

Submission
No 49

**INQUIRY INTO RATIONALE FOR, AND IMPACTS OF,
NEW DAMS AND OTHER WATER INFRASTRUCTURE IN
NSW**

Organisation: The Nature Conservancy Australia

Date Received: 22 September 2020

The Chair, Portfolio Committee No.7 - Planning and Environment

NSW Parliament House

Macquarie Street, Sydney NSW 2000

By email: portfoliocommittee7@parliament.nsw.gov.au

Dear Madam,

Submission on the rationale for, and impacts of, new dams and other water infrastructure in NSW

The Great Cumbung Pty Ltd as Trustee for The Great Cumbung Unit Trust (GCUT) welcomes the opportunity to provide input into this inquiry.

GCUT is a partnership between Tiverton-Rothwell Agricultural Impact Fund and The Nature Conservancy. GCUT is the landowner one of the most significant agricultural properties in the Southern Murray-Darling Basin – the Great Cumbung, comprising Juanbung and Boyong stations. Containing a wetland of international significance, the Great Cumbung, lies at the terminus of the Lachlan River. The GCUT operates a mixed agricultural enterprise that relies on the health of the Lachlan River. If the health of the Lachlan River was to be compromised, so would our business, the livelihoods of the local people we employ and the natural and cultural values of the Great Cumbung.

Given our interest in the Lachlan River, we will keep the scope of our submission to the Wyangala Dam project.

Response to the Committee's terms of reference:

1. **The need for the projects**, including the historical allocation of water and consideration of other options for ensuring water security in inland regions.

The Wyangala Dam project aims to deliver a number of benefits including reduced flood risk and increasing reliability of general security water.

- a) Reduced flood risk. There is no publicly available evidence that building extra storage is the best of available solutions, or that the potential harm that this would cause to downstream users and the health of the river and the environment is worth the cost. Alternatives to raising the wall height may lead to better system resilience and more cost-effective solutions to mitigate the risk in the long term but the modelling of alternatives either has not been done or is not publicly available.

Furthermore, raising the wall height will only be a flood risk measure for the most extreme scenarios. It will not account for flooding in the tributaries below the dam (more frequent and likely) and will mean less funding is directed to the more likely and frequent risk.

Inundation of the downstream floodplains has multiple benefits that will likely be compromised by raising the dam wall height, including fodder production for stock, timber production and fishing. Natural flooding supports six wetlands of national significance (including the Great Cumbung) which in turn supports landscape resilience and community resilience. Where flooding is likely to cause some localised impacts, moving infrastructure

out of the way and restoring wetland systems to slow and spread flow across floodplains may lead to greater landscape resilience. These alternative solutions may also be more cost effective in the long term. But we don't know either of these things with any degree of certainty because the modelling work has not been done or is not publicly available.

- b) Increasing reliability of general security water entitlement take by 21 GL/yr. There is no publicly available business case, cost benefit analysis or other modelling to demonstrate why raising Wyangala Dam has been proposed over other options, for example, investment in more efficient water infrastructure. Infrastructure upgrades have other benefits, for example, increasing the productivity of irrigation farms and ongoing local employment in upgrades and maintenance. Further, the raising of the dam wall height will not make it rain and so may be a poor use of public funding under accelerated climate change scenarios. Again, we are not able to make that assessment one way or another because the basic information needed to do that has not been made available.

2. **The economic rationale and business case of each of the projects**, including funding, projected revenue, and the allocation and pricing of water from the projects.

No business case or cost benefit analysis has been made available publicly to justify this project from an economic perspective either.

Raising the existing Wyangala Dam wall aims to increase storage capacity by 650 GL (54%). We understand the NSW and Federal Governments have committed to \$650 million for the construction of the wall raising of the Wyangala Dam. By our calculations would be over 30 times more cost effective to purchase 21 GL /yr of general security water on the spot market than it is to raise the dam wall.

3. **The environmental, cultural, social and economic impacts of the projects**, including their impact on any national or state water agreements, or international environmental obligations

Our advice suggests raising the Wyangala Dam wall will fundamentally change water flows downstream in the Lachlan River and ultimately the Great Cumbung wetland – a wetland of national and international significance. It will risk our business and the livelihoods of the local people we employ and it will impact on Indigenous culture (through reduced flows) and natural values.

The project proponent acknowledges that several threatened species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) are likely to be impacted including Silver Perch, Murray Cod and Macquarie Perch.

The parlous status of the Lower Lachlan is reflected in the NSW Government listing the “Aquatic ecological community in the natural drainage system of the lowland catchment of the Lachlan River” as an endangered ecological community (EEC) under the *Fisheries Management Act 1994* (NSW). This means that it is likely to become extinct in nature in NSW unless the circumstances and factors threatening its survival or evolutionary development cease to operate. The proposal to increase the height of the Wyangala Dam wall will inevitably restrict large flow events reaching the lower Lachlan. This directly impacts on the EEC.

