

**Submission
No 301**

**INQUIRY INTO PROPOSAL TO RAISE THE
WARRAGAMBA DAM WALL**

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Inquiry by the Legislative Council Select Committee on the Proposal to Raise the Warragamba Dam Wall

Submission by Trish Doyle MP – Member for Blue Mountains

9 September 2019

Introduction

I am Trish Doyle MP, the Member for Blue Mountains.

I make this submission to the Inquiry by the Select Committee on the Proposal to Raise the Warragamba Dam Wall in my capacity as the state member for the electorate most significantly impacted by any dam capacity increase and on behalf of the many thousands of local residents who hold very grave concerns about the environmental and Aboriginal heritage impact of further inundation of the Burragorang Valley behind Warragamba Dam.

I have followed this issue closely and note that it first arose some 20 years ago and that it has persisted as a thought bubble of various governments throughout that time but that it has never been acted upon or taken very seriously until very recently.

I note that the Warragamba Dam is currently at 50.7% but that as recently as 2015 it was at over 100% and had begun spilling over and that this occurred also in 2013. In neither instance was flood risk significant.

I further note that recent infrastructure projects have been initiated and progressed by the current NSW State Government that defy evidence, common sense and community opposition but which may deliver some tangential or parallel benefit to industry or private enterprise that may not form the basis of the justification for the decision to proceed in the first place, and I intend to highlight this concern as it relates to the proposal to raise the Warragamba Dam Wall.

I will also address a selection of the Inquiry's Terms of Reference later in this document.

General Commentary

As the local Member and an environmentalist in my own right, I seek the views of experts to assist me in forming a view on a controversial proposal such as the Government's planned dam wall raising. To this end, I have consulted with the Blue Mountains Conservation Society, the Colong Foundation for Wilderness, The Hon. Bob Debus AM – himself a former Member for Blue Mountains and a former Minister for the Environment – and I have also considered published reports by the State Emergency Service.

I also note the boastful claims by the Liberal Member for Penrith, Stuart Ayres MP, in recent times about the development potential along the Nepean River and his claim that there will be development "as far as the eye can see".

The NSW Government commissioned the *Hawkesbury-Nepean Valley Flood Management Review* in 2013, and Stage 1 of the Review, published in March 2014, offered the following telling advice in respect of the flood risk along the Hawkesbury-Nepean River:

"There is no simple solution or single infrastructure option that can address all of the flood risk in the Hawkesbury-Nepean Valley. This risk will continue to increase with projected population growth unless flood mitigation options are adopted."

Hawkesbury Nepean Valley Flood Management Review – Stage One, Summary Report, March 2014

The review also noted that the risk of economic, social and other impacts of State-significance would be exacerbated by population growth in projected growth areas within the north-west region.

A September 2012 report by Molino Stewart Environment and Natural Hazards on behalf of the NSW Department of Planning investigated evacuation capacity of infrastructure in the north west sector.

It found at the time that in the event of a significant flood event, some 10,833 vehicles would be unable to evacuate in time throughout the region between Penrith and Windsor / McGraths Hill.

Table 7, P.47, North West Sector Flood Evacuation Analysis, September 2012

In each of the instances where a sector is deemed unlikely to be able to be fully evacuated, it is a limitation of road infrastructure and an overwhelming number of vehicles through road infrastructure bottlenecks that is identified as the primary cause.

Put simply, the greatest risk to life during an evacuation is inadequate forward planning or investment in adequate road infrastructure to accommodate the predicted volumes of traffic.

In so far as flood events in the region are caused by more than just an overflow at Warragamba Dam, it would make sense for the Government to invest in better road infrastructure, with flood evacuation as a primary motivator.

Government could also reduce the risk of economic or human loss by discouraging development on flood prone lands and by resuming some flood prone land in areas with the greatest risk that have already been developed for low-density housing. This land may be suitable instead for agricultural uses instead of being developed for residential housing.

