchments including:

- Taree, Glenthorne, Wingham, Croki (Figure 2) (Manning River catchment)
- Port Macquarie (Settlement Point Drive) and Wauchope (Figure 12) (Hastings River catchment)
- Kempsey, West Kempsey, Smithtown, Sherwood Bridge (Figure 17) (Macleay River catchment).



Key findings

Emergency warnings

Residents the survey team spoke to complained of ineffective and delayed official warnings, which undermined community trust, leading many to rely on personal judgement and local cues. Confusion around evacuation timing and authority, especially in high-risk areas, contributed to missed opportunities for safe exit and asset protection. Examples included:

- delayed and inconsistent alerts from the New South Wales State Emergency Service (NSW SES) and the Bureau meant many communities received evacuation notices after roads were already flooded or impassable
- residents reported limited trust in official warning systems, relying instead on personal judgement and local observation
- evacuation confusion was common, particularly in Kempsey, where unclear limits of NSW SES authority led to premature closures or missed opportunities to safeguard stock.

Business preparedness

Businesses with flexible, site-specific flood plans and resilient infrastructure were better able to avoid losses and recover quickly. In contrast, rigid protocols and lack of planning led to extended closures and greater impacts. Proactive measures and adaptability are key to effective disaster preparedness. Examples observed included:

- Major supermarket in Wingham that lacked an actionable flood response plan – strict corporate protocols required full stock disposal, prolonging closure and compounding losses.
- Bottle shop in Wingham that demonstrated exemplary preparedness through structural modifications and timely offsite stock evacuation, resulting in zero losses compared to \$1 million of losses in 2021.
- Vacuum and cleaning supply outlet that used a purpose-built, flood-resilient layout with modular shelving, enabling rapid clean-up and continuity via online operations.

Personal preparedness

Past flood experience prompted proactive mitigation efforts by some residents and businesses, including structural upgrades and informal planning. However, the 2025 floods exceeded expectations, exposing the limitations of existing measures and highlighting the need to reassess design standards and planning assumptions considering escalating flood risks. Some examples were:

- Residents on Settlement Point Drive (Port Macquarie) proactively implemented flood mitigation upgrades, raised concrete slabs, reinforced fencing based on 2021 experience. Some have also managed to purchase (relatively) affordable flood insurance despite recent (2021) flooding.
- The staff of a club and hospitality club venue applied informal planning from 2021 to elevate assets but were caught off-guard by the higher and faster 2025 flood levels.
- In Glenthorne, some homes built to council-mandated elevation standards were still inundated, reflecting a need to reassess design baselines amid increasing flood severity.



Limited access to flood insurance

Flood insurance remains prohibitively expensive, difficult to access, or entirely unavailable for many households and small businesses in flood-affected regions, exacerbating financial vulnerability and impeding recovery. The May 2025 event highlighted deep inequities in coverage access, particularly in high-risk zones and low-lying communities. Key examples were:

- **Independent supermarket outlet, Kempsey** - Quoted \$250,000 per year for insurance; suffered \$500,000-plus in uninsured losses and relied entirely on internal resources for recovery.
- **Residential property, Smithtown** - Maintained flood insurance at \$29,000 per year, a cost that remains unaffordable for most residents, illustrating the inequity in coverage accessibility.
- **Glenthorne community** - No surveyed residents had flood insurance. A quote of \$60,000 per year for one elevated home shows how prohibitive costs excluded most. Recovery relied heavily on community aid and limited relief support, delaying return to normalcy.
- **Notable exception** - Settlement Point Drive where several homeowners maintained affordable coverage at \$5,000 per year and built a flood-resilient home. This enabled minimal damage, quick recovery, and even helped encourage neighbouring uptake, demonstrating a model of practical, accessible preparedness.

Community resilience and spirit

In the face of delayed government assistance, local volunteer networks and informal community support were vital to flood recovery. Neighbours, families and local groups mobilised to clean, repair and provide essential resources, demonstrating the strength and importance of community-led resilience. Some community assistance examples included:

- Volunteer support networks, including neighbours, families, and local sports clubs, played a key role in clean-up and recovery across Taree, Kempsey, and Glenthorne.
- In the absence of timely government support, affected communities relied on collective action and mutual aid to restore housing, clean businesses and access to food and essentials.

Impacts on primary production and farming

Primary producers in Taree, Croki and Kempsey have experienced severe flood-related disruptions, including livestock, feed and infrastructure losses. Recovery is hindered by inaccessible roads and waterlogged paddocks. Financial impacts are expected to be significant but may take months to fully assess.

- Many affected producers are unlikely to be insured, heightening their financial vulnerability and prolonging recovery. In Kempsey, increasing numbers of farmers are seeking assistance.
- Damage includes crop loss and infrastructure impacts, while the aquaculture sector, particularly oyster farming along the Macleay, Hastings and Manning Rivers has suffered serious harm, with full impacts likely to emerge over time.
- Recovery across all areas is expected to be prolonged, with challenges compounded by environmental, logistical and economic pressures.



Increased reliance on social media and community networks

With declining trust in official warning systems, communities increasingly relied on social media and word-of-mouth for timely flood information. These informal channels often enabled faster, self-directed responses, particularly among local businesses and residents. Examples included:

- Social media platforms and word-of-mouth became primary sources of flood alerts, as many residents no longer trusted formal channels.
- In businesses such as a butcher shop (Wingham), flood alerts were received only through social media, prompting rapid self-managed responses.
- In Taree, the arcade manager reported having constant communication with other business owners and managers, reporting they made the evacuation call together.

Recent flooding experience enhances preparedness

Previous flood experience, such as the 2021 event, spurred improved preparedness and quicker recovery in some communities. However, areas without prior exposure were less prepared for the expanded impacts in 2025, underscoring evolving risk patterns and the urgent need to update hazard mapping and planning frameworks. Some examples included:

- The 2021 floods acted as a catalyst for improved preparedness in several communities, particularly Wingham and Port Macquarie, leading to faster recovery and reduced losses.
- By contrast, areas not impacted in 2021, such as Glenthorne, were unprepared for the expanded flood reach in 2025, highlighting shifting risk zones and the need for updated hazard mapping.

Institutional rigidity vs local flexibility

Large retailers such as major supermarkets struggled to adapt due to strict policies, leading to prolonged closures and extensive losses. Smaller businesses with informal, experience-based plans (for example, a shopping arcade's sole reopened store) showed greater flexibility and faster recovery.

