

TITLE: [E-CM] March 2017 Flood

SUBMITTED BY: Roads and Stormwater

Validms



Supporting Community Life

LINKAGE TO INTEGRATED PLANNING AND REPORTING FRAMEWORK:

- 2 Supporting Community Life
 - 2.3 Provide well serviced neighbourhoods
 - 2.3.5 Ensure adequate stormwater drainage, flood management and evacuation systems are in place to protect people and property from flooding
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SUMMARY OF REPORT:

This report is provided for the information of Council and the Community, summarising the events of the March 2017 flooding, its impacts and its repercussions for Council operations.

The report acknowledges the widespread and severe impacts of the flood on the broader community, but concentrates on damage to public assets and impacts on services.

RECOMMENDATION:

That Council receives and notes the March 2017 Flood report.

REPORT:

The Event

In late March 2017 Tropical Cyclone Debbie formed in the Coral Sea off North Queensland. On 28 March it crossed the Queensland Coast north of Mackay as a Category 4 system. Debbie weakened into a tropical low and turned south, causing widespread rainfall and flooding across Central and South East Queensland. Ex-Tropical Cyclone Debbie began to impact on the Northern Rivers early on the morning of Thursday 30 March, with heavy rain across the Tweed Valley.

Initial flood watches and warnings were issued by the Bureau of Meteorology (BoM) from Tuesday 28 March, indicating a high probability of moderate flooding at Murwillumbah and minor flooding at Chinderah. Initial forecasts suggested the Tweed Valley might receive 350mm over 30-31 March.

The Tweed Valley had received considerable rainfall only two weeks prior – many stations upstream of Murwillumbah recorded over 200mm on 15-16 March. This provided a heavily charged catchment with little or no available storage across the catchment to offset rainfall runoff.

Ex-Tropical Cyclone Debbie resulted in widespread and sustained heavy rainfall across the Rous, Oxley and Tweed Rivers throughout Thursday 30 March. Rainfall intensities peaked in the period between 11pm Thursday night and 2am Friday morning, after which the rainfall largely ceased.

The rainfall caused record peaks at many river gauges, including Uki, Chillingham, Murwillumbah and Tumbulgum. While there are localised variations, the intensity of the flooding in these areas was generally a 1% AEP (average exceedance probability) or 100 year ARI (average recurrence interval) flood, exceeding the previous 1954 benchmarks at Murwillumbah. Fortunately rainfall on the coastal catchments was generally moderate, and the system did not result in any appreciable storm surge or king tides. As such, the Lower Tweed and most Coastal Villages escaped significant flooding. The exceptions were the Burringbar and Crabbes Creek catchments which were badly flooded by intense rainfall on Thursday night, impacting the villages of Burringbar, Mooball, Crabbes Creek and Wooyung. Chinderah also experienced moderate flooding (a magnitude estimated at 30 year ARI), as the flood peak dissipated.

A summary of 24 hour rainfall totals, based on gauge averages, is provided in Figure 1 below.

Tweed Shire was declared a Natural Disaster Area by the Government on 31 March 2017.

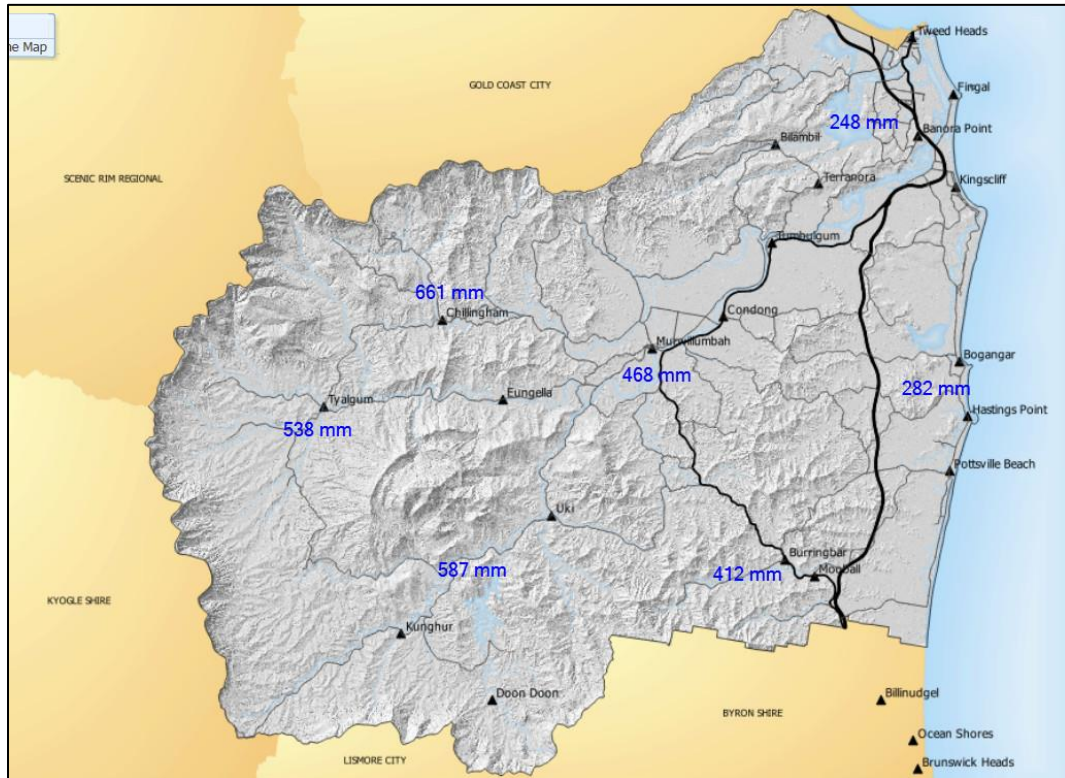


Figure 1 – 24 hour rainfall summary (local gauge averages) 30-31 March 2017

Event Observations

It is readily apparent that the weather event that caused such significant flooding was unpredictable and extreme. At midday on Thursday, despite heavy rainfall as the main weather system approached, flood warnings were still for moderate flooding in Murwillumbah. However by late afternoon the major flood level of 4.8m was exceeded in Murwillumbah, with water entering South Murwillumbah across Alma Street and then South Murwillumbah Levee. While this can occur in relatively small flood events (the levee provides approximately 20% AEP or 5 year ARI protection), the rapid escalation of warnings on Thursday afternoon left many residents and business owners unprepared.