Having identified a lack of planning and investment in roads infrastructure as a significant risk factor for flood event evacuation, it is timely to note that the NSW Liberal Government has form in respect of inexplicable road infrastructure projects which they seek, on the one hand, to justify because of floods, but which on the other hand do very little or nothing to resolve flood risk. In the Hawkesbury, we see the Government pressing ahead with its Windsor Bridge replacement project, which in its first iteration was to be a two-lane bridge replacement for an existing two lane bridge. The new bridge is to be higher than the historic Windsor Bridge it replaces, but the semi-regular flood events which see the historic Windsor Bridge go underwater also inundate sections of Wilberforce Road and Freemans Reach Road to the north of the Bridge. In this way, the new bridge does not actually solve the problem it sets out to. The installation however of a taller bridge does provide a tangential or parallel benefit to industry on the northern banks of the Hawkesbury River, where a sandmining concern is located, and which it is presently impossible to reach with barges for transporting quarried materials.

Instead of investing public money in a new bridge which connects one flood prone road with another, a better use of taxpayer funds would be to build road links that could reduce the evacuation time for residents and workers in commercial precincts during catastrophic flood events.

In seven of the 12 sub-sectors (from 16 sub-sectors overall) identified in the Molino Stewart report where a proportion of fleeing vehicles would be unable to evacuate, the cause identified is traffic congestion arising from poorly engineered convergences of two major roads or single lane queuing to a motorway.

In light of this, road improvements and re-engineering at these seven intersections between Penrith and Windsor strike me as being a better investment of public money than raising the Warragamba Dam wall and inducing demand for yet more housing development on flood prone land and therefore yet more road traffic.

Inquiry Terms of Reference

A) Conflicting reports on the planning height for the dam wall raising and the potential use of the raising for additional storage capacity as well as flood mitigation

I hold grave concerns about the motivation of Water NSW, Sydney Water and the State Government's shareholder Ministers in those government owned corporations in respect of the Dam wall raising proposal. In so far as government owned corporations must ape a private enterprise, the profit motive that guides the management of these agencies will drive decision making – not risk management. If capacity at the dam is increased, Sydney Water will want to use that capacity to store the product for which it has the sole responsibility of collecting and then retailing. Every unit of water collected and stored is a unit that may be sold at a later date. It stands to reason therefore that an opportunistic future Managing Director or indeed an opportunistic future government may seek to maximise profits by once again filling the dam to the new, greater capacity.

In a context where the present Government has privatised some \$70Bn worth of public assets, including the desalination plant – which shows that our water infrastructure is NOT safe from economic rationalists – it is easy to imagine that a privatised Sydney Water, unshackled from the oversight of shareholder Ministers who have some electoral accountability, would indeed very quickly abandon the pretext of flood risk mitigation and use a newly raised Warragamba Dam to store more water so that it may sell more water.

On the other hand, the operation of the desalination plant year-round could provide some 15% of our water needs and allow us to reduce the amount of water held in the dam to 85% or 90% when storage levels are high.

The practice of never allowing the dam to ever truly fill is one that is undertaken at Wivenhoe Dam in Brisbane where over half of its capacity is set aside for flood mitigation. However, it is worth noting that even with some 50% of its potential capacity set aside for flood mitigation, that the Wivenhoe Dam did not actually flood-proof the Brisbane River, as the Brisbane floods of 2011 demonstrated. It is therefore improbable that the smaller amount of airspace set aside at a raised Warragamba Dam would fully flood proof the valley.

B) Plans for future property development on flood prone land on the Hawkesbury Nepean Floodplain

AND

E) the flood risk assessment and proposed flood management of the Hawkesbury-Nepean Valley and whether this meets international best practice standards

Various planning instruments at a local and state level indicate and promote significant development opportunities in the Hawkesbury region.