Manning River catchment-Taree, Glenthorne, Wingham and Croki

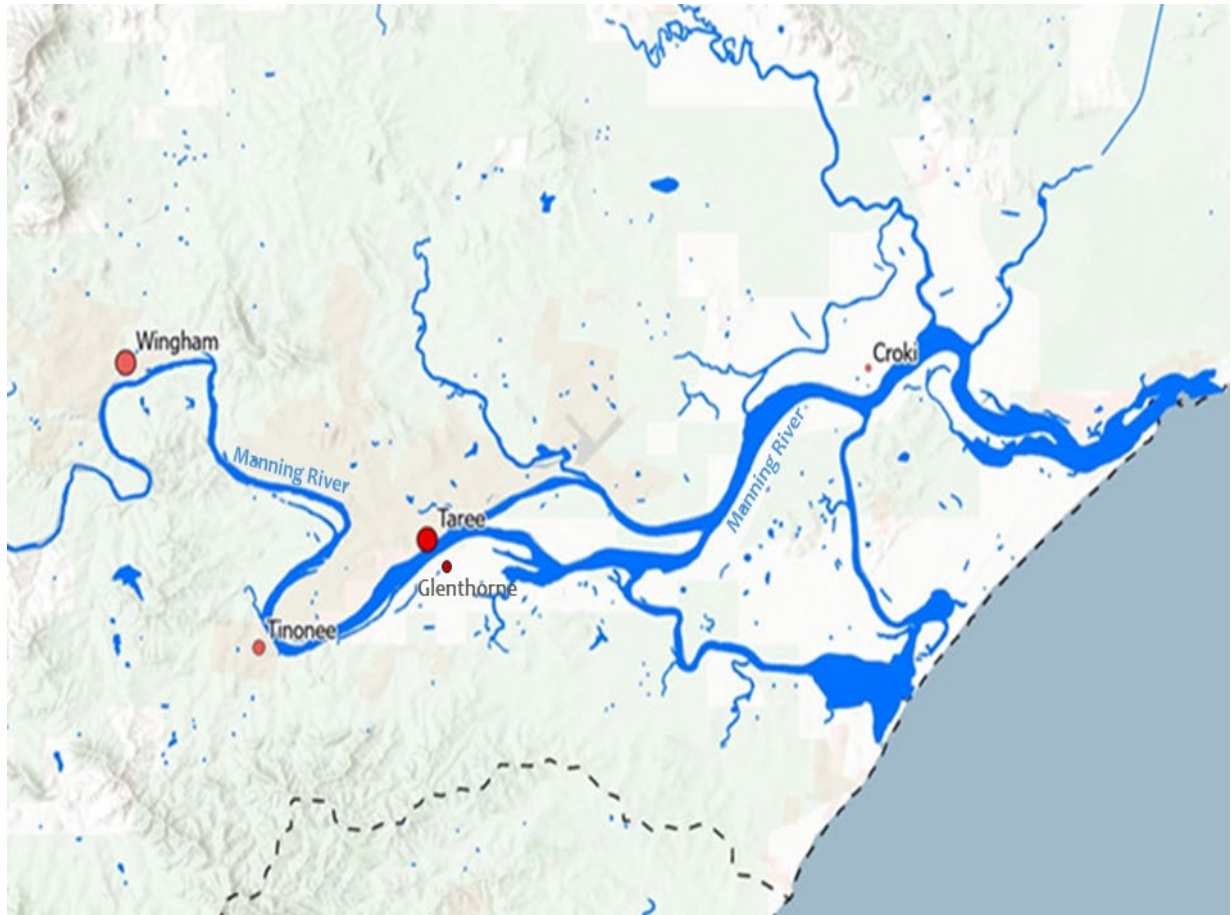


FIGURE 2 - THE MANNING RIVER CATCHMENT INCLUDING TAREE, GLENTHORNE, WINGHAM, TINONEE AND CROKI

Manning River catchment

Between 19 - 23 May 2025, the Manning River catchment, including Taree and surrounding areas, experienced a severe and record-breaking flood event (Figure 2). The Manning River at Taree peaked at 6.5 metres, exceeding the previous record set in 1929 by half a metre, and isolating thousands of residents.

Many Taree residents observed the unusually rapid rise and subsequent fall of the Manning River during the 2025 flood event, noting that the river rose much faster than during the 2021 flood. These accounts are supported by the flood hydrograph at Wingham, which shows a rise of over 13 metres between 12 pm on Monday 19 May 2025 and 12 pm on Wednesday 21 May 2025, highlighting the speed and intensity of the event upstream (Figure 3).

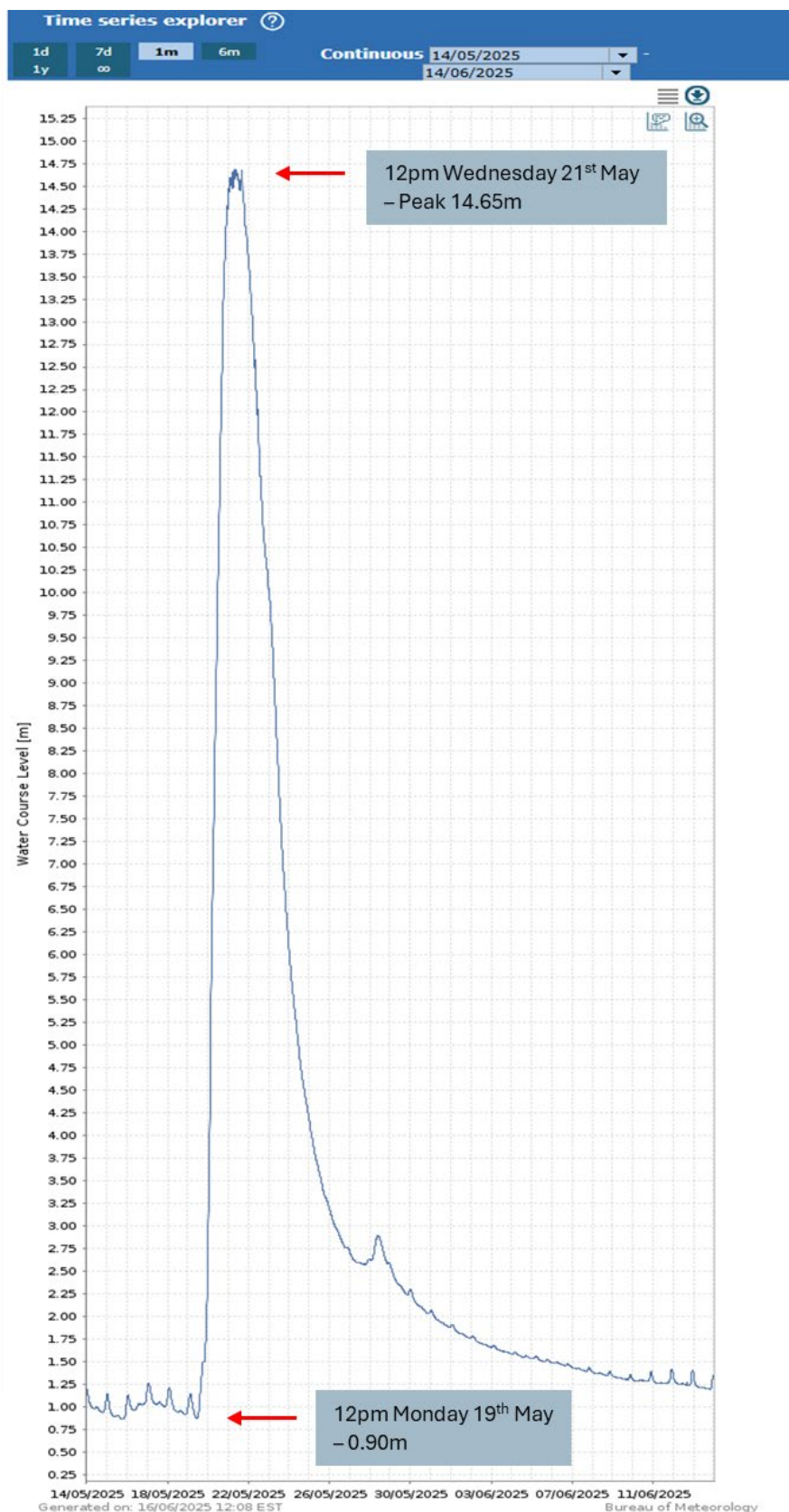


FIGURE 3 - THE MANNING RIVER FLOOD HYDROGRAPH AT WINGHAM ILLUSTRATES THE VERY RAPID WATER LEVEL RISE OF APPROXIMATELY 13 METRES OVER TWO DAYS, REFLECTING THE EXPERIENCE OF WIDELY REPORTED BY IMPACTED RESIDENTS IN DOWNSTREAM AREAS SUCH AS TAREE. (HYDROGRAPH SOURCE: BUREAU OF METEOROLOGY)



