

Natural Resources Commission
Level 6, 52 Martin Place, Sydney NSW 2000
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30 June 2023

Submission on the Water Sharing Plan for the Murrumbidgee Regulated River Water Source 2016

Dear Sir/Madam,

The National Parks Association of NSW (NPA) was formed in 1957 and sixty-three years later there are 15 branches, 4,000 members and over 20,000 supporters. NPA's mission is to protect nature through community action. Our strengths include state-wide reach, deep local knowledge, evidence-based approach to conservation advocacy and commitment to the creation and professional management of protected areas in NSW.

NPA believes that healthy and resilient river systems are vital for our collective wellbeing. We have consistently advocated for sound environmental and community outcomes through participation in government processes and collaborative projects with other environmental groups and academic bodies.

NPA welcomes the opportunity to comment upon the Water Sharing Plan for the Murrumbidgee Regulated River Water Source 2016 and seeks to provide the NRC with information that may help it determine any environmental, social and economic outcomes, and opportunities for improvement.

General comments:

The objects of the Water Management Act 2000 are to provide for the sustainable and integrated management of the water sources of the state for the benefit of both present and future generations. The National Parks Association of NSW (NPA) therefore believes a primary consideration for should be to protect and sustain healthy and resilient freshwater ecosystems and their associated biodiversity (flora and fauna). This is because water is more than just a resource; it is fundamental to life. Healthy and resilient freshwater ecosystems underpin health and resilient regional communities. Despite this, freshwater ecosystems are amongst the most vulnerable and threatened ecosystems in the world.

NPA supports management approaches to managing freshwater ecosystems that:

- apply ecological concepts and principles relevant to aquatic and other freshwater dependent endemic species
- help re-establish communities of native fish and other aquatic species; ensure there is no further loss of species or reduction of populations; and provide opportunities for natural breeding processes, movement, recruitment, and self-sustaining populations of native fish.
- acknowledge that much of our aquatic and semi-aquatic wildlife rely on the natural,

intermittent, and unpredictable wet “booms” and dry “busts” cycles. As such these should be maintained (or mimicked in regulated streams).

- eliminate the impact of instream structures designed to regulate water flow on the distribution and abundance of native fish. This impact can be countered through weir removal or the installation of appropriate (two way) fish ways that re-establish connectivity for our native species.
- implement appropriate measures that reduce the loss of early fish life stages from irrigation pumps and infrastructure diversions.

This submission seeks to answer whether the water sharing plan has contributed to environmental outcomes, social outcomes, and Aboriginal cultural outcomes. As well consider whether the plan is meeting its objectives and any changes needed to the water sharing plan to improve outcomes.

Overall, the NPA believes it is difficult to unpack the impact of the water sharing plan in isolation of other policy tools. For the plan to be functional and effective, it has to be positioned within a suite of policy tools that work together to realize sustainability outcomes. There is significant opportunity to better integrate institutional arrangements for the more effective management of this important and highly modified river system.

The Environment:

The Murrumbidgee river is the third longest river in the Basin. It is about 1600 km long and flows westwards to a confluence with the Murray. While the catchment consists of 84,000 sq kilometres, wetlands cover about 4% of the area. Floodplains and wetlands are important landscape biodiversity hotspots that provide an array of ecosystem services, hence have a high conservation value (Tockner et al. 2010). Within the plan's area:

- Twenty-six wetlands that occur in the Murrumbidgee catchment in NSW are listed as ‘significant’ in the *3rd Edition the directory of important wetlands in Australia*. With the mid-Murrumbidgee River Wetlands being nationally significant, as they support river red gum forests and blackbox woodlands that provide habitat to threatened species: including the southern bell frog and the Australasian bittern.
- It is home to the internationally significant Ginini Flats wetlands in the upper catchment, and the Ramsar listed Fivebough and Tuckerbil Swamps near Leeton;
- Indeed much of the environment is a mosaic of wetlands. For example, there are 299 wetlands being identified between Burrinjuck and Gundagai- most of which are less than 5ha in size. Assessment of these wetland has found all have suffered some impact.
- A similar mosaic of wetlands exists in the middle and lower Murrumbidgee. The Lowbidgee floodplain is the Murrumbidgee River's major wetland. It once extended over 300,000 ha, however at least 77% of wetlands in the Lowbidgee have been impacted as a result of dams, diversions and floodplain development. This is a considerable loss of floodplain and a significant increase in fragmentation. Consequently, long-term monitoring has found that that waterbird abundance dropped by 90%

It is clear from the above, that the environment has not only been significant modified by past practices, but also that the processes on which a healthy ecosystem depends have been radically altered- making these important ecosystems less resilient to further change.