Molino Stewart said in 2014:

“In addition to possible development at Penrith Lakes, there are other greenfield and infill developments proposed for the floodplain. While none of those will be constructed below the current flood planning level (at or above the 1 in 100 per year flood level), there is potential for many thousands of dwellings and commercial developments in areas which would need to be evacuated in larger events”

The Hawkesbury Residential Land Strategy document, adopted by Hawkesbury City Council in May 2011, anticipated some 6000 new dwellings in the Hawkesbury Local Government area by 2030.

In the course of this, the same report projected a growth in the proportion of villas, town-houses, and semi-detached dwellings – from 11% in 2006 to 28% by 2031 – representing the vast bulk of the 6000 new dwellings.

It is the development imperative that this 2011 Land Strategy document responds to which I now worry is driving public policy decision making by the Liberal State Government.

In-fill and greenfields development of medium-density housing in an area that has already been identified as having inadequate road evacuation infrastructure is reckless in the extreme.

Furthermore, I worry that if all current development is constrained by mapping of the projected impact of 1:100 year flooding events, a push to raise the Warragamba Dam wall to mitigate that level of flood risk will only induce demand for developers to begin greenfields construction on land which has so far been wholly off-limits.

I also note that the 1:100 year benchmark is not used by equivalent jurisdictions elsewhere in the world, with the United States preferring a 1:500 year benchmark and the Netherlands using a 1:1250 benchmark.

We should be strengthening our development controls to mitigate the impacts of flooding rather than trying to prevent in perpetuity an otherwise inevitable future disaster.

The Draft EIS acknowledges that the biggest benefit to raising the dam wall by 14 metres is the mitigation of impact or risk associated with 1 in 10 year flood events; precisely the type which presently make it impossible to insure homes built on flood prone land. This reveals the lie underpinning the whole enterprise; the dam wall is not being raised to prevent some rare

catastrophe but to mitigate the risk of more regular, predictable flooding events that make development in some areas uneconomical.

There is also no guarantee that raising the Warragamba Dam wall will actually reduce flood risk to the extent promised by the project's most enthusiastic proponents.

Professor Jamie Pittock, from the Australian National University, has written extensively on the question of flood mitigation along the Hawkesbury Nepean River.

His September 2018 report, *Managing flood risk in the Hawkesbury – Nepean Valley; A report on the alternative flood management measures to raising Warragamba Dam wall*, makes clear that flood events in the Hawkesbury-Nepean region are caused by myriad factors and that raising the dam wall is not the simple solution to this complex problem.

He says:

“Flood risk has been exacerbated by local councils and the NSW Government approving housing developments on low lying lands over several decades. Unfortunately, flood risk is likely to worsen given NSW Government plans to dramatically expand the number of people living on the floodplain in north-west Sydney, combined with increased frequency of severe storm events due to climate change.”

...

“Importantly, no configuration of Warragamba Dam will prevent flooding in the Hawkesbury-Nepean Valley. Since the dam's construction in 1960, contribution of the Warragamba catchment to major flooding events has ranged from 73% to 42%. An average of 45% of floodwaters originate from catchment areas that are not upstream of Warragamba Dam (NSW SES 2015). This means that even if a raised Warragamba Dam was to hold back some flood waters, other catchments could still cause significant flooding in the valley. In fact, flood waters from the Grose River alone can cause moderate to major flooding of Richmond in the lower Hawkesbury (AWACS 1997).”

...

“The NSW Government's strategy for managing flood risk in the Hawkesbury-Nepean Valley is predicated on allowing more people to move into harm's way. The assessment of flood control favours raising the Warragamba Dam wall by ignoring its environmental and social impact, and the benefits of non-flood control alternatives. Alternative flood management options have additional benefits for western Sydney, including greater safety for the most flood prone residents, better transport, a more vibrant agricultural sector, a healthier environment and improved water security. It is therefore crucial that other flood management measures are considered in a transparent process that is tested through an independent review process to avoid the serious economic and social impacts of major flood events.”

