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Submission *draft Central West and Orana Regional Plan 2041*

Healthy Rivers Dubbo is a grass roots community network dedicated to providing a strong voice for our local rivers, aquifers and wetlands in the Murray-Darling Basin for the benefit of wildlife, plants and people. We pay our respects to Elders past and present and acknowledge that this land was never ceded.

Healthy Rivers Dubbo (HRD) is pleased to have the opportunity to provide a written submission to the draft Central West and Orana Regional Plan 2041. We will focus on giving feedback on water related issues.

Objective 4: Secure and Resilient Water resources.

Regulated rivers

As stated in the draft plan, water sources in the region are capped against growth in extraction and fully allocated. Both the Lachlan and Macquarie systems are over-allocated.

This is the situation in the Macquarie as an example. Burrendong dam was completed in 1966/67 the yield of the Macquarie River was assessed as 406 Gigalitres (GL – a billion litres). Over the years allocations have continued to be made, and the yield revised upward until now there is 899GL of entitlements in Burrendong dam.[1]

This extreme over allocation has led to low reliability, with figures ranging between averages of 32% to 50% of entitlements deliverable in a water year. Not only has the over inflated yield estimate of Burrendong caused low reliability and over allocation, the Sustainable Diversion Limit (SDL) in the valley is far too high to service existing entitlements.

Flood events cause huge spikes in inflow data that are considered when average inflows are determined. This means the long-term average annual extraction limit (which the SDL is based on) in the Macquarie is far too high during the majority of years (when there is no flooding).

The problem is that there are too many issued entitlements. The priority of the Water Management Act 2000 is to ensure critical human need, then environmental needs flowed by basic landholder rights all before other irrigation extraction, however the priority of water management agencies and governments appears to be finding ways to increase the water that can be taken from the river to meet the SDL.

[1] Johnson W J (2005) Adaptive management of a complex social-ecological system: the regulated Macquarie River in south-eastern Australia. Master of Resource Science Thesis, University of New England.

This quote from the 2014 NSW State Infrastructure Strategy illustrates the point: *Burrendong dam is the largest but small compared to environmental and irrigation demands resulting in low water reliability. High distribution losses due to long rivers and effluent creeks.*

Draft Regional Water Strategies

The draft regional water strategies for the Lachlan and the Macquarie-Castlereagh include options to enlarge Wyanga dam on the Lachlan and build a re-regulating storage at Gin Gin on the Macquarie. Both of these projects would have devastating impacts on the health of rivers, wetlands and downstream First Nation communities and water users.

Increased and new water storages would increase the volume of water extracted from the rivers high in the catchment, making less water available downstream. Both projects would severely impact internationally significant wetlands, populations of threatened and endangered native fish and the habitat of migratory birds and waterbirds.

The costs associated with the Wyangala project are enormous, with estimates already over $2.1 billion dollars. The same volume of water could be saved in the Lachlan if the Jemalong irrigation scheme infrastructure was upgraded, at a fraction of the cost.

The stated purpose of the Macquarie Re-regulating storage project, which has been re-badged as the Macquarie-Wambuul water security scheme, is to increase water availability for general security water users. This increase in water availability would come at the expense of several significant First Nations cultural places, small businesses that support tourism and recreational fishing, graziers, unregulated downstream irrigators and the amenity of towns like Warren and Carinda.

Groundwater

Groundwater sources are under stress in both the Lachlan and Macquarie Valleys. In times of drought, which we know will increase in regularity and severity, reliance on groundwater increases. Between 2017–18 and 2019–20 reliance on groundwater rose from roughly 11% of the state's overall metered water use to 27%.[2]

In the Upper Lachlan Alluvium groundwater levels dropped by up to 24 meters in 2015-2016 compared to 2005-2006. In the Upper Macquarie Alluvium extraction exceeded permitted take by 22.3% in the 2019-2020 water year.

High extraction of groundwater in dry years happens because of generous 'carry over' rules in water sharing plans, which allow account balances to exceed licence volumes by several times.

A significant number of extreme and high risks were identified in the risk assessments for groundwater sources in the Macquarie and Lachlan developed for the draft Water Resource Plans.

There is low compliance among groundwater users, with the Natural Resources Access Regulator finding in August 2021 that about one in ten groundwater users are non-compliant.

Wetlands

The draft plan recognises the importance of the Macquarie Marshes and the Lachlan wetlands, referring to the Ramsar Conventions another international agreements. It is also recognised that the wetlands are threatened by poor water management.