The plan's effectiveness for managing the environment:

The broad environmental objective of the Plan is to protect and contribute to the enhancement of the ecological condition of the water source and its water-dependent ecosystems. It is the NPA's belief that a water sharing plan is not the most effective tool for achieving this objective and other tools must be used. Indeed the stated strategy of *"maintain compliance with the long-term average annual extraction limit and long-term average sustainable diversion limit,"* is a direct contradiction to the plan's broad objective as it is clear the system is suffering under current rates of extraction.

We know that by entrenching previous water management regimes for regulated rivers in the Murray–Darling Basin, the plans have continued to provide for the environment a substantially regulation by river flow, encouraged further water diversions and resource extractions (Kingsford 2000). These are processes that continue to influence the quality and availability of habitat for a range of floodplain frog species (Ocock et al. 2014). River regulation and water diversions continue to contribute to loss of aquatic habitats, as well as shifting the timing of peak flows (e.g. shift from winter to summer peaks), reducing the frequency of reconnections between rivers and floodplains and substantial reductions in discharge volumes leading to decreased area of annual floodplain inundation (Page et al. 2005; Frazier & Page 2006). Amphibian populations have thus experienced unprecedented decline.

The impact on the environment is compounded when landuse planning and water policy are not working in synergy. various kinds of external and interior hydrological and morphological modifications of the floodplain can have a profound impact on wetland communities. A particularly good example is the floodplain River Red Gum (*Eucalyptus camaldulensis*) forest. Large-scale catchment modifications have depleted the volume and variability of instream flows to the Lowbidgee and have resulted in considerable floodplain damage and a loss of opportunity for ecological restoration (Fraizer and Page, 2006).

Where the plan seems to be working well is when it is partnered with environmental water allocations. Preliminary outcomes of Commonwealth environmental watering actions at selected wetlands in the mid and lower Murrumbidgee after the final monitoring of the water year show a wide range of benefits. Particularly when natural flows are at a peak and environmental water can extend the flood – which can be a critical trigger for bird breeding events.

But there is still much work to be done in terms of other environmental tools that might be used to complement the water sharing plan. That is in order to realize the plan's stated objective of *"to support environmental watering in the water source to contribute to maintaining or enhancing ecological condition in streams, riparian zones, dependent wetlands and floodplains "* other measures must be in place including:

- Yanga is one of the few national parks where there is a plan to manage the application of environmental water. Such water management plans across significant the wetlands in the Murrumbidgee would enable a more strategic use of this vital resource. Parks with wetlands should have environmental water allocations.
- A significant amount of important ecological communities exists on private land. Sarah Wheeler's work modelling water and carbon markets shows there may be an opportunity to support conservation on private land through such mechanisms.

- New climate modelling and updated hydrological modelling for the Murrumbidgee catchment has not been completed and only indicative climate predictions are available. However work by the University of Southern Queensland in 2018 suggests should conditions continue, there is likely to be a 33% to 43% decrease in river runoff. As such water sharing plans should be 'future facing' and amounts of 'planned environmental water' within the plan should be adjusted so that they are more risk adverse.

The plan's effectiveness for managing social outcomes:

The broad social and cultural objective of this Plan is to *provide access to surface water to support surface water-dependent social and cultural values... ..primarily for access to water for basic landholder rights, town water supply and licensed domestic and stock purposes*

Health care and social assistance is the largest employment sector in the region, with 'agriculture, forestry and fishing' taking up 12% of the employment sector. Moreover, agriculture in the Murrumbidgee valley is quite diverse. Dryland grazing and cereal-based cropping is dominant, accounting for more than 75 per cent of land use. This might suggest that much of the community within the region are not directly depended on a regulated water supply [and thus the water sharing plan arrangement].

While only five per cent of the land is irrigated (Murray-Darling Basin Authority, 2020), it makes a substantial (AUD \$1.1 Billion in 2018) contribution to the catchment's gross dollar value of agricultural production. Thus, the water sharing plan has an important role to play for a small but critical part of agricultural production in the region.

It is important to also note, the use of irrigation water in the Murrumbidgee catchment has been changing: from the expansion of cotton to the emergence of nut plantations and the fluctuating fortunes of rice. The reason being the irrigated annual and perennial crops planted in the catchment tend to adjust to market forces that are a result in the shifts in water and land use over time – rather than any specific determination about water sharing within the plan. Allocations of available water among are decided by individual farmers who may have contracts for rice or cotton production or less flexible contracts for fixed perennial crops of citrus, grapes or nuts. Most flexible are the choices to grow other annual crops which can be altered year to year according to water availability and price, as well as anticipated commodity prices. Farmers are good at managing their risk and adjust their production accordingly.