C) Engagement between the NSW Government and the World Heritage Committee of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in relation to the project

AND

D) the adequacy of the Environmental Impact Assessment process to date, including the assessment of impacts on: (i) World Heritage, (ii) Aboriginal Cultural Heritage, (iii) ecological values of the Greater Blue Mountains National Park, (iv) the Warragamba community, (v) communities on the Hawkesbury Nepean Floodplain,

I am not surprised that this government has failed to adequately engage with and respond to the concerns of UNESCO about potential impacts on the Greater Blue Mountains World Heritage Area (GBMWhA).

This Government, alongside its allies in the federal government, has ignored the concerns of many environmentalists, heritage experts, Aboriginal elders, and local residents about potential impacts on the GBMWhA's heritage values and environment arising from the proposed airport at Badgerys Creek.

It is therefore not surprising that it would fail to engage with UNESCO in respect of its own infrastructure proposals that might put the World Heritage listing of the GBMWhA at risk.

The proposal would see 1300 hectares of World Heritage listed National Park flooded the next time the dam is allowed to fill. Even if this were to occur once and not be repeated for some ten or twenty years, this would cause permanent and irreparable damage to pristine wilderness areas and wild rivers that hold unique and significant biodiversity values and which include significant Aboriginal cultural sites.

Given the World Heritage Area was listed for its exceptional and unique natural environment and its rich biodiversity, it's worth noting that it is home to the critically endangered Camden White Gum as well as 48 other threatened species.

Ironbarks are also common in the area, as well as koalas and eucalyptus species which are the basis of the Greater Blue Mountains world heritage listing.

In addition to the permanent removal, destruction, damage and substantial alteration of the fabric of the World Heritage area, its archaeological deposits and artefacts, the temporary inundation would also flood a further 4500 – 5000 hectares of bushland adjacent to the GBMWhA that is not presently listed but which would have similar environmental and cultural heritage values as the area contained within the World Heritage area.

Dr Martin Schulz, an ornithologist, describes the region as a "secret biodiversity wonderland". In part because it is a protected water catchment area and because of its protection as a World Heritage site, the area has been protected from interference and introduced species or human activity. As a consequence, it is unique in the Sydney / near coastal context for remaining a fully functioning ecosystem.

Dr Schulz says:

"The area is so special because it is a functioning ecosystem, you have dingoes keeping kangaroos under control and it's all working like it should - it's healthy."

"None of these ecosystems are meant to be under water for a couple of weeks. It completely destroys them."

"It's going to flood rich versatile lands that we don't have left."

Conclusion

The raising of the Warragamba Dam wall does not enjoy the support of the Blue Mountains electorate. It will not work as intended, and will simply induce additional demand for development on a floodplain that has already been developed beyond what is sensible or necessary.

I am concerned about the irreparable damage to the Blue Mountains World Heritage area, the loss of significant Aboriginal cultural sites, as well as the inadequate consultation process, a lack of transparency from State Government, and an unwillingness from the proponents of this project to consider alternative flood mitigation strategies.

I am concerned too by the cosy relationship of this Stage Government with a development lobby that sees billion dollar investments by state government, using public money, as a pathway to private profit.

Hawkesbury City Council and the State Government have earmarked areas in the Hawkesbury-Nepean valley for significant infill and greenfields development that may only sensibly go ahead with some radical reduction in the flood risk profile for the region. Clearly, some see the raising of the Dam wall as the easiest way to achieve this. However, this ignores two crucial factors; firstly, it won't work. Secondly, the economic, social and environmental cost is too high.

The simplest solution is for State Government to improve certain evacuation routes to ensure adequate capacity for the existing population to escape a major flood event (which current roads presently do not) and to further ensure that no additional people occupy at-risk dwellings on flood-prone land.

This would provide the dual benefit of improving road safety and reducing travel times on those roads where potential improvements have been identified as well as retaining the environmental and heritage values of communities in the Hawkesbury-Nepean valley that are under threat of significant, reckless overdevelopment.

Trish Doyle MP – Member for Blue Mountains.