[2] NSW State of the Environment 2021 – EPA

It is very important for the future of these wetlands that large water infrastructure projects that reduce natural unregulated flows are not built in these catchments.

Floodplain harvesting

In the Macquarie the practice of floodplain harvesting has been allowed to grow unchecked over the last few decades, despite the cap on growth in water extraction from 1995 levels.

As of November 2021, almost two thirds of the floodplain works in the Macquarie were unapproved - had never been assessed for their environmental impact. Of these unapproved works, sixty nine of them were being considered for floodplain harvesting licences. Six of these are works considered 'hot spots' – works that impede critical flows into the Ramsar listed Macquarie Marshes. [3]

The licencing of floodplain harvesting with the rules and volumes proposed by the current NSW Government as of February 2022 will lock in a level of water diversion that will be destructive to downstream First Nations communities, the environment and other water users.

Floodplain harvesting structures impede water finding natural low spots in the environment where groundwater recharge occurs.

Strategy 4.1

Strategic water and land use planning, at the regional and local scale, must consider opportunities to:

- *improve the reliability, quality and security of the region's water supply by considering the impact of the following on water security:*
    - *– climate variability and change*
    - *– planned future growth*
    - *– integrated water cycle management and water sensitive urban design*
    - *– the needs of the natural environment*

Healthy Rivers Dubbo agrees that climate change must be included in the way NSW works out the Available Water Determinations every water year. More water must be returned from extractive water users and be left in the rivers to meet the needs of the natural environment.

Improving water quality comes when the health of riparian zones are improved. To take advantage of free ecosystem services provided by river banks growing a mix of indigenous grasses, rushes, reeds, shrubs and trees, environmental land management agreements with riparian landholders (especially in upper catchments) should be made. For example there are grazing guidelines that are followed by the Gwydir Wetlands and Macquarie Marshes grazing industries[4] – these could be extended to all riparian landholders.

Water sensitive design is critical. There are some good examples of water way vegetation work around developments in Dubbo, for example Blueridge Industrial Park.

- *Locate, design, construct and manage new developments to minimise impacts on water catchments, including downstream impacts and groundwater resources*

[3] Answers to supplementary questions asked by Mark Buttigieg MLC (ALP) in budget estimates on 5 November 2021. See page 15.

[4] http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0009/299106/Guidelines-for-grazing-in-the-gwydir-wetlands-and-macquarie-marshes-section-1.pdf

The decision to develop South Lakes suburb over a significant ground water recharge zone was a disaster. The increased nutrients in the groundwater from all the 'weed n feed' applied to people's yards increases the pressure on Council to treat water to a safe standard.

- *Encourage the re-use of water in new development, for irrigation purposes, including dual water systems.*

This recommendation needs to be stronger. The word *encourage* in the sentence above should be changed to legislate. Water reliance must be reduced very significantly in a very short amount of time.

- *Improve provision for stormwater management and the application of green infrastructure*

This recommendation needs to be stronger. There needs to be strategic objectives set to provide stormwater management and the application of green infrastructur*e* and clear steps and requirements laid out to achieve the aim.

- *Encourage industries with higher water demands to more efficiently use water and:*
    - *– locate in areas where water can be accessed, is secure and won't impact on other water users or the environment*
    - *– identify the relevant water source and pathways to accessing the water to support the enterprise*

This recommendation needs to be stronger. There must be regulatory structures in place to ensure water efficiencies.

- *Identify and consider surface and groundwater drinking water catchments and storages*
- *Limit land uses that can harm surface and groundwater quality or lead to its overuse*
- *Consider water needs and sources early in planning and development processes.*

There must be an improvement in the understanding of groundwater sources condition and how they connect to surface water sources. There are very good options to improve the understanding of groundwater in the draft Regional Water Strategies. Developments like Southlakes in Dubbo should never be allowed to happen.

Strategy 4.2

Improve knowledge of conservation measures, management and use of the region's wetlands to inform consideration of wetland protection in strategic planning and local plans.

There is already a wealth of understanding about wetland management in the environmental watering groups within the NSW Government, and experts like the University of NSW Centre for Ecosystem Science. There are Long Term Watering Strategies developed in the Macquarie and Lachlan in conjunction with the Commonwealth Environmental Water Holder.

This strategy must be expanded to very clearly state that there must be no new water infrastructure projects that impede natural flows into wetlands.

The strategy must include protection of natural flows in water sharing plans.

For further information about this submission contact Melissa Gray, Convenor of Healthy Rivers Dubbo on healthyriversdubbo@gmail.com.