The rate of rise across the upper catchments was rapid, and quickly cut main roads and bridges from Thursday morning. The flood peaks then moved quickly down the valley. River level hydrographs are provided for key gauges below, including comparisons of recent flood events, and where available, modelled peak levels from flood studies. The rapid rise of the flood is notable, as is the final peak due to the last burst of rainfall. Chillingham gauge has not been included as there were data errors in the gauge readings. Tumbulgum gauge also experienced data issues around the peak, but this has been corrected on the hydrograph below. A review of gauge performance is being conducted by the Office of Environment and Heritage (OEH).

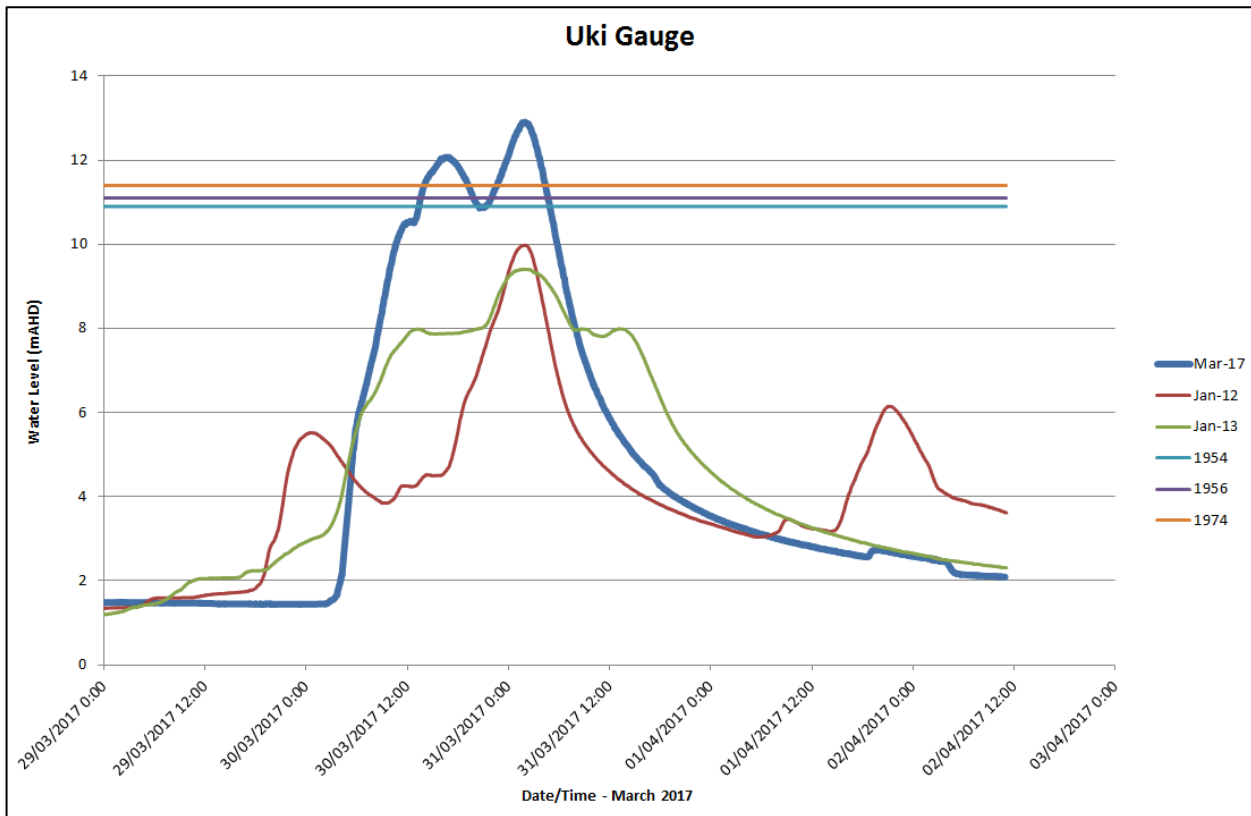


Figure 2 – River Gauge Readings at Uki

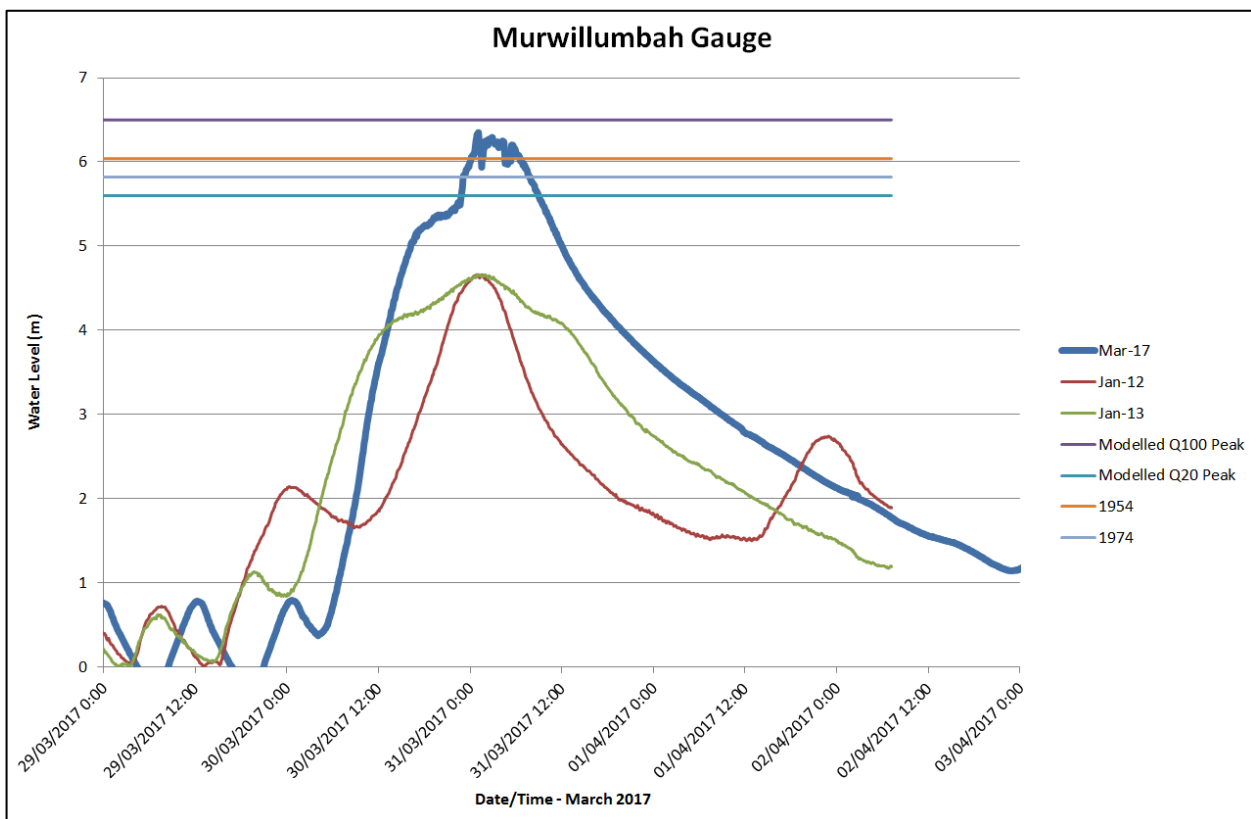


Figure 3 – River Gauge Readings at Murwillumbah (Bridge Gauge)

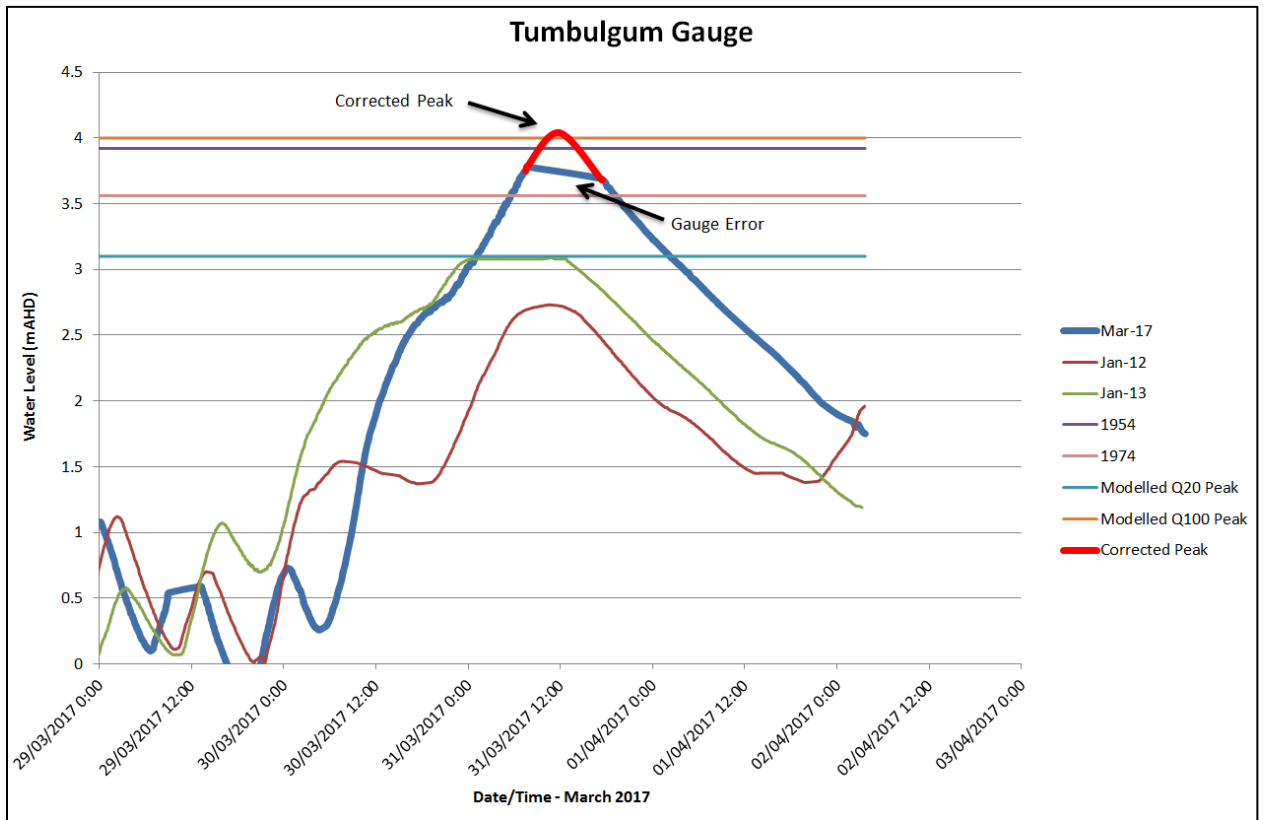


Figure 4 - River Gauge Readings at Tumbulgum (corrected)

