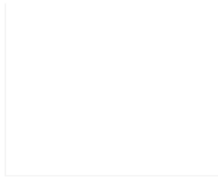


From: [NSW Government](#)
To: [Flood Inquiry](#)
Subject: Floods Inquiry
Date: Friday, 24 June 2022 6:26:10 PM



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Submission details

I am making this submission as	A primary producer
Submission type	I am making a personal submission
Consent to make submission public	I give my consent for this submission to be made public

Share your experience or tell your story

Terms of Reference (optional)

The Inquiry welcomes submissions that address the particular matters identified in its [Terms of Reference](#)

1.1 Causes and contributing factors	1.1. Causes and contributing factors There are many factors that contributed to the all
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time massive flood of the 28th February 2022. However the main two main things contributing to the extreme flood water levels that impacted Woodburn and the surrounding district were most significantly; The M1 Motorway and the Fixed Concrete Weir barrier, blocking the Tuckombil Canal. These factors are not merely issues about differences of opinion on the design of infrastructure with reference to the M1 Motorway and the lack of funding claimed by the local councils to replace the Fabri Dam back into the Tuckombil Canal. (Note; there are many photos of fabri-dams on Google that show similar structures and how they work)

These items, if not adequately addressed will result in the loss of lives in the event of a future major flood event. We cannot assume that in a future major flood that rescue efforts will be as successful as the efforts during the Flood of the 28th of February and early March this year, by the efforts of locals in a flotilla of private boats.

The two major contributing factors:

1. Fixed concrete weir (barrier) on Tuckombil canal – and its impact on the flow of water escaping the Richmond River; and
2. M1 Motorway – the failure in its design across the eastern side of the flood plain adjacent to Woodburn.

Each of these contributing factors is discussed below.

Whilst it is true to say we have experienced similar extreme wet seasons in the past ... e.g. 1954, 1974, 1988, 2017 none of these rain events gave us flood heights anywhere near the level experienced in this flood, the highest of all time, being the Flood of the 28 February 2022. We have never had these incredible flood levels in the past, because the water was able to get away via the Evans River across the flood plain East of Woodburn to the Evans River and out to sea. The M1 Motorway now blocks this escape

of flood water to the Evans River. Yes, there are some pipes under the wall of the Motorway but these only service rain runoff not flood water.

These extreme wet seasons have resulted in different flood height variations in different parts of our river system. In our particular area, being the lower Richmond River around Woodburn, we experienced a height increase of between 2m and 2.4m over and above the previous 1 in 100 year's flood of 1954.

In my opinion, these extreme wet seasons are a natural occurrence - this is just Mother Nature inflicting a flood of biblical proportions.

However, there are a multitude of factors that have contributed to the increase in height that we have experienced in this major flood. For example, the presence of man-made structures, the lack of dredging since the 1970s, lack of maintenance of flood mitigation infrastructure and the lack of drain cleaning, to name a few.

The 2 main factors that have contributed greatly to the exceptional height that this flood reached in our area of the lower sections of the Richmond River are discussed below.

1. Fixed concrete weir (barrier) on Tuckombil canal:

The Tuckombil canal is a man-made canal that joins 2 river systems – the Richmond River via one of its tributaries (Rocky Mouth Creek) and the Evans River. The purpose of the canal was (and is) to enable flood water from the Richmond River to escape from the river and flow to the sea via the Evans River.

The county council constructed a fixed concrete weir across the canal in a location close to where the canal runs off Rocky Mouth Creek – i.e., adjacent to where the former Pacific Highway

crosses the canal on the southern outskirts of Woodburn. The concrete weir replaced an arrangement that had been in place for many years – i.e., a large industrial rubber bladder which stretched the full width of the canal (approx. 100m), locally known as the “fabri-dam”. The purpose of the industrial rubber bladder, and the intended purpose of the concrete weir, was to separate the 2 river systems during normal times, keeping the salt water of the Evans River out of Rocky Mouth Creek (and the Richmond River) from which many local cattle producers sourced fresh water for their cattle.