Areas impacted

Taree

- Severely affected by record-breaking river levels (6.5 metres), exceeding the 1929 flood record
- Widespread inundation of homes, businesses and infrastructure
- Thousands of residents isolated due to rising waters

Wingham

- Experienced extensive flooding due to extreme rainfall
- Impacts included submerged rural roads, farmland and residential areas
- Rainfall totals more than doubled previous monthly records

Glenthorne (Southern Bank of the Manning River)

- Almost all properties inundated, with only one elevated home escaping damage
- Significant residential impact due to low-lying location opposite Taree CBD

Manning Valley farmland and rural roads (Croki)

- Flooding across wide floodplains severely impacted low-lying farms and transport routes
- Massive stock losses and destruction of stock feed and farming equipment
- Restricted access delayed emergency response and rural recovery efforts

Taree Recovery Centre

The Taree Recovery Centre served as a central hub for flood-affected residents, providing critical support and information following the widespread flooding in the Mid Coast region. Over its first six days of operation, the centre recorded a total of 1,073 visits, with daily attendance ranging between 150 and 200 people. This figure includes some repeat registrations.

Primary needs identified

Residents accessing the recovery centre most presented with issues related to:

- financial insecurity
- housing displacement and emergency accommodation needs
- food insecurity
- broader social vulnerability, with many individuals coming from low socioeconomic backgrounds.

Housing impact

Damage assessments during this period revealed that 608 homes in Taree were deemed uninhabitable, the highest number reported among flood-affected local government areas (LGAs) across the Mid North Coast. This figure underscores the scale and severity of the disaster's impact on the local housing stock.



Rural recovery challenges

Efforts to initiate rural clean-up operations in the Taree and Croki areas by Local Land Services (LLS) have been delayed due to:

- clarity as to the number of properties impacted and the nature of assistance required as most farmers were still engaged in their own initial clean-up efforts, calculating losses of livestock and feed and assessing the damages to equipment, buildings and paddocks
- saturated paddocks impeding access by heavy machinery
- ongoing road closures, further limiting logistical capabilities.

These conditions have slowed the recovery process for agricultural areas and rural properties surrounding Taree.

Taree CBD - Northern bank walkway and park

The northern bank of the Manning River (Figure 4), within the Taree CBD, experienced severe flooding during the 2025 event, with water levels recorded at least 1.2 metres higher than those in the 2021 flood. This significant rise in flood height contributed to extensive environmental and infrastructure impacts.

- A major concern at the time of the post-flood survey was the extensive deposition of contaminated soil and silt along the riverbank. Over 400 millimetres of sediment, carried downstream, was deposited across grassed parklands and walkways burying vegetation and disrupting public open spaces.
- Cleanup crews were actively engaged in piling the soil for removal to salvage and restore the underlying grassed areas.
- The deposited sediment was classified as 'black water contaminated', containing waste from animal sources and likely sewage, resulting in a strong, rancid odour. Due to this classification, the material was earmarked for disposal in landfill, under environmental and health safety protocols.



FIGURE 4 - CLEAN-UP EFFORTS ARE ONGOING ALONG THE NORTHERN BANK PARK AND GRASSED WALKWAY OF THE MANNING RIVER IN TAREE'S CBD, WHERE CONTAMINATED SEDIMENT, EXCEEDING 400 MILLILITRES IN SOME AREAS, IS BEING PILED FOR DISPOSAL IN AN EFFORT TO PRESERVE THE UNDERLYING GRASS.



Club and hospitality venue (Riverside - Taree CBD)

A major club and hospitality venue on the northern bank of the Taree CBD was submerged by floodwaters exceeding past records, with the flood level rising over one metre higher than the 1978 and 2021 floods, underscoring the exceptional intensity of the 2025 event which rose to over one metre inside the first floor of the premises (Figure 5, (a) and (c)). The club's location on the banks of the Manning River presents significant flood risk and makes it ineligible for flood insurance. These further compound financial vulnerability during natural disasters.

- The flood was exacerbated by extreme rainfall conditions, with 630 millimetres falling in just four days, and 260 millimetres on Tuesday, 21 May alone, contributing to the rapid river rise and unmanageable flash flooding. Oversaturated soil conditions throughout the catchment meant water had nowhere to drain, amplifying the destructive impact and causing longer-term disruptions such as continued power outages at the time of this survey.
- The damage to the facility is extensive, with an estimated financial loss of at least \$1.5 million. This includes:
 - the complete loss of 37 poker machines (Figure 5(b))
 - destruction of a large industrial kitchen left in place under the assumption it was safe
 - loss of all tables, chairs, soft furnishings and partial damage to flooring, though carpets are being salvaged.
- Electricity outages and the saturation of infrastructure (for example, submerged mechanical systems and kitchen facilities) slowed down cleanup operations and complicated planning for reopening.

Informal flood planning

- The club's staff relied on an informal flood plan, drawn from lessons during the 2021 flood. This included elevating valuable items from the basement to ground level. The staff made significant effort to save stock and moved equipment proactively based on past flood experiences. This is a notable example of informal flood planning through institutional memory, even in the absence of formal flood response protocols
- The club commenced cleanup activities immediately following the flood, removing debris and conducting an inventory of all damaged items and placing orders for their replacement based on long delays in carrying out these activities in 2021. The club's staff were also attempting to dry out carpets using industrial fans
- The anticipated closure time is only three to four weeks; a significantly faster recovery compared to the 12-week closure after the 2021 floods. This reflects improved internal coordination, resilience of the business model and stronger post-disaster mobilisation capacity.



FIGURE 5 - CLOCKWISE FROM TOP) (A) THE CLUB AND HOSPITALITY VENUE ON THE NORTHERN BANK OF THE MANNING RIVER IN THE TAREE CBD (LOOKING AT THE GLENTHORNE BANK) SHOWING THE PEAK HEIGHT OF THE FLOOD ON (RED LINE ON EXTERIOR OF THE BUILDING) WEDNESDAY 21 MAY, (B) SOME OF THE 37 POKER MACHINES (VALUED AT \$1.37 MILLION IN LOSSES) THOUGHT TO BE SAFE OF THE FIRST FLOOR OF THE CLUB, (C) INTERNALLY, CLUB EMPLOYEES USING FANS, ATTEMPTING TO DRY THE CARPET TILES IN THE HOPE THEY MIGHT BE SALVAGED (RED LINE INDICATES THE FLOOD WATER HEIGHTS INSIDE)

Warnings

- Warnings of the floods' intensity and magnitude were untimely and vague, giving staff little opportunity to implement protective measures in full and as a result, most efforts to safeguard assets were ineffective.
- Club members reported a general loss of trust in official flood warning systems, citing failures in both the magnitude and speed of flood predictions during two major events in the past four years. Multiple individuals noted that, just before the rapid onset of flooding, official forecasts for the Taree CBD had indicated only minor flooding, leaving the community underprepared.
- Several people in Taree reported that they have broadened their network to receive flood information, noting that rain gauge information and observations from nearby farmers proved more accurate and timelier than official alerts, revealing a serious gap in emergency communication and highlighting the need to integrate local intelligence into formal systems.
- It was also reported that the club received no assistance from local or state authorities, with all recovery efforts relying solely on the organisation's resources and external private support. However, the business is receiving logistical and advisory assistance from Clubs NSW.
- Following the 2021 flood, club management had considered the feasibility of raising the building by one metre (based on their 2021 experience), which would not have been sufficient to keep flood

waters out of the first floor on the 2025 occasion (refer to Figure 6 - internal club flood water heights 1978 and 2021). Club employee reported that they are now considering exploring the feasibility of a two-metre rise to the building. This solution, though expensive, may be the only viable long-term protection against future flood events.

