

Will raising the dam wall solve flooding on western Sydney floodplains?

Premier Perrottet has declared the raising of the dam wall with this revised EIS this time as 'Critical State Significant Infrastructure' as a means to limit legal intervention and further planning processes, stopping any community scrutiny of the proposal through the courts. NSW Planning Minister Anthony Roberts released the Preferred Infrastructure Report (PIR) into the raising of the Warragamba Dam. Rather than addressing the deep flaws the EIS contained, this report instead **clears the way for the NSW Planning Minister to approve the project next year which is wrong.**

The question is would a higher wall for Warragamba Dam solve the flooding problems of the floodplains in western Sydney? In heavy rain flood water spills into the Hawkesbury-Nepean Valley causing this area to flood. The government's plan is to increase the reservoir's height by 14-17 metres. But experts say it will not reduce flood risk when it really buckets. Flooding and overspill from the rivers will still occur with experts indicating the raising of the dam wall will only have a 50% success rate but the environmental and cultural damage will be immense.

I strongly oppose the raising of the dam wall because the intended outcomes to protect people and their homes will fail.

-The Warragamba dam holds 2,000bn litres of water, equivalent to about four times what is in Sydney Harbour. It was built more than 60 years ago, draws water from the Wollondilly River to the south-west and the Cocks River to the north, and provides about 80% of Sydney's drinking water. It was never intended to be a mitigation strategy for flooding.

-According to the experts in the field, if the dam wall had already been raised, the flooding experienced this year in 2022 would have still occurred on these floodplains downstream. **The flood risk for many properties still remains regardless of a higher dam wall. Professor Jamie Pittock** of the Australian National University said, "The fact is that the NSW Government is planning for 134,000 more people to move onto the already over-populated floodplains, where people will still be exposed to the worst and most dangerous floods no matter how high a wall is built. If the NSW Government is really concerned about flood risk, it should *limit further development* in harm's way on the floodplain. The government needs to focus on upgrading evacuation roads in Western Sydney so that residents can get out safely, as these evacuation roads are being cut off long before major floods hit."

-**Dr Chas Keys**, former SES Deputy Commissioner, said, "The proposal to raise the Warragamba Dam wall is **flawed** on several counts and should not be proceeded with. It promises mitigative benefits but may actually **exacerbate** the problems created by severe flooding. Warragamba Dam is not on the Nepean or the Grose Rivers, both of which can produce large floods without a drop of water flowing over the Warragamba Dam wall. Therefore raising the dam wall **cannot** control flooding on these major tributaries of the Hawkesbury River."

-The Insurance Council of Australia are also opposed to the raising of the dam wall, and they are the **leading experts** on floodplain risk in Australia. They know that **raising the dam wall would be ineffective at reducing flood risk.**

-The current flood events this year dumped about 1,500bn litres into the dam. Even if the wall was raised as proposed, that would still have left 500bn litres spilling onto the floodplain below. Homes would still flood and with constant heavy rain periods, it only delays the flood peak, and the other homes eventually succumb to flooding.

-Building the dam wall is very costly that may save some homes. As rain falls directly into the river catchment systems of the Hawkesbury-Nepean rivers, water levels rise from these sources and flood homes built near these river systems. The longer the rain falls the wider the spill is from these major rivers, spreading across vast low-lying areas. Several tributaries meet at a choke point in the river system, constricting the flow in the area where the Hawkesbury River drains the valley.

Geography plays a big part in flooding. You cannot correct this aspect. However, governments have a moral and an ethical responsibility as the Premier Perrottet claims 'to protect people'. If you are going to protect people, all future residential development on these low-lying floodplains must end.

The disadvantages to raising the Warragamba Dam Wall -environmental, cultural, world heritage

From an environmental perspective, officials and scientists have warned it would have a major impact on the Blue Mountains world heritage area upstream from the dam.

-Leaked federal environment department documents have suggested it could affect half the remaining global population of the **critically endangered Regent Honeyeater** and could lead to the extinction of forest woodland communities. The Project's biodiversity offset strategy for the Regent Honeyeater must be considered more closely. Offsets are rarely an appropriate response to proposed biodiversity loss and especially for critical habitat for the survival of a species. There is **no evidence** that breeding habitat for Regent Honeyeaters can be successfully offset. Flooding the Burratorang Valley will be tantamount to signing off on the **bird's extinction**. It would also kill greater gliders, a vulnerable species that have already been severely affected by the 2019-20 bushfire disaster. There are serious concerns that WaterNSW's assessment has not assessed risks to other endangered species.

- An Environmental Impact Statement (EIS) confirms that this proposal would have a significant impact on numerous threatened species, identifying up to 76 threatened plant species and 16 threatened species of birds and other animals that could be impacted.