Prior to periods of expected flooding the county council employees would use a large pump to extract the water from the rubber bladder, allowing the bladder to lay flat on the bottom of the canal and thus enable the full flow of flood water into the Evans River. This greatly enhanced the escape of flood water from the Richmond River system as the distance travelled from the fabri-dam to the mouth of the Evans River is approximately one-quarter of the length of travel compared with the water having to travel all the way to the mouth of the Richmond River at Ballina.

Not only did the fabri-dam arrangement alleviate flooding of the township of Woodburn and the surrounding district, it also benefited the entire lower-reaches of the Richmond River downstream of Woodburn, i.e., the townships and surrounding districts of Riley’s Hill, Broadwater, Cabbage Tree Island, Wardell, Pimlico, Empire Vale and Burns Point/West Ballina.

With the deterioration of the industrial rubber fabri-dam a decision was made to replace that arrangement with a concrete weir. This arrangement serves to prevent the salt water from entering Rocky Mouth Creek but in times of flood it becomes an inflexible barrier that holds

water back in the Rocky Mouth Creek/Richmond River systems. In the recent major floods that barrier was a major factor in the flooding of Woodburn.

2. The M1 Motorway:

The M1 motorway traverses the eastern side of the flood plain that surrounds the township of Woodburn. Whilst great for the state and country in terms of transport and safe vehicle movement, in the opinion of many local residents the M1 has been incorrectly designed for where it is situated – i.e., on a flood plain, on the escape-side for flood water into the Evans River. In the recent major floods the M1 acted like a dam wall that hindered the escape of flood water.

I was a member of the “flood focus committee” that was established by the engineering companies that were engaged by the RMS to design and construct the M1. The committee was comprised of local people with a wealth of local flood-knowledge, local engineers and senior experienced local members of the SES. In my opinion, the knowledge and expertise that we were able to pass on to the consultant engineers was totally ignored. There were no minutes circulated to members of the committee for any of the several meetings that were held, nor was there any written communication from the consultant engineers to the local members of the committee. The process followed by the consultant engineers showed a total ignorance of their “duty of care” to the residents of Woodburn.

The flood focus committee recommended that the M1 roadway should be suspended on columns across the full traverse of the section to the east of Woodburn ... similar to what was in fact constructed to the east of Kempsey. Further, had the M1 been constructed in that way, it would have established a road height that would have been higher than a “one in 500 years”

flood! More importantly, had this type of construction been adopted the M1 motorway would have had a negligible effect on the escape of flood waters into the Evans River system, for not only Woodburn but the entire length of the lower Richmond River.

To my knowledge, nothing was ever published or promulgated for the benefit of the residents of Woodburn and the mid/lower Richmond River communities that explained the merits of the design adopted for the M1 and that explained why the design recommended by the local community members of the flood focus committee was unnecessary. At a time when we are now counting the cost of the recent major floods the local community is questioning whether the design decision of the M1 was driven by budgetary issues for the construction authorities. Such budgetary issues will pale into insignificance when compared with the costs to the local community, both now and into the future.

1.2 Preparation and planning

1.2 Preparation and planning

- Bureau of Meteorology (BOM): The BOM was asleep at the wheel – they were slow to act, information was disseminated slowly and there was a lack of reporting – e.g., the BOM's website reported a predicted flood height for Woodburn that had already been exceeded (information was not updated for at least 23 hours).

- State Emergency Services (SES):
 - o In my opinion the SES control centre being situated at Wollongong is totally inappropriate for managing a flood event in this area – the control centre for a local emergency event should be sited in the local area (i.e., Lismore). If and when deemed necessary, additional specialised personnel could be flown in.
 - o The local control centre needs to be sited in a totally flood-free area with optimum accessibility, including a dedicated LZ for air transport.
 - o Local controllers and volunteers did their best

in the circumstances, especially when the big flood occurred so quickly – many of the volunteers were themselves impacted by the flood.