- Staff and management are treating the current situation as an opportunity to rethink resilience strategies and to strengthen their operational continuity plans with plans to elevate the facility indicate a commitment to long-term resilience and risk reduction.



FIGURE 6 - A STAFF MEMBER AT THE HOSPITALITY CLUB VENUE INDICATES THE APPROXIMATE PEAK OF THE 2025 FLOODWATERS ON THE FIRST-FLOOR BAR TAPS, OVER ONE METRE HIGHER THAN THE 2021 FLOOD LEVEL. VISIBLE ON THE BAR FRONT ARE PLAQUES MARKING PAST FLOOD HEIGHTS

Education campus (Taree CBD)

A major education campus, located on the northern bank of the Taree CBD, sustained significant damage during the 2025 flood. At the time, the ground floor housed three newly leased office areas occupied by the administrative arm of local health services, which were tenanted only seven weeks prior, alongside the campus's administrative and teaching facilities. Cleanup crews were in the midst of a two-week debris removal operation, ahead of a planned one-month refit targeting the first-floor offices and administration areas and lecture rooms.



Despite the severity of the flooding, much of the interior including gyprock walls, electronics, and soft furnishings were assessed as salvageable. Nonetheless, on-site management estimated a minimum of \$1 million in losses, with 30 truckloads of waste removed to landfill. The clean-up of the first floor was still in progress at the time of the survey (Figure 7(a)).

The rapid rise of the Manning River was a critical factor in the inability to safeguard assets. The nearby park saw at least 400 millimetres of sediment deposited. The building experienced inundation to a depth of approximately 1.2 metres (on the administration level) and is now undergoing moisture testing to assess structural and health safety for rehabilitation. Water levels on the basement level (at river level) exceeded 2 metres (Figure 7(b)).



FIGURE 7 - FROM L- R: (A) CLEAN-UP CREWS CONTINUE STRIP OUT OF THE ENTIRE FIRST FLOOR OF THE EDUCATION CAMPUS. (B) VEHICLE ABANDONED IN THE QUICKLY RISING FLOOD WATER WHICH REACHED APPROXIMATELY 3 METRES IN THESE LOCATIONS (RED LINE) IN THE CAR PARK OF THE CAMPUS ADJACENT TO THE MANNING RIVER (LEFT) AND CBD (RIGHT)

This case underscores the need for rapid impact forecasting and asset protection protocols, especially in shared service buildings. The experience also emphasises the vulnerability of newly occupied premises without tailored flood resilience plans.

Glenthorne (Southern bank of Manning River to Taree CBD)

Glenthorne on the southern bank of the Manning Rivers (opposite the Taree CBD) was severely impacted. All but one home in the Glenthorne suburb, in an elevated position, experienced some degree of flooding.

Residents reported rapidly rising floodwaters exceeding one metre, with strong currents carrying large debris Figure (8 (c)).

- Significant structural damage was observed, including wall collapses caused by floating debris such as logs and hay bales (Figure 8 (a)). Vehicles were swept from the roadways into nearby paddocks, fences collapsed, and hundreds of hay bales were scattered across the landscape (Figure 8 (b)), many torn apart by barbed wire fences or wedged against roadside barriers.
- Reports from impacted residents described delayed official evacuation notices, with some receiving alerts only after floodwaters had already rendered roads impassable. In some cases, emergency evacuations required window escapes into boats, highlighting critical gaps in early warning and response systems. Residents reported feeling terrified at the speed and height of the water which exceeded the gates and fences of paddocks (Figure 8 (d)).



- Some residents were reluctant to evacuate due to a lack of clear information about evacuation destinations, pet accommodation and overall evacuation logistics, revealing critical gaps in community readiness and public communication.
- Many households reported total losses, including homes that had remained unaffected during the 2021 flood. No residents spoken to reported having flood insurance, with only resident (from the undamaged home belonging to his parents) reporting that they had been quoted \$60,000 per year for flood insurance in the Glenthorne area.



FIGURE 8 - GLENTHORNE ON THE OPPOSITE (SOUTHERN) BANK OF THE MANNING RIVER FROM THE TAREE CBD WHERE VAST AMOUNTS OF VEGETATION, MOTOR VEHICLES AND FARMING DEBRIS WERE DEPOSITED. (CLOCKWISE FROM TOP LEFT) (A) WALL COLLAPSED FROM THE FORCE OF WATER AND DEBRIS (NOTE LOGS DEPOSITED INSIDE GROUND FLOOR) (B) FENCE TORN DOWN, VEHICLES WASHED INTO PADDOCKS AND HUNDREDS OF ROUND HAY BALES STREWN ACROSS THE LANDSCAPE, (C & D) HUGE LOGS AND GRASS DEBRIS ALONG ROADWAY AND AMASSED IN FENCING AND GATES AS AN INDICATION OF WATER HEIGHT AND FORCE

- The 2025 event demonstrated a dramatic increase in flood reach and severity, turning previously unaffected areas into high-risk zones.
- Recovery efforts have relied heavily on assistance from family, neighbours and community volunteers, with limited formal support. Some residents reported receiving only modest aid, such as small-value vouchers, from relief agencies.
- There is growing anxiety within the community about local government planning decisions, particularly regarding proposed developments on nearby floodplains, which residents fear may exacerbate future flood risks.



Shopping arcade flood impact-Taree CBD

During the 2025 flood event, one shopping arcade experienced significant inundation, with water levels reaching 2.2 metres. Of the nine businesses located within the arcade, only one remained operational in the lead-up to the flood.

- A staff member of the sole operating business (a sports supplement outlet) reported that they received approximately half a day's notice to relocate stock and closed by 5:20pm, based largely on self-monitored river gauge readings, as formal evacuation warnings were reportedly inconsistent and shared via word of mouth.
- Despite preparing stock, by relocating it to the 2021 flood height level, the higher 2025 flood level led to the loss of approximately 70% of inventory and structural damage, including smashed front windows. However, the business reopened within five days, selling stock at half price with a warning to customers to inspect items for contamination. The owner attributed their relative preparedness to lessons learned during the 2021 flood
- The arcade business manager estimated that approximately 100 businesses in the broader area were evacuated, with eight of nine tenants in the arcade deciding not to renew their leases following the 2025 flood. Most of these businesses employed two to three staff, suggesting a notable impact on local employment and economic activity. The manager highlighted the need for more reliable and timely flood gauge data, citing its critical role in decision-making during emergencies.

Wingham

The Bight

The Bight Bridge at Wingham sustained extensive damage, with over half of the structure washed away, resulting in significant disruption to travel and connectivity between Tinonee and Wingham (Figure 9). In addition to the bridge failure, the surrounding area exhibited severe riverbank erosion, providing stark visual evidence of the height and velocity of the floodwaters at this location.

- Mid Coast Council's website has confirmed that the bridge will receive at minimum a like-for-like replacement, funded through the Natural Disaster Recovery Arrangements. Restoration efforts will focus on re-establishing this vital transport link as part of the broader regional recovery².

