Submission No 57

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

Name: Professor Uwe Proske

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Death of a landscape: The case for raising the Wyangala Dam wall

> I had written him a letter which I had, for want of better
> Knowledge, sent to where **I met him down the Lachlan**, years ago,
> He was shearing when I knew him, so I sent the letter to him,
> Just "on spec", addressed as follows: "Clancy, of The Overflow".
>
> Banjo Patterson's "Clancy of the Overflow" December 1889

I asked my children where they thought the “Overflow” was, and they didn’t know! The thought that the Booligal wetlands had once been called that surprised them.

Wyangala Dam was built in 1935. It captures most of the run-off from the Lachlan river’s principal catchment in the Dividing Range near Cowra. To increase the dam’s water holding capacity, the dam wall was raised in 1971, increasing capacity fourfold. When full, the dam currently holds the equivalent of twice the volume of water in Sydney Harbour. Now the proposal is to raise the dam wall again, this time by 10 m, to increase the current capacity by a further 50%.

What might be the NSW Government’s case for a further raising of the wall? The claim is that NSW is facing critical water supply issues. Here, presumably, the sub-text reads climate change. To emphasise the importance of the dam wall raising, the project has been designated a “Critically Significant State Infrastructure” project (CSSI). That, I assume, gives licence to fast-track the project.

I note from perusal of the proposed elements in the Environment Impact Statement to be prepared for the project, all of them, except “water” concern issues that are local to the construction site for raising the dam wall. That misses the point! Raising the wall will have devastating impact on the Lachlan, downstream. The objectives cited to be achieved by raising the wall include:

1. Faster economic growth
2, Drought security
3. Flood management
4. Minimise environment impact
5. Value for money

None of these objectives seems particularly persuasive. For “Flood management”, read fewer floods. For “Minimise environment impact”, read disaster for the Lower Lachlan.

The “Overflow” consists of the wetlands of the Lower Lachlan. Important sites include the Merrimajeel Creek, Muggabah Creek and associated Lower Gums Swamp, Murrumbidgil Swamp and Lake Merrimajeel, Peppermint Swamp and the Great Cumbung Swamp. There are many others, but these are sites which, historically, have particularly attracted bird lovers and environmental enthusiasts. As a result of the 1971 dam wall raising, water flows to the

Lower Lachlan have fallen by 50%, leading to signs of stress in all of these swamps. If they are not dead already, they surely will be when the wall goes up.

Many people see a wetland as something untidy, wasteful. Couldn't the water be put to better uses? That is the naïve view of an ignorant. These wetlands have evolved over thousands of years. They were preserved during the custodianship of the Aborigines who took a respectful, subsistence approach to living with the land. They didn't share our urge to exploit and make profits. Now these wetlands are in trouble!

The country the Lower Lachlan flows through is semi-desert. That makes the river and its floodplains especially precious. All local living things depend on it. The principal player in the Booligal Wetlands is the red gum. It has quite specific requirements, a fact that we are only beginning to recognise. It needs inundation every three years. Red gums do not depend on soil seed banks for propagation. They retain most of their seeds in the canopy and release them as light, continuous seed rain. Successful regeneration requires adequate soil moisture which is provided by a flood event.

While the Booligal wetlands need more water, it must be delivered in particular ways. Red gums don't like to stand in water for long periods. Construction of levee banks across parts of the Great Cumbung Swamp has led to retention of flood water, resulting in large areas of red gums drowning. The dead trees are then cut up for firewood.
"If water storages in some of the wetlands were given a drying out period, then nutrients could be replenished and shoals of European carp would be destroyed. This would lead to attraction of a diversity of waterbirds" (Maher, 1990).

"For some wetland attributes, areas in the Lower Lachlan rank amongst the most important known in Australia" (Bennett, 1992). Indeed, these wetlands, providing refuge for rare migrant species of birds, have international significance. Many localities are prime waterbird breeding sites and a large part of the area has been nominated for National Estate status (Magrath, 1992). In 1990 there were 45000 pairs of straw-neck ibis breeding on Merrimajeel Creek. The history of this colony is interesting because it demonstrates the delicate balance we are playing with when we manipulate our weirs and regulators and build levee banks.

There have been two documented breeding events,1984 and1989, when straw-necked ibis deserted nests due to rapid drops in water levels as the flood subsided. In 1984 the rapid falls in water and nest desertion by some adults triggered the construction of a block bank in 1992. The Block bank has been used as a water management tool since then during breeding events (Brandis, 2015). But its presence has implications for water users downstream on the Merrimajeel. One of the finest red gum swamps in the Booligal district is Murrumbidgil swamp. It is fed by water from Merrimajeel creek. The presence of Block bank upstream has impeded and slowed water flows in the creek and into the swamp, leading the creek to become choked with weeds. The swamp is slowly, inexorably dying. The majority of trees are stressed or dead. Clearing the creek of weeds is controversial because it interferes with the lateral spread of water upstream. The solution to this problem is to provide larger, longer

floods for the Lower Lachlan, but, again, that is something users further upstream will oppose.

River regulation and water extraction for irrigation have effectively cut the Lachlan off from its floodplain and the results are catastrophic (Armstrong, 2008). The red gum swamps of the Booligal wetlands have experienced a 15-year decline in health and this decline has accelerated in recent years. If this decline continues, these swamps and their associated terrestrial and aquatic life will be lost. Environmental water flows are the immediate answer. Supporters of "Raising the wall" will claim that the extra water held by a bigger Wyangala will provide opportunities for such flows. But that is not how it works. The Lower Lachlan needs large, long, intermittent floods. Motivation for raising the dam wall is driven by fear of climate change and the clamouring calls of irrigators. Will they allow more water downstream?

We are only custodians of the land. We inherited it from the Aborigines and we will pass it on to our children and grandchildren. The scenario that is unfolding has catastrophic consequences for the Lower Lachlan. The land is degrading, the trees dying, the birds gone. Is that what we want to pass on to the next generation? Don't raise the dam wall, I say. Otherwise we will regret it.

References

Armstrong, J., Kingsford, R., and Jenkins, K. (2009). The effect of regulating the Lachlan River on the Booligal Wetlands—The floodplain red gum swamps. (Report from University of New South Wales, Sydney.)

Bennett M (1992). Water management strategy for the wetlands of the Lachlan Valley floodplain. Department of Water Resources, NSW Lachlan Region.

Brandis K (2015) Response of straw-necked ibis (*Threskiornis spinicollis*) to Commonwealth environmental watering in the lower Lachlan, 2015. Report prepared for the Commonwealth Environmental Water Office 2016.

Maher PN (1990). Bird surveys of the Lachlan/Murrumbidgee Confluence Wetlands. NSW National Parks and Wildlife Service.

Magrath MJ (1992). Waterbird study of the Lower Lachlan and Murrumbidgee Valley wetlands in 1991/2. A report prepared for the NSW Department of Water Resources.