- Resilience NSW: For an organisation that has paid-staff in permanent positions there appeared to be little or no benefit derived from those resources in the days immediately after the first major flood. In terms of the organisation's lack of action and timely responsiveness, as an example, they have only now got in place toilets, showers and laundry facilities in the townships of Woodburn and Coraki for the use of local flood-affected residents ... this is great but it has been delivered 6 weeks too late! One questions why these facilities were not ready to be deployed immediately after the flood waters receded – this was the time when the local residents were seeking such facilities.

- Flood mitigation: In recent times there has been a total lack of maintenance of flood mitigation assets/infrastructure. In my opinion there should be a separate flood mitigation authority (FMA) established that is financed jointly by state and federal governments (where applicable). An FMA's charter would be to be responsible for all the flood mitigation assets within the whole catchment area while also being responsible for forward planning for flood mitigation capital projects identified as being required by local communities and applying for capital grants for such works. Functions of an FMA would include being wholly and solely responsible for cleaning of drainage systems and maintenance of the flood mitigation infrastructure assets. An FMA should employ its own staff and should not be under the direction or control of any of the 4 local councils in the Richmond River catchment area.

A separate flood mitigation authority would function as a dedicated team fully-focussed on

one objective and give the best return for the budget they are given.

- Flood reserves for cattle: My understanding is that all the cattle reserves established years ago in the Richmond River catchment area are located on land owned by the NSW government. Whilst I haven't traversed all of these areas, I can speak with authority in respect of the reserves in my local area and note that the fences have not had any attention for more than 60 years. These reserves need to be upgraded – they all need to have new/improved fencing, sound loading and unloading facilities and appropriate yarding attached to these facilities.

At the time these reserves were set aside by the government there was a very clear understanding that they were critical to the safety and well-being of the livestock that lived on the flood plains. In those times, the livestock was walked with horses and dogs to the various flood reserves. Every property in the surrounding district would have been fenced and this form of re-locating livestock was satisfactory and, in fact, was the only way of moving livestock to the secure flood-free reserves (there were no trucks).

This is not the case today, and 99.9% of all cattle movements are now done using cattle trucks. This is the reason the reserves need to be substantially upgraded to facilitate the modern transportation of livestock (i.e., by trucks). This would improve the safety of the farmers and transport drivers and would be important for the welfare of the livestock.

There has been reluctance by many farmers to use these reserves for the reasons mentioned above. This has been detrimental not only to the farmers but has effectively meant that a lot of livestock (estimated to be 10,000 head of cattle) in this recent extreme flood were swept to sea.

This has had an immediate cost to the district of approx. \$20m and it will have a flow-on effect for farmers as they struggle to re-build herds and for the extended areas of the cattle industry.

There needs to be a universal and very clear set of guidelines as to the use of these flood reserves – in particular, as to the timing of when people can put livestock on the reserves in times of flood and at other times. Such guidelines should spell out the conditions for entry for use of the reserves in times leading up to and during a flood (e.g., as soon as a flood warning is given for our catchment area).

In my opinion, the flood reserves should never be sold. Where the flood reserves are leased (in non-flood times), the conditions of lease should stipulate that a minimum amount of feed be retained for use of incoming cattle in times of flood.

- Communications: Communication is critical during flood events. During the recent major floods the mobile phone system failed due to flooding of communication infrastructure. This failure was compounded by the existing poor mobile phone network in many parts of the flood affected area and the difficulty many flood-affected residents encountered when attempting to contact emergency services for assistance.

All telecommunications facilities that are likely to be affected by flood water need to be raised at least 2 metres above the Feb/March flood levels. This will aid communications by mobile phones for people needing assistance and for rescuers who may be trying to contact people needing to be rescued. Secure and improved mobile phone services are also important for those who have been rescued and safely located to a flood-free area and who then may need to contact their children, parents, grandparents, friends and neighbours.