- Upstream inundation would also destroy the mighty Kowmung River, 6,000 hectares of the World Heritage-listed Blue Mountains National Park.

- The Blue Mountains area is the home of many species ranging from ground and tree frogs, bush birds, swallows, swifts, kingfishers, parrots, waterway birds, birds of prey, nocturnal birds, the Spotted-tailed Quoll, Koala, Yellow-bellied Glider, Long-nosed Potoroo, Green and Golden Bell frog, the Blue Mountains Water Skink geckoes, turtles, bandicoots, kangaroos, brush-tailed wallaby, possums, gliders, monotremes, wedge tailed eagle, wombats, emu and many species of fish. This proposal will affect their survival by destroying their habitats.

-Much of the area to be flooded supports grassy woodland and dry open forest ecosystems *identified as priority conservation habitats by the NSW National Parks and Wildlife Service*. There is concern for the loss of threatened woodland ecosystems, threatened flora species.

-There are also dozens of recognised Aboriginal heritage sites upstream that could be wiped out. The extent of the potential damage prompted the UNESCO world heritage committee to express their concerns that it could affect the outstanding universal values that has made the Blue Mountains a globally recognised site. The Blue Mountains has culturally recognised Aboriginal sites that **must** be protected.

-The state government's desire to build this higher wall on the dam is opposed to the recent federal government's announcement in November to legislate a new Cultural Heritage Protection Act which includes a review of all Aboriginal Heritage Areas including the Blue Mountains. The government's desire to build this wall **will destroy Aboriginal sites**. Over 1541 identified cultural heritage sites would be inundated by the Dam proposal. Aboriginal People were not consulted appropriately and fairly in this process at all by this government.

-**The revised Environmental Impact Statement (EIS) for raising the Warragamba Dam** has completely disregarded the concerns of Traditional Owners, by not including important information about sacred sites that would be flooded. Traditional owners want their culture and heritage protected.

- The government has been warned that the Warragamba project could put Australia in breach of its obligations under the world heritage convention.

-The astronomical costs, the impact on precious world heritage areas, environmental values and important indigenous landmarks should not be dismissed as insignificant excuses. They are significant when we are in the midst of an environmental crisis in Australia and globally. The NSW government are also claiming that biodiversity offsets won't be needed because the damage is temporary, not permanent as flood waters recede. Koalas, wallabies, wombats, platypus, emus, and many more threatened wildlife will be carried away by raging strong flood waters in an instant. Their homes will be destroyed instantly, many will drown. How much of our wildlife would die is beyond comprehension. And while waters recede over a few weeks or even months how do surviving wildlife manage to stay alive with no food source and no habitat but just water surrounding them? A huge biodiversity offset of \$2.88 billion in a draft assessment from 2019 is now being referenced by the government as something that is not necessary

because 'the inundation is temporary and only occurs during big floods', despite ecologists saying the **impacts** would be permanent. **This is irresponsible of the government not to apply biodiversity offsets as their actions will destroy wildlife, habitats, and a world heritage site.**

-UNESCO has criticised the "inappropriate" proposal to raise the Warragamba Dam wall by 14 metres, warning the current plans have not addressed key concerns in a Technical Review undertaken by its scientific advisors at the International Union for the Conservation of Nature (IUCN). There is a very real threat that raising the Warragamba Dam wall may result in the de-listing of the Greater Blue Mountains from the UNESCO World Heritage List. This is because it will impact upon the values for which the park was listed. The Australia International Council on Monuments and Sites, an Australian Committee for the body which advises UNESCO, has warned of the potential for the Blue Mountains to be placed on the World Heritage in Danger List if the dam raising were to proceed.

-The proposal to raise the dam wall would place 65 kilometres of wilderness streams and rivers within the World Heritage site under direct threat from dam water inundation. Australian Government documents obtained through a freedom of information request have said of the dam proposal that "The impact of increased flood water levels within the dam is likely to have **extensive and significant impacts on listed threatened species and communities and world and national heritage values of the Greater Blue Mountains World Heritage Area.**" A very clear warning that this government is ignoring.

- The Preferred Infrastructure Report (PIR) even opens the **possibility for changing the World Heritage (The Blue Mountains National Park) area boundaries, in an attempt to avoid Australia's international obligations** as the NSW government seeks to raise the height of the Warragamba Dam wall. Changing the boundaries of the heritage site is to make it fit the government's intention and purpose.

- The recent EIS report has attempted to downplay the destruction of World Heritage and National Park. Environmental damage to a world listed heritage site is given minimal concern. The reality is an estimated 65 kilometres of wilderness rivers, and 5,700 hectares of National Parks, 1,300 hectares of which is within the Greater Blue Mountains World Heritage Area, would be inundated by the Dam project.

Should we build on floodplains?