² Mid Coast Council website - Clarity on Bight Bridge damage <https://www.midcoast.nsw.gov.au/Your-Council/Our-news/News-releases/Clarity-on-Bight-Bridge-damage%20> (27 May 2025)



FIGURE 9 - THE BIGHT BRIDGE LINKING WINGHAM WITH TINONEE REMAINS OUT AND IS PLANNED FOR REPLACEMENT. NOTE THE SIGNIFICANT BANK EROSION ON THE FAR BANK

Wingham Brush Nature Reserve

The Wingham Brush Nature Reserve, located adjacent to the public school, experienced extreme flash flooding.

- A large volume of water surged through the reserve, destroying minor infrastructure and depositing debris including trees, vegetation, water tanks and roofing materials.
- Of particular note was the destruction of a recently upgraded riverside recreational area and campsite, including its buildings, highlighting the risk to riverside assets and the need for future land-use planning and hazard zoning.

Bottle shop/liquor store (Wingham CBD)

One bottle shop/liquor store stands out as a model of community-level resilience. Despite the 2025 flood reaching higher levels than in 2021 (as verified by flood markers and a 2021 post-event survey by Risk Frontiers (Figure 10(b)), the business suffered no losses.

- Severely affected in the 2021 flood, where an estimated \$1 million in uninsured stock was lost, the owners applied those hard-learned lessons in 2025. This was due to:
 - pre-emptive stock evacuation on 20 May, using a Pantech truck to move goods to a safe off-site location
 - structural modifications made after 2021, including removal of soft furnishings, plasterboard, and carpet tiles and redesigning the interior using flood-resilient materials (e.g., concrete floors and removable wine box shelving (Figure 10(a)).
- All refrigeration units were inspected and survived, allowing the store to reopen within a week. The manager credited their preparedness mindset and noted that official warnings underestimating the flood's speed and magnitude as a validation of their decision to act independently.



- This example reflects a shift in flood risk perception and showcases how informal, locally driven flood planning, especially in Taree, Wingham and Port Macquarie has matured due to prior exposure in 2021. By contrast, similar adaptive behaviours were less evident in Kempsey, which did not experience major flooding during that earlier event.

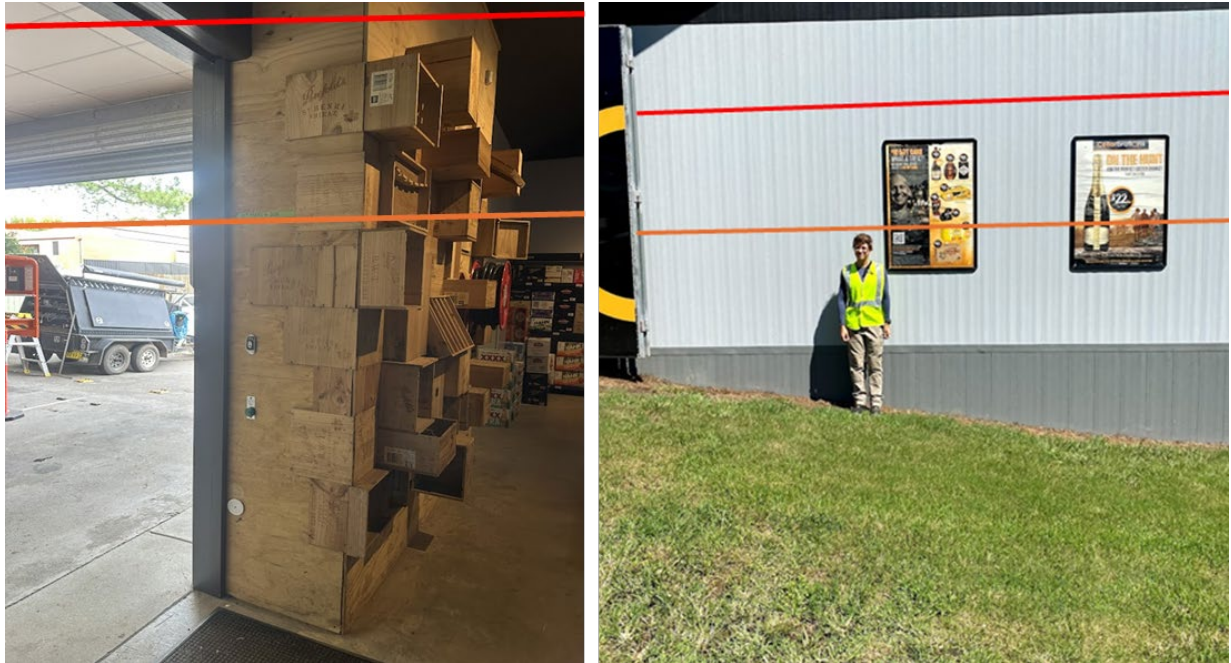


FIGURE 10 - THE BOTTLE SHOP IN WINGHAM WITH CONCRETE FLOOR AND REMOVABLE WINE BOX SHELVEING. ORANGE AND RED LINES INDICATE THE 2021 AND 2025 PEAK FLOOD HEIGHTS RESPECTIVELY BOTH INTERNALLY (LEFT) AND (EXTERNALLY) ON IMAGE TAKEN DURING THE 2021 DAMAGE SURVEY. DESPITE THE SIGNIFICANT DIFFERENCES IN FLOOD MAGNITUDE, INCREASED PREPAREDNESS BY THE OUTLETS OWNERS ENSURED THAT NO STOCK WAS LOST IN 2025 COMPARED TO OVER \$1 MILLION IN LOSSES IN 2021.

Major supermarket outlet (Wingham CBD)

In stark contrast to the Wingham bottle shop, a major supermarket outlet in Wingham was heavily affected and remains closed indefinitely for a full-scale refit. Unlike in 2021 when the store avoided damage, the 2025 event saw significant inundation estimated to be 50 centimetres on the shopping floor.

- Corporate policy dictated that all stock including sealed products and cleaning supplies be condemned due to contamination risk from black water and proximity to rotting perishables. Even fridges and freezers, regardless of functionality, were deemed unsalvageable due to their contact with flood waters.
- More than 40 skip bins of contaminated stock were removed, highlighting the hygiene and liability challenges faced by major retailers. Staff described the store as “rancid” upon re-entry several days after due to the smell of decaying meat in fridge units and fruit and vegetables lying in residual flood waters.
- There was no apparent flood plan in place and upon speaking with on-site workers, the feasibility of moving such a large volume of stock with short notice was unrealistic.
- The inability to attempt to secure off-site storage for salvaged goods and the extreme risk aversion policies demonstrate the limits of resilience when corporate protocols lack adaptability.
- These contrasting responses and impacts of Wingham businesses (a bottle shop and a major supermarket) illustrate the gap between formal, policy-driven responses and community-based resilience. While smaller businesses have implemented flexible, experience-informed strategies, large-scale retailers may face rigid constraints that hinder rapid recovery.



- Members of the local community expressed concern that the ongoing closure and the uncertainty surrounding the reopening of the supermarket, which is the only major grocery store in Wingham, is causing significant disruption. Residents are now largely dependent on receiving bulk grocery deliveries from Taree, a situation that is expected to persist for the foreseeable future.

Butcher shop (same shopping complex as major supermarket)

The business was closed for four days due to flooding but was notably the first in the area to resume operations, demonstrating a high level of resilience and preparedness.

- Water levels remained below one metre, allowing the business to avoid structural damage and stock loss. A missed meat delivery on the day of the flood prevented potential product spoilage.
- As the store regularly operates in a wet environment, clean-up was quick and manageable, enabling a swift return to trade.
- The business received no formal assistance during or after the flood.
- Flood warnings were sourced through social media, with the owner stating they do not rely on NSW SES or BoM alerts, reflecting a broader lack of trust in official warning mechanisms within the local business community.