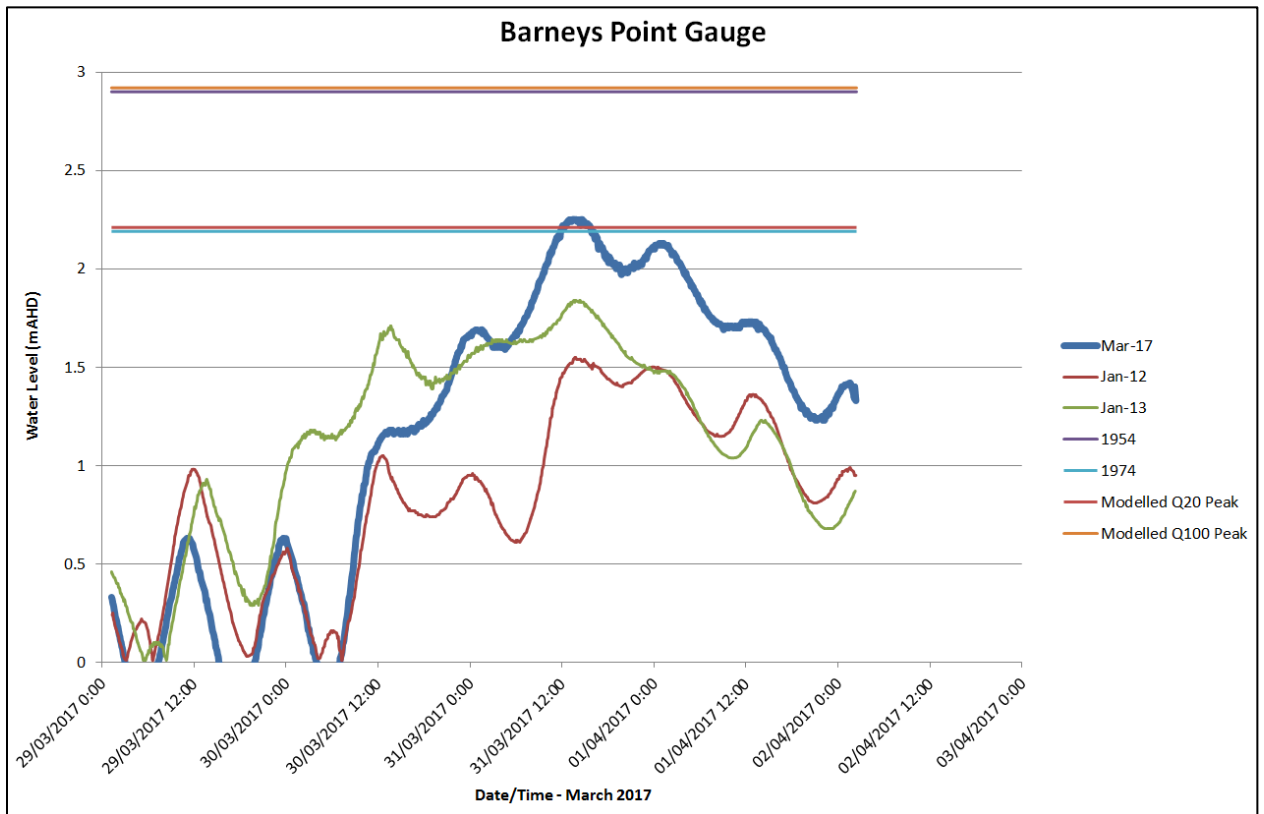


Figure 5 – River Gauge Readings at Barneys Point (Chinderah)

Event Impacts

The impacts of the flood event on residential communities, business and industry, and public infrastructure are widespread and severe.

First and foremost, this report acknowledges the deaths of six of our community members during the flood event, and recognises that the ongoing social costs of such losses far exceed the financial losses, and will stay with their family and friends forever.

Based on rapid assessment data obtained from NSW Fire and Rescue, approximately 2,100 houses were flooded across many areas, but particularly in Bray Park, South Murwillumbah, Condong, Tumbulgum and Burringbar. Even high set homes were inundated, but largely the impacts were from enclosed ground level rooms and property. Many of these areas would not have been approved. Over 18,000 tonnes of household waste was removed from flood impacted suburbs – more than 6 times our annual Shire-wide kerbside clean-up volume. It is apparent that many of these households were not insured and have limited means to recover from such losses.

Large numbers of businesses were inundated in South Murwillumbah, including Prospero Street, Greenhills, Buchanan Street and Quarry Road. Of note is the gradual change in land uses in commercial and industrial facilities in these areas over time. Industrial estates were approved several decades ago on known flood prone land, on the basis that they were more “flood compatible” than residential development. However modernisation and computerisation of many industrial processes, plant and equipment across a diverse range of businesses, including automotive, manufacturing, construction and food production, has increased the flood exposure of the South Murwillumbah industrial area significantly.

This includes Council facilities, specifically Buchanan Street Depot and the Bob Whittle Airfield in South Murwillumbah. Losses at the Depot comprised almost 30% of Council's fleet, including trucks, small vehicles, workshop and stores. Estimates put the damage at \$6.9M for plant and vehicles, of which \$4.7M is expected to be recouped from insurance and the remainder from existing plant fund reserves. The administration building sustained over one metre of flooding over its floor level, and requires substantial refitting and refurbishing. Staff have been relocated to the vacant Coolamon Centre while repairs take place. The damage estimate for buildings and workshop equipment is approximately \$800k which will form part of Council's \$3.5M flood insurance claim.

There was a significant amount of debris, large and small, left in the river and along the river banks. Much of this debris is hazardous and has high potential to pollute. Submerged objects and the movement of large volumes of silt may also have implications on safe navigation in the river.

Infrastructure

The flood caused interruptions to significant water and wastewater infrastructure including Bray Park Water Treatment Plant, the raw water pump station at Bray Park, Tyalgum and Uki Water Treatment Plants, Murwillumbah and Mooball Wastewater Treatment Plants, the Tumbulgum Vacuum Sewer Station, and a very large number of sewage pump stations. Fortunately these services were able to be restored relatively quickly. The exceptions were: Tumbulgum Vacuum sewer system, taking 7 days to fully restore; River Street Wastewater Pump Station, taking 12 days to return to normal operation; and the Uki Water Treatment Plant which was not operational for 3 weeks and water was tankered from Bray Park. The Uki Water Treatment Plant has not been fully restored. It has been decided to bring forward

the proposed water quality upgrade works and combine them with the restoration works now required.

A permanent water main connection is still required on Tweed Valley Way at Blacks Drain along with scour protection works for short sections of the trunk water main between Condong and Tumbulgum.

The dam spillway at Clarrie Hall Dam, which was upgraded in 2014, experienced a flow depth of 3.05m at the peak of the event. This triggered a white alert, the first of 4 levels of alert. The maximum spillway discharge recorded during this event was 355m³ per second, which is slightly above the 1% AEP predicted discharge flow rate. The spillway is designed to cater for the PMF flow rate of 1368m³ per second.