That is a planning and political question, but it has significant implications.

Increased urban development on the floodplains increases the flood risk. The government must re-assess their own approvals system to build in these areas. Experts says that approvals to build in these low-lying areas should never have been given. I agree that the government must get serious about solving this problem for the long term and look at relocation packages for people to keep them safe. The building of a dam wall has also been a government push and desire to open up even more development on these flood-plains to greedy developers. There is an economic bias to build the dam wall for further residential development. I strongly caution the government as this could open up more problems for them in the future.

Putting tens of thousands of homes in a potentially major flood path has failed elsewhere – notably in Brisbane, where 35 people died in 2011. The government is urged to be incredibly careful around this issue. This would be a catastrophe-more homes, more people displaced, more problems for the government to solve with possible legal challenges and people dying because they supported greedy developers.

Government and Organisation Concerns

-Current and outgoing parliamentarians and ministers have expressed legitimate concerns around raising the dam wall. John Barilaro before his resignation suggested that the government should be considering other options to raising the wall, such as maintaining the dam at its current height, routinely keeping the water well below capacity to allow for flood mitigation and building another desalination plant to meet Sydney's water needs.

-Parliamentarians argue that massive dams do not stack up economically or environmentally. Much of the concern about the Warragamba wall raising proposal has come from within NSW government departments who obviously have information concerning the damage this would cause as well as the limited success of preventing mass floods on low lying areas.

-Opposition leader Chris Minns advocates that we need to focus on the people living there and support them through buybacks of land for relocation. Improved infrastructure in the area must also be built to support people better in mass floods and mass evacuations. I agree that a more economical solution is to financially support people to relocate rather than throwing billions at a project that will only have a 50% success rate in protecting people from flooding. Flooding will always occur downstream on low lying floodplains near rivers, regardless of an extended wall on the dam.

-The NSW Department of Planning, Industry and Environment plus Heritage NSW and Sydney Water have all voiced substantial concerns about the project during the planning process.

-The Insurance Council of Australia, the nation's leading flood experts, as well as environmentalists and conservationists, government departments oppose the raising of the Warragamba Dam wall. They are deeply concerned about the irreversible damage to a world heritage listed site that can never be replaced.

- The National Parks and Wildlife Service has said that the EIS had failed to address impacts on species and ecological communities affected by the catastrophic bushfires, that ripped through this area.

- Heritage NSW said the EIS failed to properly consider cultural heritage values or adequately consult Traditional Owners.

- Fluvial flooding experts and Federal Government officials have also raised several concerns about the proposal to raise the height of the dam wall.

- Wollondilly Shire Council and the immediate community has condemned the inadequacies of the EIS for the Warragamba Dam Wall raising project. Wollondilly Mayor Matt Gould fears that raising the dam wall would not achieve the flood mitigation outcomes that are being touted. The cost is too high causing significant damage to the area's unique indigenous heritage and native species.

- A submission by NSW Department of Planning Industry and Environment echoed serious concerns and said: "Notably, the EIS makes incorrect assumptions about how to determine World Heritage values, and therefore how to evaluate impacts on those values."

- The Australian branch of UNESCO's official cultural advisers, the International Council on Monuments and Sites (ICOMOS), wrote that the EIS was "fundamentally deficient" and the "very nature of the project is at odds with obligations that arise from the World Heritage Convention."

- Former Planning Minister Rob Stokes in September 2021 *ruled against declaring the Warragamba proposal as 'critical state infrastructure' due to concerns the move would strip government environmental departments of important tools to safeguard the dam, which provides 80 per cent of Sydney's drinking water.*

- The Australian Department of Energy and Environment have said they believe *"the impact of increased flood water levels within the dam is likely to have extensive and significant impacts on listed threatened species and communities and world and national heritage values of the Greater Blue Mountains World Heritage Area (GBMWHWA)."*

- Recently the NSW government's legal auditors released a 77-page review of the project's EIS. The auditors found that the EIS for raising the dam had been improperly prepared by both NSW Government agencies and SMEC Engineering, and that both organisations had not behaved transparently during the auditor's investigation.

-NSW Government's own leaks on crucial information has revealed that raising the dam walls would be largely *ineffective at mitigating severe floods* anyway in the Hawkesbury Nepean Valley. The leaked graphs show the anticipated billion-dollar dam project only offers a very small reduction for the probable maximum flood.

-The *UNESCO committee* have said the proposal to *raise the dam wall* is incompatible with Blue Mountains world heritage listing. UNESCO has stated that *"such inundation of any areas within the [Blue Mountains] property is likely to impact on its outstanding universal value (OUV)."*

-There are serious concerns held by Sydney Water and Health NSW about the effects the dam project would have on Sydney's **drinking water quality** which have been dismissed in the revised EIS report.