Farmers also have good business acumen and adjust their production according to the return gained. For example, Cotton areas have expanded to the point of recently exceeding the total water use by rice or any other crop. Grapevines have maintained relatively constant water use over time. Almond plantations are an emerging presence in the catchment with regard to water use; many young plantations are expected to require greater water volumes as they mature. As such rate of return and market prices seem to dominate farmers decisions – it is only when water availability become extreme- such as during 2007-2009 -does it seem to become a significant factor in decision making.

The plan's effectiveness for managing Aboriginal cultural outcomes

The broad Aboriginal cultural objective of the water sharing Plan is to maintain, and where possible improve, the spiritual, social, customary and economic values and uses of water by Aboriginal people.

Discussion around the use of Murrumbidgee water is framed as a conflict between sustaining rural communities and using water to support ecological values, yet the voices of Aboriginal custodians are relatively unheard in this discussion.

Indigenous people hold distinct cultural perspectives on water that relate to identity and religious attachment to place, environmental knowledge and the exercise of custodial responsibilities to manage interconnected parts of customary estates. The Murray–Darling Basin is a highly significant region for Indigenous people and the ‘cultural health’ of many of these people’s sense of place relies on flows and flooding. There are concerns that the transfers of rights and thus wealth from the Crown (the states) to the private sector has disadvantaged First Nations people’s ability to maintain ‘ownership’ of water.

According to the Echuca declaration: *“Water is living being and should be treated accordingly. Many of our ancestral beings are created by and live in water.”* Furthermore, it states the Indigenous Nations in the region believe *each has responsibilities and obligations under their Indigenous Law/Lore and Custom to protect, conserve and maintain the environment and the ecosystems in their natural state to ensure the sustainability of the whole environment.* Clearly the state of the environment in the Murrumbidgee indicates the current water sharing plan is not an effective tool for, *conserving and maintaining the environment*, and thereby not realizing what Indigenous nation’s believe is their *‘responsibility an obligation’*. IN this context by entrenching environmental degradation of the river, it contributes to a loss of cultural identity of Traditional Owners, with associated spiritual, physical and mental health impacts.

Finally, it important to note there are no cultural flows in the water sharing plan. “Cultural Flows” are water entitlements that are legally and beneficially owned by the Indigenous Nations of a sufficient and adequate quantity and quality to improve the spiritual, cultural, environmental, social and economic conditions of those Indigenous Nations. It is clear dividing water different clusters of rights is an imperialist approach to a natural resource and can be disempowering Conroy et al (2019) but it is more important not to limit Indigenous people's involvement in broader conversations around environmental water planning and delivery, because it creates a potentially false dichotomy between environmental and cultural values. Other mechanism such as the A\$180 million Nimmie-Caira water-saving project that saw the New South Wales (NSW) and Australian governments purchase 19 properties on the Lowbidgee Floodplain would seem to be more effective (see Woods, Woods, and Fitzsimmons 2020).

Conclusion

The NSW Wetlands Policy promotes the sustainable conservation, management and use of the state’s wetlands. The policy provides a set of guiding principles that government agencies should adopt. It is clear from the evidence provided above that three principles set out in the wetlands policy are not being met by the current water sharing plan:

- Water regimes needed to maintain or restore the ecological resilience of wetlands should be provided through water management planning, water recovery and water

purchase, recognising that a balance between environmental and human requirements must be reached. The evidence would suggest the plan entrenches a watering regime that prohibits the restoration of the ecological resilience of wetlands in the Murrumbidgee

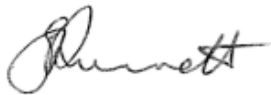
- Floodplains should be managed to maintain the natural distribution of water to and from wetlands, and to allow for the movement of aquatic biota (animal and plant life). And Land management practices should maintain or improve wetland habitats, ecosystem services and cultural values. The evidence would suggest a lack of restrictions around land use planning on the floodplain [combined with a future that will possibly facilitate floodplain harvesting] is disconnecting, isolating and destroying wetlands

The Water Sharing Plan for the Murrumbidgee Regulated River Water Source 2016 is not well suited to delivering on its stated environmental outcomes, social outcomes, and Aboriginal cultural outcomes. This is because:

- To rely on the plan alone to realize such ambitious outcomes is not good overall policy. It must work in synergy with a range of other environmental tools
- It is a plan that entrenches existing extraction rates and a manipulated water flow regime that have been proven to be detrimental to the environment.

I can be contacted at [REDACTED]

Yours sincerely,



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protecting nature through community action

Some of the literature cited

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