Road infrastructure experienced the most damage of any public asset group, with current estimates to repair the road network at over \$23 million. Around 1500 road defects attributed to the flood were logged by engineering inspectors across 169 Council roads. A map showing the distribution of damage is provided below, along with a table summarising damage type and estimated costs. The most significant damages were the loss of the Byrill Creek Road bridge on the Tweed River, which was torn from its piers, and severe bottom side slips on several roads including Clothiers Creek Road, Urliup Road, Cudgera Creek Road, Manns Road, and Lone Pine Road. The Tweed Valley Way road formation was destroyed by flood overtopping at Blacks Drain at Greenhills, taking with it essential services. Several weeks were spent removing top side slips and causeway washouts to restore access to isolated rural communities throughout the valley. The Pacific Highway was closed for two days (1-2 April) and Tweed Valley Way was closed until 3 April. Conditions on the roadways remained hazardous well after the water receded due to large amounts of debris and silt deposits, as well as surface damage.

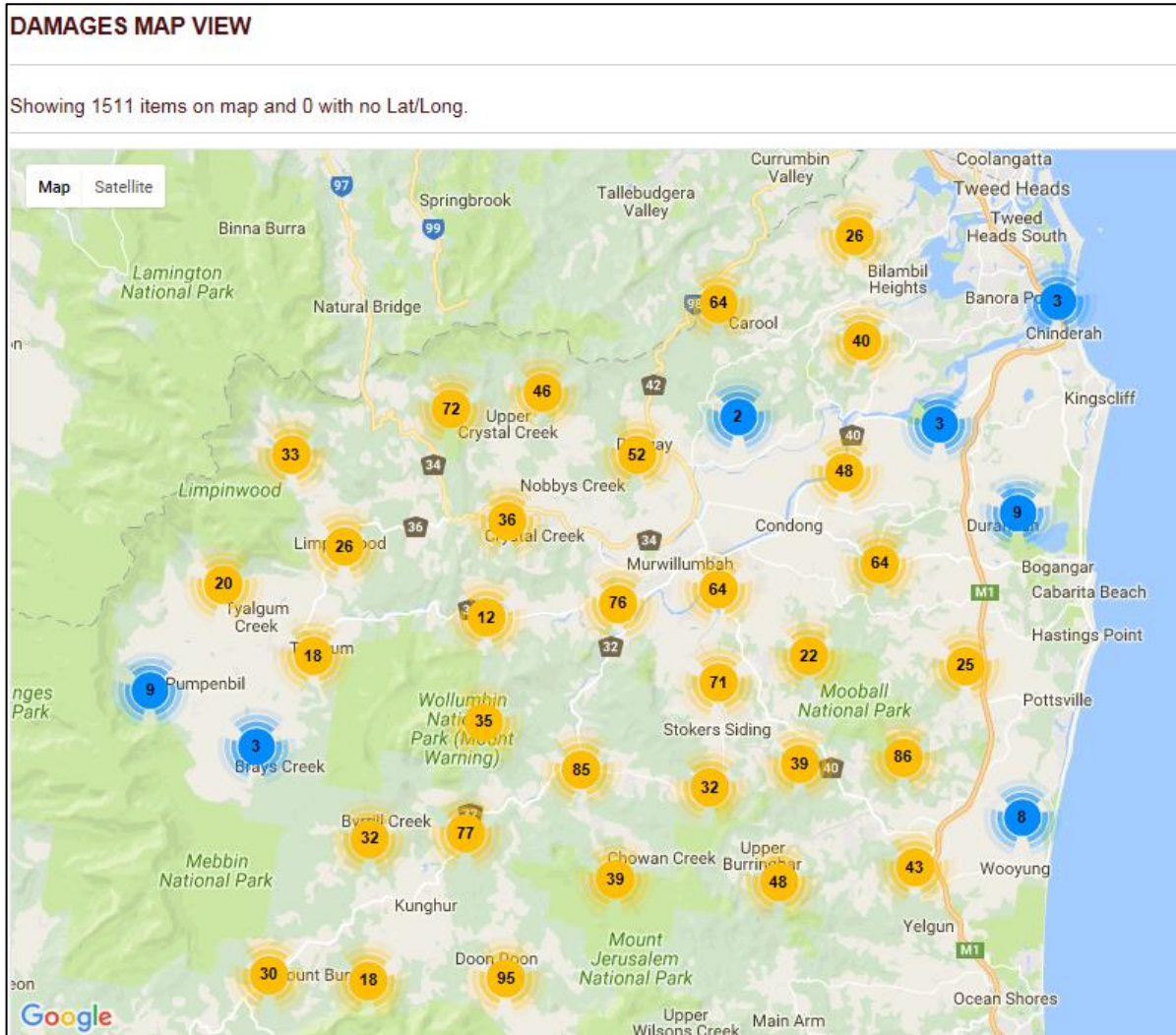


Figure 6 – Map View of Road Damages logged by Engineering Inspectors

MARCH 2017 FLOOD - PRELIMINARY ROAD REPAIR ESTIMATE			
ROADS	CAUSEWAYS	\$1,643,389	\$18,121,458
ROADS	EARTHWORKS/STRUCTURAL	\$12,228,669	
ROADS	PAVEMENT	\$3,381,794	
ROADS	FIXTURES	\$328,466	
ROADS	CLEANUP	\$539,140	
BRIDGES	NEW BRIDGE	\$3,162,000	\$5,183,400
BRIDGES	BRIDGE REPAIRS	\$2,021,400	
OTHER INFRASTRUCTURE		\$77,707	\$77,707
TOTAL		\$23,382,565	\$23,382,565

Figure 7 – Summary of Road Repair Estimates by Type

Council's flood mitigation infrastructure performed well throughout the event. The Murwillumbah Levee protecting the Central Business District had not been seriously tested since it was raised to its current crest height in the early 1990s. Minor overtopping of the levee occurred at the upstream earthen section adjacent to Murwillumbah High School, but the levee maintained its integrity. The levee provides approximately 80 year ARI protection to the town and fortunately the river level at the bridge peaked slightly below forecast levels.

Flood pump stations at Lavender Creek and Wharf Street were operational throughout the event, however rainfall volumes from the local catchments exceeded their capacity and low level (but significant) flooding of homes and businesses in Main Street, Commercial Road, Brisbane Street, Wollumbin Street, Nullum Street and Condong Street occurred. The Lavender Creek Pump Station lost power early in the morning of 31 March, however this occurred after rainfall had ceased, and service was restored soon after.