Croki

Croki area, a small rural community north of Taree, was severely impacted by the May 2025 floods, experiencing record-breaking inundation that submerged homes in the village and, farmland, and local infrastructure (Figure 11).

Key Impacts

- Unprecedented flood levels - Residents described water heights as three times higher than any previously experienced, resulting in widespread damage to homes and properties.
- Agricultural losses - Dairy farms were hit particularly hard, with livestock stranded, pastures submerged and extensive damage to land and equipment. Farmers reported substantial financial losses due to destroyed crops and infrastructure.
- Infrastructure disruption - The area suffered from power outages caused by fallen trees, debris and flood-damaged electrical systems. Roads remained impassable during the field survey due to ongoing debris and mud clean-up.

Community response - Despite the severity of the event, the local community and emergency services mobilised quickly.

- Grassroots support efforts, such as those led by FARM ANGELS on Instagram, provided vital aid and relief to affected residents, demonstrating strong community resilience and cooperation.



FIGURE 11 - THE VILLAGE OF CROKI (L) CATTLE SHELTERING ON HIGHER GROUND AND IMAGE (R) THE TOWNSHIP OF CROKI WAS ALSO SEVERELY IMPACTED WITH MANY HOMES INUNDATED. IMAGE SOURCES: (L) ABC NEWS (R) BASTILLE POST GLOBAL⁴

The Hastings River catchment - Port Macquarie and Wauchope

The Hastings River catchment experienced significant flooding in 2025 due to intense and sustained rainfall across the Mid North Coast region of New South Wales (Figure 12). While the overall severity was less than the 2021 flood event, the impacts were still considerable across key locations, disrupting transport, inundating homes, and prompting evacuation warnings.

Areas impacted

Port Macquarie

- The Settlement Point Drive area, adjacent to the Hastings River, experienced inundation, with several homes affected by floodwaters.
- Both the Hibbard Point Ferry and Settlement Point Ferry were rendered inoperable, leaving the North Shore of Port Macquarie isolated for several days.

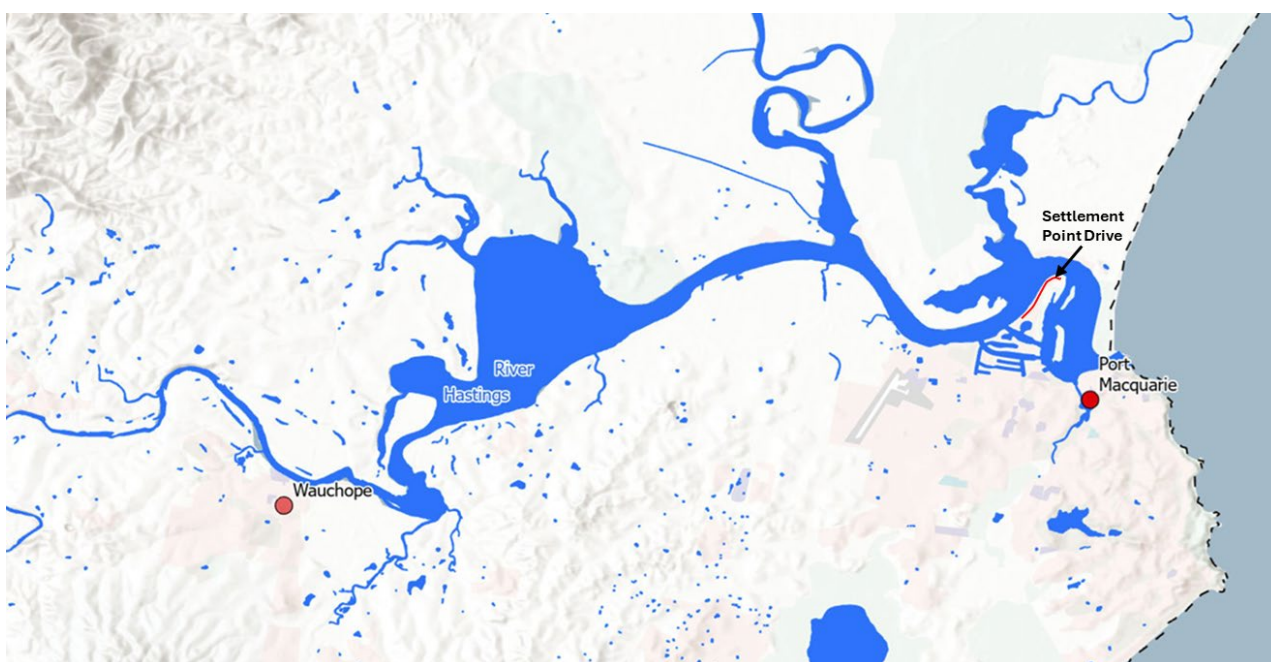


FIGURE 12 - THE HASTINGS RIVER CATCHMENT INCLUDING WAUCHOPE AND PORT MACQUARIE (SHOWING SETTLEMENT POINT DRIVE)

Wauchope

- The Hastings River at Wauchope Railway Bridge exceeded the major flood level of 6.82 metres, as reported by the Port Macquarie-Hastings Council.
- Evacuation warnings were issued, and several parts of the town were impacted, particularly in low-lying areas.



Port Macquarie, Settlement Point Drive

During the 2025 flood event, Settlement Point Drive in Port Macquarie was once again inundated, though to a lesser extent than in 2021. Water levels were approximately 250 millimetres lower than during the previous major flood, resulting in reduced physical damage but still significant disruption.

- Impacted residents reported drawing lessons from the 2021 event, including monitoring local flood indicators such as river gauges and bridge inundations in the upper catchment, which they now use to anticipate local flood impacts more effectively.
- Residents have implemented both temporary and permanent protective upgrades, such as elevated concrete slabs and applied both permanent reinforcements (e.g. steel posts with concrete footings) and temporary (e.g. timber support struts) to fencing, to mitigate their destruction (Figures 13(a) and (b)).
- The 2025 event reflects a broader cultural shift toward individual preparedness, with growing acceptance of personal responsibility in managing flood risks among the local community.



FIGURE 13 - EXPERIENCE WITH FLOODING IN 2021, THESE RESIDENTS ON SETTLEMENT POINT DRIVE IN PORT MACQUARIE HAVE INCREASED THEIR OWN PERSONAL RESILIENCE BY MAKING PREPARATIONS TO PROTECT PERSONAL PROPERTY. (IMAGE ON LEFT) - SHOWS A NEWLY CONSTRUCTED ELEVATED CONCRETE SLAB AND NEW MOTORHOME WHICH AVOIDED INUNDATION ON THIS OCCASION. (IMAGE ON RIGHT)-AFTER LOSING FENCES IN 2021, THIS RESIDENT HAS REINFORCED FENCES WITH TEMPORARY TIMBER BRACING AND GALVANISED STEEL POLES WITH CONCRETE FOOTINGS (IMAGE TAKEN FACING AWAY FROM RIVER)

- Residents also praised the timely and coordinated clean-up efforts led by the local council (Port Macquarie-Hastings Council), contrasting sharply with perceptions of unpreparedness in 2021. The deployment of street sweepers and rubbish removal teams, and traffic control of sightseers was seen as a significant improvement.
- As in 2021, floodwaters disrupted the Settlement Point Ferry and ruptured the Hibbard Point ferry cables, stranding the ferry on the opposite bank and disrupting cross-river travel for about a week, again highlighting the vulnerability of transport infrastructure in the area.
- One resident reported consistently securing flood insurance over a nine-year period, currently at a cost of approximately \$5,000 per year with Shannon's (underwritten by Suncorp). Following major impacts in 2021, they were able to file claims promptly and noted a timely response from the Suncorp insurance assessor. The house is constructed from concrete and raised, allowing water to pass through the ground (garage) level whilst the living areas are situated on the first floor (Figure 14).