In addition, we are advised, a myriad of other listed threatened species are likely to be impacted (as identified in the proponent's report) including:

- Fish: such as the golden perch, big-headed gudgeon, olive perchlet, southern pygmy perch, Murray cod, and western carp gudgeon
- Frogs: such as the Sloane's froglet, Booroolong frog, yellow-spotted tree frog, southern bell frog and stuttering frog
- Birds: such as the magpie goose, Australasian bittern, brolga, black-necked stork, Australian painted snipe, black-tailed godwit, blue-billed duck, eastern osprey, freckled duck and curlew sandpiper
- Plants: such as the spike rush, dense cord rush, Austral pillwort, Klaphake's sedge, winged peppergrass and Menindee nightshade."¹

Migratory species (protected under international conventions: JAMBA and / or CAMBA and the EPBC Act) that are likely to be impacted by the project at the Great Cumbung, include: Great Egret, Glossy Ibis, White-bellied Sea-Eagle, Sharp-tailed Sandpiper, Latham's Snipe, and the Common Greenshank.

The Commonwealth Environmental Water Holder stated that the Great Cumbung Swamp at the end of the Lachlan River is "one of the largest stands of river red gums in New South Wales and is one of the most important waterbird-breeding areas in eastern Australia."²

Therefore, we are advised this project threatens not only the Great Cumbung's nationally and internationally significant wetland ecosystem, but it also compromises national policy commitments under the National Water Initiative and Murray-Darling Basin Plan.

4. **The impacts of climate change on inland waterways**, including future projections, and the role of dams and other mass water storage projects in ensuring security of water supply for social, economic and environmental outcomes/.

There is a lack of hydrological assessments to be able to answer this with any certainty. The scoping report provided under the Commonwealth EPBC Act referral pointed to this lack of hydrological assessments stating: "Water balance modelling will be conducted to confirm yield and security of supply and will consider any requirements of the water sharing plans and SDLs (such as cumulative impacts associated with water extraction/allocation), which have been developed in accordance with the MDBP [Murray-Darling Basin Plan]." The fact that this modelling has not yet been done is concerning.

In addition, there is a lack of assessment of the impact on groundwater. Groundwater is recharged by peak flow events that a higher dam wall will likely prevent but we do not know the extent of that impact because the modelling has not been done, to our knowledge.

¹ https://www.industry.nsw.gov.au/_data/assets/pdf_file/0007/145393/Lachlan.pdf

² <https://www.mdba.gov.au/discover-basin/catchments/lachlan>

5. Water infrastructure technologies that may promote enhanced environmental outcomes.

We suggest the following be considered.

- a) **Managing existing infrastructure better.** This is a very expensive project in terms of public funding expenditure, impacts on the environment and on water users, such as farmers, downstream. Optimising the current Wyangala Dam and other infrastructure may improve outcomes at far less cost and for the benefit of many more users.
- b) **Modernise irrigation infrastructure** to increase efficiency of water use. The irrigation schemes in the Lachlan Valley have not benefited from the infrastructure upgrades for decades. Clearly, the Federal Government in allocating \$3.1 billion to infrastructure upgrades considers such expenditure a good use of public money to improve water security. Efficiency would only need to be increased by 13% of the sustainable diversion limit to cancel out any benefits from raising the dam wall. A proposal ten years ago to modernize the Jemalong irrigation scheme was reported as having the potential to save 20 GL/yr. Such work would help reduce salinity problems in the Lachlan Valley. Further, investment in infrastructure upgrades are likely to generate more jobs in local towns along the valley than the dam wall raising. Being able to direct flows to parts of the Great Cumbung that need it most would certainly assist with our business and in managing the natural values of the land.
- c) **Managed aquifer recharge.** Security of water supplies for towns can be improved through a range of measures that include managed groundwater recharge, better use of groundwater and greater wastewater recycling. Again, this is a cost-effective alternative that offers socio-economic benefits for local communities that could be considered.
- d) **Manage flood risks.** Where infrastructure downstream of Wyangala Dam is at risk from the infrequent flood events, alternatives include relocation and strengthening. Measures to 'give the river room' to flood safely is a standard approach to managing flood risks in China, Europe and the United States. Implementation of existing floodplain management plans for the Lachlan valley would be a good starting point.

We have serious concerns about the lack of a business case including cost benefit analysis and hydrological modelling for the project. We can only assume this means the work has not been done or it does not support the case for the project proceeding. There are several alternatives to the project that should be considered in the context of any business case scenario modelling.

We also have serious concerns about the impact of the project on the internationally and nationally significant natural and cultural values of the Great Cumbung and the Lachlan Valley more broadly.

Lastly, we have concerns about the impact of the proposal on the ongoing employment of local people and the viability of the communities they represent.

Thank you for considering this submission.

Yours sincerely,

The Directors

The Great Cumbung Pty Ltd as Trustee for The Great Cumbung Unit Trust