East Murwillumbah Levee is designed at the 1% AEP level and experienced minor overtopping in the vicinity of Murwillumbah East Primary School. Dorothy Street levee was overtopped by about 300mm at the peak of the event, and combined with significant local catchment flooding around Brothers Leagues Club to fill this basin. The Leagues Club and several homes around William Street were impacted by this water. Peak water levels from this section of the Rous River appear to have exceeded 1% AEP levels in this event.

The South Murwillumbah levee was raised to its current level in the 1990s in conjunction with the Town Levee works, and provides approximately 5% AEP protection. It has successfully protected South Murwillumbah during various floods since, but was overwhelmed by the magnitude of this flood event. Overtopping initially occurred across Alma Street, and then various parts of the earthen levee. At its peak the levee was overtopped by around 2m of water. River flows caused major scour to the river side of the levee embankment. North of Colin Street, the levee formation breached when a large tree collapsed. Cost to repair the levee is estimated at \$500,000. Water flows through South Murwillumbah towards the storage basin behind the industrial estate caused significant damage to properties, and eroded large sections of the railway embankment.

The Stotts Creek Resource Recovery Centre (SCRRC) was forced to open a new landfill cell specifically for the waste generated by the flood. The SCRRC is looking to process as much of the fill that has been deposited as possible and is actively chasing opportunities to

reuse this material, however approximately 8,500 cubic metres of air space was used to deposit household waste.

Waterway assets along the Tweed River were badly damaged by the flood, particularly pontoons and boat ramps. The pontoons at Skinner Lowes Wharf, Murwillumbah and Condong Boat Ramp were dislodged and will require repair and replacement. Tumbulgum timber jetty was to be replaced and this will now be brought forward in the program as the structure was damaged. Most of the other waterways facilities required structural assessment and mostly minor repairs including silt removal from boat ramps. Fortunately coastal assets were largely unaffected.

Several recent riparian fencing and restoration projects, funded predominantly through the NSW Environmental Trust, were substantially impacted. Some of these sites have been repaired. While these recent sites were severely impacted, many other well-established riparian restoration project sites survived, demonstrating the value of well-maintained and robust riparian vegetation in maintaining stable river banks.

There was a significant amount of debris, large and small, left in the river and along the river banks. Contractors were employed for one week to clear as much as possible from the river banks and staff continue to collect debris from a boat.

Several Council buildings were impacted by flooding with various degrees of structural and non-functional damage caused to these assets, including treatments of mould growth and removal of asbestos containing material. Worst affected were the Print Makers in Bray Park, Nullum House (Knox Park) Murwillumbah, Condong Hall (Possums Preschool), and the Murwillumbah Visitor Information Centre, which has been temporarily relocated to the old railway station. A Council owned residential property at 341 Tweed Valley Way South Murwillumbah was completely inundated. Building repair costs and contents replacement are likely to exceed Council's insurance cap of \$3.5 million for the event.

Recreation Services sustained relatively minor damage to parks and sports fields, however some ancillary assets such as fencing, barbeques, amenities buildings and club houses were severely impacted. Bilambil Sports Complex was hit particularly hard - club houses were damaged, the carpark is no longer usable, and sports field fencing on both the east and west grounds were impacted. Total cost is estimated at over \$100,000. At Tumbulgum two barbeque facilities and tennis court fencing were damaged, at a cost of over \$20,000. Fifteen sports field amenity buildings were affected and the estimated cost to reinstate these buildings is \$133,000. These costs have been incorporated into Council's building report to the insurance assessor.

Effectiveness of Preparations

As described earlier, warnings for the flood event were in place several days prior, however in hindsight these warnings significantly under-estimated the magnitude of the flood that occurred. Council staff enacted their usual protocols of checking critical assets, confirming crew availability, dispersing plant and signage, and relocating high value items from low lying areas. In accordance with staff protocols, many staff left work to look after their families and their own properties by midday Thursday, when flood warnings were still for moderate flooding. However the weather system intensified in the evening and later through the night, leading to upgraded warnings for major flooding and peak levels that would see key facilities such as Buchanan Street depot inundated to depths not seen in living memory. Most businesses in the industrial area were similarly under-prepared for the magnitude of the flood.

There has been general community angst regarding the accuracy of BoM forecasts and warnings, and the NSW State Emergency Service (SES) response (including evacuations) around the March 2017 flood, particularly as these agencies are seen to be based “out of town”. While there is a key role for local flood intelligence networks in enhancing and verifying warning and response processes during floods and other natural disaster events, the roles and responsibilities of BoM and SES are legislatively based. Undue involvement by Council or other agencies in these roles will increase the risk of conflicting information, poor coordination of resources and ultimately poor decision making. Council will be involved in various post-event debriefs with all of the relevant agencies in due course, to improve preparations for future flood events.

Impacts on Council Operations

Council was fortunate that telecommunications and electricity remained largely unaffected by the event, and allowed recovery efforts to commence immediately following the flood peak.

Impacts of plant losses were mitigated by engaging contractors, hiring equipment and vehicles, and assistance from neighbouring Councils, including Gold Coast, Ballina and Coffs Harbour.

The flood event hit at a time where the revised Community Strategic Plan and its supporting documents (Delivery Plan, Operational Plan) were pending adoption. The disruption and cost of the flood will require adjustment of these plans. Similarly, Council’s ability to complete the 2016/17 Delivery and Operational Plans has been negatively impacted.

Various capital works projects now need to be brought forward, such as the replacement of Byrrell Creek bridge. In order to accommodate this, other projects will need to be deferred. Similarly, programmed maintenance for a range of assets has been delayed or reallocated to reactive works.

A summary of proposed impacts is included in the Budget Section of this report.

Strategic Responses to the Flood

Council is fortunate to have a well advanced floodplain risk management process in place for the Tweed Valley and Coastal Creeks floodplains. Council has completed various flood studies and floodplain risk management studies across these areas over the last 13 years, at considerable expense and with assistance from the State Government. Observed flood behaviour in this event was generally in accordance with the outcomes of these studies, which is reassuring. The Office of Environment and Heritage (OEH) is commissioning a review of flood studies in the Tweed and Lismore areas using recorded information from the March 17 event.

These studies have helped to shape our flood related development controls, and many contemporary developments in badly affected regions escaped with minimal damage from the natural disaster. Examples including the Uki Hotel and the Murwillumbah IGA. These controls also provide Council with the framework to prevent an escalation of flood risk for future development, by setting rules for the rezoning of land and considering factors such as the cumulative impacts of filling, and designing evacuation capability into subdivision design in our major land release areas.