FIGURE 14 - ONE OF ONLY SEVERAL HOUSES ON SETTLEMENT POINT DRIVE, PORT MACQUARIE WITH FLOOD INSURANCE COSTING ABOUT \$5000 PER YEAR. MOST HOUSES ON THE STREET ARE RAISED ON PIERS WITH LIVING AREAS LOCATED ON FIRST FLOOR AND GROUND FLOOR IS LARGELY A CONCRETE SHELL / GARAGE / STORAGE THAT ALLOWS WATERS TO PASS THROUGH

- This individual also referred neighbours to the same insurer, believing that several others were subsequently able to obtain coverage, indicating a growing awareness and uptake of private risk transfer options in the area.

Wauchope Railway Bridge and boat pontoon ramp

West of Port Macquarie, Wauchope experienced intense and prolonged rainfall. The event caused significant riverine flooding along the Hastings River, leading to disruptions in residential areas, road networks and critical infrastructure.

- At the Wauchope Railway Bridge, the Hastings River rose well above the major flood level of 5.50 metres, reaching 6.82 metres and potentially approaching seven metres at the peak of the event, as reported by Port Macquarie-Hastings Council (Figure 15). These levels significantly exceeded major flood thresholds and triggered emergency response measures.
- The flood particularly impacted low-lying areas adjacent to the Hastings River also experienced inundation. Flooding led to widespread road closures throughout Wauchope and surrounding low-lying areas, restricting movement and emergency access. Additionally, infrastructure such as beach areas at a nearby boat ramp at Rocks Ferry reserve were affected by bank erosion and flood damage including the total removal of the boating pontoon and ramp (Figures 16 (a) and (b)).



FIGURE 16 - THE RAILWAY BRIDGE AT WAUCHOPE SHOWING FLOOD HEIGHT (AS APPROXIMATED BY LOCAL RESIDENT)



FIGURE 15 - FROM L-R, (L) THE BOAT RAMP AND PONTOON IN SITU AT THE ROCKS FERRY RESERVE PRIOR TO THE 2025 FLOOD (R) THE PONTOON AND RAMP WASHED AWAY

Macleay River catchment-Kempsey

The Macleay River catchment experienced minor to moderate flooding in March and May 2025, following periods of heavy rainfall across the region (Figure 17). The Bureau of Meteorology issued flood warnings as river levels rose at key locations, including Smithtown and Kempsey.

Impacted areas

- Kempsey CBD and surrounding areas experienced direct inundation, with businesses in West Kempsey forced to close indefinitely due to flood damage and access issues.
- Smithtown was also heavily affected by rising waters.
- Sherwood's Bridge recorded extreme flood levels, highlighting the intensity of the event at specific locations within the catchment.

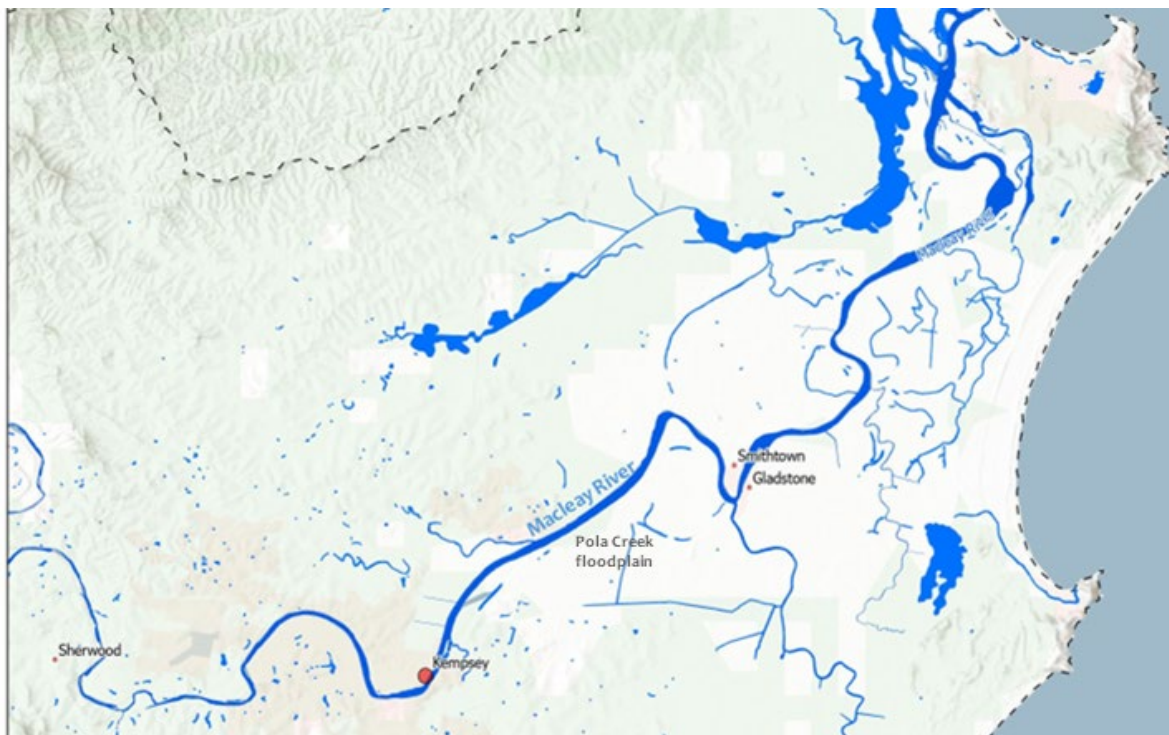


FIGURE 17 - THE MACLEAY RIVER CATCHMENT WITH AREAS MOST IMPACTED IN THE MAY 2025 FLOODING

Kempsey Recovery Centre

The Kempsey Recovery Centre was established at the Kempsey Showground on 28 May 2025, to assist residents affected by the severe flooding across the Macleay Valley. The centre quickly became a focal point for recovery efforts, consistently recording well over 100 visits per day throughout its operation. This steady attendance highlights the significant level of community need and engagement, with some repeat registrations included in the count.

Primary needs identified

As in Taree, residents accessing the Kempsey Recovery Centre most commonly presented with concerns related to:

- financial insecurity



- housing displacement and emergency accommodation needs
- food insecurity
- broader social vulnerability, with many individuals coming from low socioeconomic backgrounds.

Housing impact

Assessments of flood-impacted homes in the Kempsey area are still ongoing. While final figures are not yet available, it is anticipated that the number of homes deemed uninhabitable will be lower than in Taree, where 608 homes were classified as such. Nonetheless, the local housing impact remains a significant concern for recovery operations.

Rural recovery challenges

The Kempsey Recovery Centre has recently seen a growing number of primary producers seeking support. These individuals are requesting financial assistance and guidance on:

- farm clean-up operations
- disposal of destroyed or contaminated property.

In addition, severe impacts to the aquaculture sector have emerged, particularly to oyster leases along the Macleay River. The full extent of damage to primary production is expected to remain unclear for months due to:

- the delayed visibility of cumulative losses across farms and aquaculture operations
- the complexity of damage assessments in river-based industries.

These evolving conditions point to a prolonged recovery timeline for both agricultural producers and aquaculture operators in the Kempsey region.

Kempsey CBD

Kempsey experienced major flooding on Saturday 24 May 2025, when the Macleay River breached the town's levee. At its peak, the river level at the Kempsey gauge fell below 4.50 metres AHD at 9 pm, continuing to drop thereafter. Simultaneously, flood levels at Smithtown fell below the minor flood threshold. Despite this, floodwaters caused extensive inundation in the CBD, with widespread economic and structural impacts.