The above statements reflect ongoing concerns for this project that worries the public immensely. There are more issues against the raising of the dam wall and the negative permanent impacts that it will cause. I caution the government to look more closely at cost-effective strategies and other alternatives rather than raising the dam wall.

Other Alternatives

All strategies for flood mitigation must be considered **fully and impartially** before any proposal to raise the wall and destroy a heritage listed site is even considered. There are faster and better options than raising the Warragamba Dam which have not been carefully considered to manage and mitigate flooding along the Hawkesbury-Nepean rivers. The money allocated to build the wall could be re-directed to immediately help affected residents and provide them with options now.

-45 per cent of floodwaters do not come over the top of Warragamba, they come down the Grose, Colo, and Nepean Rivers. The Windsor area also floods because of the Hawkesbury River, likewise areas around Liverpool flood because of the Georges River. Rivers in regional towns of NSW flooded because of their close proximity to river systems like Lismore. If we are serious about managing the risk along the Hawkesbury-Nepean Rivers, the first thing we need to do is **stop building more houses too close to rivers and on floodplains**.

- Professor Jamie Pittock, a water management expert at ANU, said “money should be invested in a permanent safety solution of moving people out of these areas, through a **relocation process**.” The money allocated to building the dam wall could be used instead to relocate people rather than destroy a world heritage site. Raising the dam wall will only have a 50% success rate, as the downstream rivers still flood.

-Curbing development in the future on the floodplain would help address flood mitigation. Residential development should have been government controlled on these floodplains to start with instead of letting it get out of control.

- Establish a **Western Sydney Flood Resilience Plan** to improve and better manage flood evacuation roads including mitigation routes, levees, and critical communications infrastructure to bolster flood prevention and evacuation infrastructure.

- Water can be released from Warragamba Dam prior to heavy rains through BOM’s advance warning notices to create more of an ‘air gap’. By lowering the drinking water storage you create an additional **permanent air gap** and offset this through greater and more active use of the **desalination plant** that we are already paying for and that is currently not being used.

- Raise river-bank levees to protect affected properties.

-Redirect the billions of dollars that raising the dam wall would cost into flood evacuation routes and road infrastructure that is desperately needed for at-risk communities across Greater Western Sydney and which would also improve transport links on a day-to-day basis.

-Even if Warragamba Dam were raised the Hawkesbury-Nepean would still be at risk of catastrophic flooding. We need to be able to get people out quick. Emergency responses need to be better organised with already prepared facilities to take people to, so preparation and planning is essential. The money allocated to build a dam wall could be redirected to prepare for flood events better, which was a clear failing by the NSW government identified in the recent floods this year.

-Develop a government program of compulsory acquisition of existing downstream flood affected properties over time to create floodplain open space corridors to capture water. This is essential. Clear some of the lowest points in the floodplains first to capture this water. These areas should never have had houses on them in the first place. Insurance Council of Australia boss Andrew Hall said the public money spent raising the wall would be better used buying back flood-prone land. Historically poor planning decisions were made by previous governments with no government since having the vision or desire to correct these mistakes. Buy-backs could be offered to people willing to relocate who want to leave areas on identified flood plains in western Sydney. Those residents who would rather stay could be offered government funded support to modify their homes and raise homes to higher levels making them more resilient in flood times.

-These alternatives could include international best practice floodplain development controls, flood evacuation routes, property repurchase schemes, construction of downstream flood diversion structures, and integrated dam management and climate forecasting.

We currently have a twin crisis occurring at the same time- a climate crisis fuelling an environmental crisis. We cannot solve one without the other. Extreme flooding in the western Sydney areas is a result of climate change.

Governments MUST recognise that nature is a solution to climate change. This is a huge cost attached to a 50% success rate at best! Destroying this heritage listed Blue Mountains will not help solve climate change. We need our forests intact as carbon capturers as one of the solutions to climate change. We need our forests protected to protect our wildlife that are fast disappearing.

In October 2022 Minister Plibersek said, "We have identified 20 priority places around the nation which are places we know are very rich with biodiversity and where we can make a really big impact on protecting biodiversity." Fourteen sensitive regions on the mainland will be prioritised including the Blue Mountains. Raising the wall works in opposition to the Federal government's plan to protect the Blue Mountains which is a nationally recognised heritage listed area. The state government's plan to extend this wall and destroy parts of the Blue Mountains works against the Federal government objectives to PROTECT biodiversity and ecological communities.

This is a complex problem which will need a coordinated, bold approach to implement various strategies. Simply raising the dam wall is not the answer, with a mediocre success rate, and properties still flooding and with major damage to a world heritage protected site and sacred sites, coupled with negative impacts on wildlife and their habitats, this would be a poor decision by the government.

Your sincerely

Martin Derby