For those areas where there is residual flood risk due to historic settlement patterns, legacy land zonings, and lack of adequate building controls at the time of development, the Tweed Valley Floodplain Risk Management Study Plan (2014) and the Tweed Coastal Creeks Floodplain Risk Management Plan (2015) make a number of recommendations for priority actions. These have been extremely valuable in providing a coordinated and strategic approach to identifying projects for funding opportunities from higher levels of government in the flood aftermath.

For example, applications for the 2017-2018 round of OEH Floodplain Management Program grants closed on 27 April. Council officers were able to reference these plans in identifying the following projects for potential funding:

- Voluntary House Purchase in South Murwillumbah and Bray Park
- Voluntary House Purchase in Burringbar, Mooball and Crabbes Creek
- Voluntary House Raising in South Murwillumbah and Bray Park
- Voluntary House Raising in Burringbar and Mooball
- Flood Warning System to upgrade Tumbulgum Gauge for forecasting by the BoM
- Flood Warning System to install additional river and rainfall gauges upstream of Burringbar and Crabbes Creek.
- Flood study for South Murwillumbah basin to identify obstructions to flow, examine levee overtopping, and recommend floodway improvements

These applications were endorsed by the Floodplain Management Committee at the 28 April meeting. These projects have the potential to significantly reduce flood risk exposure for people and their properties, enhance warning times in flash flood catchments, and remove obstructions to flood flow in the worst affected areas.

Council's Executive has also made representation to State and Federal Government about potential projects to reduce flood risk in other flood impacted areas (such as widening the voluntary house purchase and raising schemes to other suburbs such as Condong and Tumbulgum which were not subject to recommendations from the Floodplain Risk Management Plans) and for works that are generally not eligible under the OEH grant criteria (such as modifications to commercial and industrial land to reduce flood risk).

Regarding the latter, the impacts of the flood on the South Murwillumbah industrial estate were extensive, to the point where some businesses may not be able to fully recover. This will impact on the local economy and employment. This area is also important for the passage of large volumes of flood water from Greenhills to Condong, however many of these industrial developments obstruct flows with fill pads, buildings and fences. In an ideal situation, given the availability of flood free land in close proximity in South Murwillumbah along Quarry Road and Wardrop Valley Road, a scheme to relocate many of these businesses to remove their flood risk as well as improving flood behaviour in these floodways would be a sound investment. However there is a large upfront capital cost that Government could provide in order to invest in flood mitigation rather than flood recovery. Floodplain Management Australia (FMA) suggests that in Australia Governments invest only \$1 in preventative schemes for every \$10 spent on flood recovery. Generally this involves putting infrastructure and development back in the same high risk situations.

Other Initiatives

Council staff responded in various innovative ways to the flood emergency, in order to work swiftly, compassionately and pragmatically to assist impacted individuals. Many will have ongoing benefits to the organisation for daily operations as well as enhancing our ability to connect with community. Examples include:

Social Media

During the flood event Council's Facebook page was deployed – our first official presence on social media. It was clear throughout the flood emergency that social media is integral to modern communication across a broad cross section of our population. Council's Facebook page was followed by 1786 people within a week of the flood, with 72,612 post engagements and 12,000 views of Council's videos. Social media (Facebook and Twitter) allowed Council to disseminate urgent and important information to the community for the first time. Social media also provided a platform to launch the Tweed Shire Mayoral Flood Appeal, particularly targeting Brisbane, Sydney, Melbourne and Canberra to capture people who had seen the floods on the news and wanted to assist in some way.

Data Collection

Council engineering staff employed new mobile solutions consisting of android devices connected to our asset management system to rapidly identify, photograph and catalogue around 1500 road and drainage defects across the Shire post-event. This will assist claims for Natural Disaster funding, but also enables upskilling of staff for wider application for non-flood customer work requests.

Building and Environment Inspections

The Building and Environmental Health Unit were some of the first responders to impacted communities at the start of the recovery phase, offering immediate and detailed assessment of residential and commercial building damages, at no charge. This prompt and professional action was widely praised and helped people prioritise works to get back into their homes and businesses.

Building surveyors undertook preliminary assessments to determine the extent of any structural damage and liaised directly with geotechnical experts on a priority basis which facilitated a rapid assessment where needed. For some elderly residents this provided important assurance that their home was safe to occupy. In other cases illegal structures were being built/repared in the flood zone before the mud had even been cleaned up.

Environmental Health Officers spoke with business owners in all impacted towns on the Monday and Tuesday with practical advice on food disposal, asbestos, hazardous waste and other challenges, at a time when these business owners felt completely overwhelmed. The team also provided technical advice on health impacts of sewage spills in Tumbulgum to the Water and Waste Water Unit and later with enquires about health impacts of mould.

Support for Local Businesses

Council's Economic Development Unit provided critical support for flood impacted businesses in the immediate aftermath of the flood. The Business Facilitation officer established connections with the business community on the ground and via the newly opened social media channels, to assess their immediate needs. Officers alerted and briefed various Government Departments and communicated these contacts to those in need.

Skip bins were delivered to specific businesses who had an urgent need for removal of rotting food products. Officers also liaised with the FRNSW Hazardous Materials Response Unit to assist business in the industrial estates.

The face to face support was vitally important to businesses in the first two weeks of the recovery. It sent a clear message of 'Tweed Council's cares about you and we are here to help you through this'. This message was, and continues to be comforting to many business owners. Officers left business cards with direct contact details acting as a conduit from business into Council, taking a 'no wrong door' approach. This was appreciated, with many business owners taking up the offer of help.

The Economic Development Unit also worked strategically, preparing reports to assist in the activation of Category C funding for small business, organising Ministerial meetings with business owners and liaising with Government Departments and agencies to deploy on ground support mechanisms.

Emergency and Evacuation Support

Council provided a range of responses to assist the community during the establishment of the evacuation centres. Almost 100 people that were camping at Greenhills Caravan Park and elsewhere in Murwillumbah area were relocated to the Tweed Regional Gallery and Council allowed the use of the undercover car park and the facilities at the Artist in Residence Studio whilst the waters receded and alternative arrangements were made.