- An estimated 50 businesses in the Kempsey CBD were affected, many with extended closures and significant damage with many businesses reporting limited or delayed official warnings. Some areas of the CBD where the most impacted businesses are located saw inundation of nearly 2 metres (Figure 18).
- Most affected businesses employed two to three staff, indicating a meaningful impact on local employment and economic activity.
- The lack of affordable insurance and formal recovery coordination places long-term viability at risk, particularly for independent retailers and small and medium enterprises.
- Community support and informal recovery networks particularly neighbours, volunteers, and local sporting teams played a critical role in the immediate aftermath.
- Confusion about evacuation authority and timing, particularly from NSW SES personnel, impacted decision-making and led to premature closures or missed preparation opportunities.
- Flood insurance coverage was almost universally absent among small businesses due to high premiums and lack of accessible options, leaving many exposed to unrecoverable financial losses.



Businesses impacted

Independent supermarket outlet

- One of the most severely affected businesses in the CBD, a large independent supermarket experienced floodwater up to one metre deep within the store.
- Recovery efforts involved four rounds of thorough cleaning and sanitisation, with staff working around the clock to prepare for reopening.
- The store reopened on Wednesday 4 June 2025, nearly two weeks after the flood.
- The owner reported:
 - stock losses exceeding \$400,000
 - freezer equipment damage worth \$100,000, currently undergoing repair.
- The supermarket had no flood insurance, as premiums were unaffordable quoted at \$250,000 per year.
- No formal council safety checks were conducted prior to reopening, and unlike larger retailers (e.g., a major supermarket in Wingham), this independent supermarket was not subject to mandatory stock disposal policies. Store operators bore full responsibility for ensuring product safety.



FIGURE 18: FLOOD LEVELS JUST BELOW 2 METRES IN THE KEMPSEY CBD FROM THE FLOODED MACLEAY RIVER CATCHMENT WHICH PEAKED ON SATURDAY 2 MAY

Pool and spa retailer

- This business, employing 19 staff, reported flooding to a depth of 1.2 metres inside the store. This store was closed for over a week.
- Losses exceeded \$150,000, including expensive floor stock valued at up to \$15,000 per unit. The store does not have flood insurance.
- The owner, who was away during the event, expressed extreme frustration at the NSW SES response, stating that:
 - an inexperienced staff member was instructed by NSW SES to evacuate immediately on Friday 23 May 2025
 - the premature evacuation occurred 24 hours before flooding, leaving no time to move or protect valuable inventory.



- The store had a mezzanine level that could have been used to safeguard stock. Further, spas displayed on the floor of the store were also flooded and could have been safely removed to a safe location off-site had a realistic warning been provided.
- Despite this, the owner commended the local community, including the local football team and council water services manager, for helping the store reopen swiftly.

Vacuum and cleaning supplies store

- Designed with flood resilience in mind, the store had:
 - stainless steel, modular shelving
 - a layout enabling rapid disassembly and cleaning.
- Despite 1.2 metres of floodwater, the business was structurally prepared.
- Water levels were reported to be around 30 centimetres lower than in the 2021 event.
- The store has not yet reopened physically due to ongoing drying of brickwork but continues to operate online.
- Owners reported frustration that no sandbags were distributed to their rear-facing location, even though the main street unaffected by flooding received priority.
- They also offered flood-readiness advice to a new business across the street, which was ignored. That neighbouring business suffered avoidable losses due to the use of non-flood-resistant fittings and carpets.

West Kempsey

West Kempsey, part of the Kempsey CBD, experienced severe flooding, with floodwaters exceeding two metres in some areas. The extent of inundation has led to widespread business closures, with several premises appearing to be out of operation indefinitely.

- Numerous businesses in the area remain closed due to extensive water damage. Many have not yet commenced clean-up or recovery efforts.
- An abandoned service station (Figure 19) remains cordoned off, with damaged fridges and freezers placed outside, awaiting removal near fuel bowsers.
- The shop interior has been completely stripped of all shelving and stock, indicating potential long-term closure.
- The motel next door to the service station was also severely inundated, with no signs of activity or management presence during the flood assessment.
- Water levels in the area suggest the business has likely ceased operations indefinitely.



FIGURE 18 - A SERVICE STATION IN WEST KEMPSEY REMAINS CLOSED WITH THE REMNANTS OF FUEL BOWSERS, FRIDGES AND FREEZERS DESTROYED IN THE FLOOD BEHIND TAPE. FLOOD LEVEL AT THIS LOCATION WAS > 2 METRES

Smithtown and Pacific Highway (near Pola Creek)

Extensive flooding across vast swaths of floodplain between Kempsey and the coast caused significant disruption to mobility through road closures preventing access to many communities to the east toward to coast such as South West Rocks, Hat Head and the small townships of Smithtown and Gladstone (Figure 20).

- Extensive flooding across the floodplains in the Pola Creek area, located beneath the elevated Pacific Highway, resulted in widespread property impacts. Many affected farmers are only now seeking assistance at local recovery centres, having prioritised initial clean-up efforts in the immediate aftermath of the event.



FIGURE 19 - POLA CREEK AREA BETWEEN KEMPSEY AND SMITHTOWN: (LEFT IMAGE-TAKEN BY PERSON KNOWN TO SURVEY TEAM) - TAKEN ON 24 MAY FROM THE ELEVATED SECTION OF THE PACIFIC HIGHWAY, SHOWS THE EXTENSIVE FLOODING ACROSS THE FLOODPLAIN BELOW, LOOKING IN THE DIRECTION OF KEMPSEY.(RIGHT) - THE SAME APPROXIMATE CAPTURED ON 4 JUNE FROM THE FLOODPLAIN ITSELF ON SOUTH WEST ROCKS ROAD, BENEATH THE PACIFIC HIGHWAY, DURING A SITE VISIT BY THE SURVEY TEAM.

- Smithtown (Figure 17), located on the Macleay River floodplain, experienced severe flooding during the event, with widespread property damage and significant water inundation across the township.

The area was impacted far more severely than Gladstone, located on the opposite bank, due to Smithtown's lower elevation and greater exposure to overland flow.

- A majority of properties in Smithtown were affected by flooding, with several homes rendered uninhabitable. In Rawson Street, floodwaters reached depths of up to 1.4 m (Figure 21), highlighting the scale of inundation within residential zones.
- Extensive debris fields and sediment deposition were observed across paddocks downstream of the township, indicating the high velocity and force of floodwaters moving through the area.
- While Gladstone, on the opposite riverbank, experienced some flooding, its slightly higher elevation shielded it from the worst impacts faced by Smithtown.
- Residents expressed frustration about river management, with calls for council-led dredging to address debris accumulation and poor water quality during flood events.
- One resident, whose home was built to council-mandated elevated standards one metre above ground level, reported that even this precaution was insufficient to prevent damage during the 2025 event.
- Flood insurance remains a critical but costly necessity in Smithtown. One homeowner reported maintaining NRMA flood insurance at a cost of \$29,000 per year, underscoring the inaccessibility of flood insurance when living in high-risk flood zones if unable to afford it.



FIGURE 20 - RAWSON STREET AT SMITHTOWN SHOWING ABANDONED HOMES AND APPROXIMATE FLOOD HEIGHT OF 1400 MM (RED LINE) DETERMINED FROM FOOTBALL FIELD FENCE DEBRIS AND FLOOD WATER LINES ON HOMES