Secure and improved communication facilities, including access to internet services, are also important for critical services such as the police, SES, hospitals, rescue centres and local pharmacies, etc. For example, the Evans Head pharmacy did a magnificent job under extreme duress because it had no email service. Access to email was important because the majority of people who were rescued at all hours of the day or night scrambled into boats without their medications. The pharmacy was then unable to get access to replacement prescriptions for those affected people because its internet access had been lost. The staff of the Evans Head pharmacy needs to be commended for the brilliant work they did in solving these issues.

It became evident after the ADF appeared that there were facilities available that would enable communications to be restored. These facilities were described by ADF personnel as COWS – self-powered mobile communication trailers containing all the communication electronics that could operate on a stand-alone basis for a minimum of 5 days. These COWS could be airlifted to wherever needed. It was frustrating that such facilities had not been part of the Resilience NSW response to the floods.

- Permanent Rescue/Recovery Centres: Notwithstanding the genuine efforts of many members of the community it was very evident that many of those affected by the floods struggled to receive some of the basic needs after being rescued. Moreover, there were no designated recovery centres where the rescued people could be taken - government agencies/services were ill-prepared to receive and assist people rescued from their homes.

It is recommended that permanent rescue/recovery centres be established and equipped for any future disasters. These should be located within or close to population centres

and be sited in flood-free/bushfire safe zones. Facilities such as clothing, bedding, communication arrangements, first aid, food, etc. should be on-site and/or capable of being inserted within several hours of the centre being initiated to deal with a disaster event. These rescue/recovery centres could serve as community centres at other (non-disaster) times but should come under the control of an appropriate recovery agency (Resilience NSW?) as soon as circumstances are indicative of an impending disaster.

1.3 Response to floods

1.3 Response to floods

Local emergency services: I am sure that all of the local police force contributed very professionally during the flood. In particular, I would like to commend the local police officer in Woodburn (Snr Const Adam Bailey) for his outstanding work, particularly during the first 2 days of the 28 February flood. Snr Const Bailey coordinated the rescue of many hundreds of residents of Woodburn and the surrounding district. He directed (from the water's edge) the actions of the many local residents who used their own boats for rescuing people – without doubt, this combined effort saved many lives.

1.4 Transition from incident response to recovery

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As I have previously outlined the response from resilience NSW was very poor and slow. The hubs which are located in flood affected area have been a great community asset, they not only offer food, clothing and other essential items like toiletries and cleaning products etc. They also help with the mental recovery for the flood affected people knowing they can go there and talk or have a coffee with people who are experiencing exactly the same emotional stresses, loss and the enormous task of cleaning and then rebuilding.

Service NSW, DPI and other government based representatives visit local hubs and community halls etc has been of great assistance to help people fill in form for the support the services are offering. It is always important for the authorities to remember that these people have lost everything, they don't have computers, printers, fax, and photo copiers and in some case even their mobile phones...these on site communication pop up assistance centres have been very good.

1.5 Recovery from floods

1.5 Recovery from floods

Yes, good heading. There are so many things that you could fill pages on thoughts on this topic alone. Where do you start?

- The assistance has been good from government with for example, the return to home grants.
- The announcement of council rates being paid has been very good.
- Stamp duty, the announcement sounded good” No stamp duty on vehicles replaced as a result of being flooded and written off” However the fine print is that the stamp duty does need to be paid and then you claim back from office of state revenue. And that only 1 vehicle is eligible to be claimed.
- No relief on registrations of heavy vehicles to date as was the case in the bush fires!

1.6 Any other matters

1.6 Any other matters “What actions can we take to lessen the impacts of the next major flood-planning for the future”

This all time record flood has highlighted the fact that flooding now is about the preservation of Human Life ever other consideration needs to be put to one side. We were so lucky that hundreds of people didn't lose their lives in the flood of the 28 February 2022....This cannot be allowed to be forgotten...ever.

