

Submission
No 43

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

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Date Received: 30 August 2019

Submission to the NSW Upper House Inquiry into the Raising of Warragamba Dam Wall

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Friday, 30 August 2019

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1 Executive Summary

As a long-term resident of the Hawkesbury area and having seen numerous floods, I am making this brief submission in strong opposition to the raising of Warragamba Dam wall. My primary contentions are these:

1. Raising the wall has no certainty of its stated objective of significantly mitigating flooding in the downstream Hawkesbury-Nepean riparian areas.
2. The cultural and environmental damage that will ensue during flood times will far outweigh any benefit achieved.
3. Education regarding the Hawkesbury-Nepean flood potential is much more cost and impact effective approach than the proposed wall-raising.

2 Submitter's Background

My background is as follows:

- Born in 1951, I grew up in and have been a resident of the Hawkesbury for much of my life.
- Professionally, I work as a consulting security and communications engineer with many years' experience working on large national and international projects in various capacities, including on risk management.
- My office is located in _____, and my home is at _____, both in the _____. The former is potentially flood-prone in a worst-case scenario, while the latter is not.
- I have a keen interest in the region's history and the preservation of its natural and cultural environment.
- I am also a long-serving member of, and deputy captain for, my local RFS volunteer bushfire brigade.
- My father was the Met Bureau's volunteer Kurrajong Heights rainfall recorder for many years, and a vital member of the Bureau's then *floodwatch* network. When young, I was his eager assistant.

3 Detailed Observations

I am hardly the first to argue that raising the Warragamba dam wall cannot meet its stated flood mitigation objectives, nor that the cultural and environmental impacts of doing so cannot be justified, but I wish to briefly put forward my own comments.

3.1 Plan Will Not Meet its Physical Objectives

Flood levels in the Hawkesbury arise primarily from two sources: rainfall in the Nepean catchment and rainfall in the Grose River catchment. Both have significant impacts, but as many long nights checking rain gauges and making calls to the Met Bureau during high-rainfall events attest, it is the fast transient pulse of water that comes down the narrow Grose River valley, venting into the Nepean to form the Hawkesbury River at Yarramundi, that greatly exacerbates flood peaks in the lowlands areas around Richmond and Windsor. Clearly, raising the Warragamba wall will do nothing to address the outflows of the Grose.

Further, it is well known that the overtopping of the Warragamba wall normally portends a considerable flood, and that - at least as is the received wisdom of many locals - allowing outflows from the dam before that occurs, while perhaps precipitating some flooding, also helps mitigate against more catastrophic impacts downstream. Raising the wall may decrease the incidence of such overtoppings but it is highly doubtful it will prevent them for all time.

3.2 Incautious Development and the Need for Regulation and Education

Each flood in living memory has inevitably given rise to calls for flood free access west of the Hawkesbury river, although in my reckoning, calls for the wall height to be increased – independent of any assessment of whether such a plan would be effective or not - have been relatively mute.

On the other hand, in recent times it is evident that developments continue to impinge on areas that – at least in my childhood - would have been considered wholly unsuited due to the historically understood flood risk in this area.

Foundation universal risk management principles include that any mitigation plan should be properly matched to the concern being addressed, take into account all relevant factors, and seek to implement the least disruptive, and most cost-effective control measures. Given that floods will almost inevitably occur regardless of increasing dam wall height, and that they will be limited in duration to a few days, I believe that the correct approach to the problem are not to raise the wall but:

- To discourage further development in flood-prone areas by regulation;
- To manage water levels in the dam to best mitigation effect using the existing dam wall height; and importantly
- To adequately communicate the flood potentials to the general public - especially newcomers to the affected districts - and encourage residents and other interested parties to understand and make provision in their lives for these highly transient events.

3.3 Cultural and Environmental Harm

I do not propose to recapitulate in detail the cultural and environmental impacts that will be occasioned when water backs up over previously unaffected areas within the World Heritage listed area due to the wall raising – these will have been well articulated out in other submissions. However, I do wish to encourage the committee to take into account the irreversible damage that will be done to such a critical area of habitat and Aboriginal history.

With the Amazon on fire and the ravages of climate change starting to make themselves felt, it is imperative that we conserve what few relatively pristine land areas still remain, this World Heritage area being a very clear example.

3.4 Floodplain Productivity

Finally, and not wishing to gasp at straws, it is often overlooked that while floods doubtlessly cause some measure of distress, damage, and inconvenience, nonetheless the fertility of large areas of the Hawkesbury floodplain adjacent to the river have historically derived from the periodic delivery of fresh silt occasioned by a naturally recurring flood cycle. It is at least worth giving passing consideration to the beneficial and renewing effects floods can have.

Yours faithfully,

Andrew Waterhouse