Council's Community and Cultural Services Unit produced a register of local services that were offering volunteer support, donations and could assist people during the flood. This list was then maintained on a daily basis and distributed online, to emergency services, and through the disaster recovery centre.

Officers undertook inspections of Council community halls, preschools, and other community buildings to assess the level of damage, and commence support for those services.

Establishment of Recovery Centre

The Community and Cultural Services Unit undertook initial assessments to identify a suitable site for the establishment of the Disaster Recovery Centre which the Office of Emergency Management set up following the closure of the official Evacuation Centres. The Murwillumbah Community Centre building was not inundated and a section of the building was well designed to meet the needs of the State and Commonwealth Government services that are established once a natural disaster is declared. The Information Technology Unit assisted with setting up the communications, hotline, and printers at the centre. The Community Development team recruited Disaster Recovery Centre staff, intake and administration officers, and security officers to manage the centre during the more than seven weeks of operation. The team also supported the centre on a roster during the first two weeks to ensure that someone with local knowledge assisted with referrals to local services.

The administration of the centre also involved monitoring the gaps in services that were identified at the centre, ensuring that the statistics and communications about the centre were monitored to inform responses locally and decisions about the centre's operational hours. From 6 April to 26 May 2017, over 1,761 people registered at the Disaster Recovery Centre.

Homelessness and Housing

One of the most significant issues arising for the community has been homelessness and housing. This has been exacerbated by the pre-existing high need for accommodation for people that are homeless and for affordable housing options in Tweed Shire. It has been difficult to ascertain the extent of the issue, and the data to identify how many people have been displaced by the floods is collected by the State Government through the Recovery Centres and by the Department of Housing. Caravan Parks were also inundated with Greenhills Caravan Park, Wooyung Caravan Park, and three caravan parks in Chinderah all sustaining extensive damage. It was estimated that of those registering at the recovery centre during the period of 6 April to 9 May, over 200 people were staying in temporary accommodation.

Mental Health

The care of the volunteers and service providers that have been supporting the local community for over six weeks at this time is of concern. To provide suitable support for the mental health and wellbeing of the community a hotline and service was established by the Primary Health Network locally. The Community Development team at Council also worked with the Red Cross to facilitate a number of workshops for volunteers to debrief and check on their wellbeing. Additional workshops will be facilitated if required.

Long Term Recovery Plan development

The Community and Cultural Services Unit has worked with the Disaster Recovery Coordinator to design a needs assessment to inform the long term recovery plan for the region. This included an online survey that the Southern Cross University is analysing and three focus groups on housing and homelessness; mental health and wellbeing; and community and neighbourhood centre services. This collaboration between Tweed Shire Council, Lismore City Council, Byron Shire Council, and NSW Health has also included the development of a shared data base for ongoing communications during the recovery phase.

OPTIONS:

This report is provided for information of Council.

CONCLUSION:

The flood of March 2017 was an historic event for the Tweed, with wide reaching and long term impacts. This report aims to document these impacts, to help the community to understand their susceptibility to natural hazards, and to hopefully assist preparations for events in the future.

COUNCIL IMPLICATIONS:

a. Policy:

Corporate Policy Not Applicable.

b. Budget/Long Term Financial Plan:

The March 2017 flood has significantly disrupted Council's ability to deliver many of the projects that were adopted in the 2016/2017 Delivery and Operational Plans and Organisational Key Performance Indicators (KPIs). Many projects will be deferred by necessity, due to resource changes and reduced capacity, others due to the need to set aside contingencies in the budget to cover as yet undetermined costs of the flood.

Projects to be deferred from 2016/2017 to 2017/2018 include:

- DCP-A5 Subdivision Manual update (KPI)
- Road and drainage upgrade, Gray Street Tumbulgum
- Kerb and guttering, Elizabeth Street Pottsville
- Road and drainage upgrade, Kirkwood Road and Philp Parade Tweed Heads South
- Kerb and guttering, Thomson Street Tweed Heads
- Drainage upgrade, Reynolds Street Murwillumbah
- Drainage upgrade, Nullum Street Murwillumbah
- Waterways repair projects including Foysters Jetty abutment; Sunset Boulevard revetment; and Mooball Creek log wall.

Further, as reported to Council in its consideration of the draft 2017/2021 Delivery Plan and 2017/2018 Operational Plan in April 2017, ***changes may need to be made to Council's capital works program/significant projects and service levels that have been listed in the Draft Delivery Program.***

The impacts of the flood will flow on into next financial year and beyond. Some projects will need to be brought forward as they have become urgent due to flood damage (for example, replacement of Byrrill Creek Bridge), others will be deferred, and others will be re-scoped. These will be subject to future reports associated with Quarterly Budget Reviews and operational reporting as these impacts become known.

As the flood event was a Declared Natural Disaster, Council is eligible for financial assistance towards the restoration of essential public assets under Natural Disaster Relief and Recovery Arrangements (NDRRA). The majority of NDRRA funding is provided by the Commonwealth Government and administered by the States. In NSW the Office of Emergency Management oversees the NDRRA which is implemented by NSW Public Works and Roads and Maritime Services.

NDRRA assistance is generally provided for road, stormwater drainage and flood mitigation assets. However other asset groups are ineligible, including recreation services, waterways and coastal assets, insured buildings, and business undertakings such as water and wastewater, airfields and saleyards. Ordinary Council wages and plant and equipment costs are also ineligible, meaning that Council will have to rely on contractors to undertake most flood repair projects. Fortunately Council received a special exemption to cover the costs of the roadside clean-up of flood waste, which was considerable. Council officers are preparing initial applications for NDDRA to the relevant agencies.

c. Legal:

Not Applicable.

d. Communication/Engagement:

Inform - We will keep you informed.

The flood provides a good opportunity to reinforce to the community key messages around flood preparedness, awareness of individual flood risk, and town planning controls. Development of a flood related communications strategy, in conjunction with the SES will be a key consideration of the Floodplain Management Committee at its next meeting.

One key message is that while the March 2017 flood was the largest flood seen in many locations, it occurred from a relatively short duration storm event, and a far greater flood is possible.

UNDER SEPARATE COVER/FURTHER INFORMATION:

Nil.