There are a lot of things we can do to help

reduce the impacts with flooding into the future.

1. Firstly change is needed in the way we think...this is about saving lives through reduced flood water levels.

2. M1 Motorway, this structure contributed very significantly to the extreme flood water levels we experienced in the Feb and March 22 floods between 2 to 2.4 mts above any previously recorded flood heights and will continue to impact in the same way until it is rectified.

The M1 needs to be kept open naturally so by working on one carriage way at a time drilling through the current road surface at bridge length intervals to construct the columns and headstocks necessary to support the beams for a bridge overpass style construction like the Kempsey overpass... they can go to whatever height they like in relation to the bridge deck so that the bridged roadway would never ever flood again.

After the deck is built, dig out the current roadway and mounds of gravel that the existing roadway is built on down to the natural ground level, in doing so removing the blockage that is blocking the flood water from escaping into the Evans River.

The M1 if it was rectified and built up in the air as a bridged overpass, itself high above any flood and more importantly would not cause any more life threatening problems by blocking the escape of flood water for the people of Woodburn and all other townships downstream.

Broadwater interchange needs to have a south bound drop off ramp constructed onto the M1 motorway. During the flood hundreds of people from Woodburn, Coraki and surrounding rural areas were located at Evans Head and as soon as the road to Broadwater was clear people started to want to get back to Woodburn to start to clean their homes, businesses and Farms. The fact that there was no south bound drop off

ramp on the MI they had to traverse the MI north to the Coolgardie interchange, to then head south to Woodburn. Some elected to go down the exit at the Broadwater interchange, naturally totally illegal apart from being very dangerous if a vehicle was to exit off the MI at the same time. I believe the reason that a south bound ramp was not initially planned and constructed was the old reason of a small business in a little town missing the opportunity to sell a meat pie and a can of soft drink, to a vehicle forced by planning to drive past their door !! We must look past this simplistic reasoning and work for the good and safety of the bulk of people and this south bound ramp at the Broadwater interchange is essential for the safety of people during times of flooding and the post flood recovery period.

3. Build detention basins in the higher reaches of the catchment systems to slow down and retain some of the runoff water after the grounds are totally saturated.

4. Build another dam as has been proposed over the last ten years...build it ASAP.

5. Clean all drains to allow the escape of water.

6. Reinstate the fabri- dam in the Tuckombil Canal at Woodburn to allow the escape of flood waters to the sea at Evans Head through the Evans River. (The concrete foundation is already there at the bottom of the canal ready to have a new rubber bladder attached)

7. Investigate another flood escape around the boundary creek area, the flood water of the big flood only had between 500 and 700mm to break through the sand dunes to the sea in this area.

8. Investigate a similar project to Salty Lakes near Evans head, a project that was talked about for years also.

9. Investigate globally, sand mining companies that possibly could do the infrastructure at no cost, in lieu of the retention of the mineral sands they extracted as compensation for the construction of the canal from the Richmond River to the sea. May be it could be designed in

a way that it only broke through to the sea at times of moderate to major flooding.

10. Need to widen or construct a second mouth of the Richmond River at Ballina, the construction of the southern wall years ago has reduced the possible escape of water from the river at times of major flooding.

11. Purchase land say 200-300 hectares of land at South Ballina, the reason for this to have land to deposit sand dredged from the Richmond River along the route starting at the mouth of the Richmond River and head up stream as far as passage of equipment permits. Also filling sand from the construction of a second mouth for the Richmond River, the construction of a canal at boundary creek.

After the land was built up well above this last massive flood height, could be sold as residential blocks to either re house people from flood prone areas or sold on the open market to re couple some of the money for the flood mitigation project costs

It will take years to recover from this flood. Some people and families will never recover, they will sell up and move on. The trauma that a lot of people have been through will last their lifetime. I certainly never thought I would experience such a natural peril during my lifetime. There needs to be action in so many places so that others do not have to experience what we have been through by this event.

Supporting documents or images
