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Submission to Review of the *Water Sharing Plan for the Murrumbidgee Unregulated Water Sources 2012*

The Inland Rivers Network (IRN) is a coalition of environment groups and individuals concerned about the degradation of the rivers, wetlands and ground waters of the Murray-Darling Basin. It has been advocating for the conservation of rivers, wetlands and groundwater in the Murray-Darling Basin since 1991.

Member groups include the Australian Conservation Foundation; the Nature Conservation Council of NSW; the National Parks Association of NSW; Friends of the Earth; Colong Foundation for Wilderness; Central West Environment Council; and Healthy Rivers Dubbo.

IRN welcomes the opportunity to participate in the Natural Resources Commission (NRC) review of the *Water Sharing Plan for the Murrumbidgee Unregulated Water Sources 2012* (the plan).

This submission addresses the five key focal questions for the NRC in relation to environmental, social, and economic outcomes, and opportunities for improvement.

The plan covers 43 surface water sources.

It is difficult to separate the specific effect of a water sharing plan amongst the multitude of other interacting factors (such as weather, terms of trade, commodity prices, local economic prosperity, etc.) that may also be of influence. For example, Roobavannan et al. (2017) found that unemployment decreased in Murrumbidgee while the water plan was decreasing the water available agriculture, however, this was not due to the plan, but because economic diversification and out-migration was also occurring.

To what extent do you feel the plan has contributed to environmental outcomes?

- Water sharing plans are required to reserve water for the overall health of the river and to protect specific ecosystems that depend on river flows, such as wetlands, lakes, estuaries, and floodplains. Specifically in the Murrumbidgee it is to:
 - protect, and contribute to the enhancement of, the ecological condition of these water sources and their water-dependent ecosystems over the term of the Plan.
- The area includes important water dependent ecosystems. The Lowbidgee Floodplain- located between Maude and Balranald- covers more than 2,000 km² and includes the second largest river red gum forest in Australia and significant black box, lignum and reed-bed communities. The wetlands are one of the most important colonial water breeding sites in the Murray darling Basin.
- We know that fish communities in the Murrumbidgee catchment are severely degraded, with only eight of the 21 native species historically recorded in the region recorded since 1975 (Gilligan 2005). Alien species (specifically common carp, *Cyprinus carpio*) can occupy up to 80% of the total biomass in some areas. In addition, small-bodied floodplain species such as the Murray hardyhead (*Craterocephalus fluviatilis*), southern pygmy perch (*Nannoperca australis*), southern purple-spotted gudgeon (*Mogurnda adspersa*) and olive perchlet (*Ambassis agassizii*) were historically abundant from Murrumbidgee River wetland habitats but are now considered locally extinct.
- There appears to be no direct evidence, or attempt to measure, the plan's commitment to "*protect and contribute to recorded distribution or extent, and population structure, of target ecological populations*". For example, the plan specifically identifies trout cod, Murray cod, Macquarie perch, southern pygmy perch and flat-headed galaxias," but data on populations can only be gleaned from other efforts to measure environmental health (for example, CEWH's efforts to monitor and evaluate the use of environmental water)
- These 'indirect' efforts do suggest the plan can *contribute* to environmental outcomes when climatic conditions are right: i.e., the research shows the plan is part of a suite of 'tools' available to managers. Last year widespread waterbird breeding in the Murrumbidgee River occurred following delivery of environmental water with 13 species recorded nesting across 20 colony sites. However, this outcome differed from previous breeding events in that it was supported solely through environmental water. In the past breeding has been triggered by unregulated flows, with the colonies supported by water for the environment through to completion.
- Some of the performance indicators (Part 2, 5 of the plan) used to measure the effectiveness of the plan are showing an ecosystem in decline. For example:
 - A fish mortality event which occurred in Redbank Weir on the evening of the 26th - 27th January 2019 resulted in several thousand fish, including Murray cod, silver and golden perch and bony herring, dying.
 - The [Australian Institute](#) found private landholders are undertaking a significant amount of dam building activity in the plan area. New dams that specifically target supplementary flows have the potential to stop the Murrumbidgee running into the Murray altogether in some years. While there is no data on their total capacity, this is damaging for the environment in the mid and lower Murrumbidgee and it could be enough to divert all supplementary flow for many consecutive years, except for very large flood years.

- The plan does not propose any measures to conserve the threatened aquatic flora, fauna or ecosystems of the upper Murrumbidgee River which remain [the last refuge](#) for many of our aquatic fauna. It ignores all the headwaters in the upper Murrumbidgee River.
- [Research](#) is also showing that Millions of native fish are lost from Australian rivers every year. They are sucked into pumps and diverted into channels, and this is likely having a significant impact on populations
- Climate change is influencing water flows. [New research](#) has found the height of the Murrumbidgee River has dropped by about 30% during the growing season. This is a loss of approximately 300 million litres per day that would normally flow past Wagga. Continued drying and warming in Australia will cause water availability to decline even further, deepening the hurt for communities, businesses, animals, and the environment. Any decisions about the changes to the water plan to address competing interests of agriculture and the environment, must keep these long-term global warming impacts front of mind.

To what extent do you feel the plan has contributed to social outcomes?

- The vision for this Plan is to provide for *the spiritual, social, customary and economic benefits of surface water to Aboriginal communities*. The river flows through several traditional [Aboriginal Australian](#) lands, and is home to various [Aboriginal peoples](#).
- The cultural importance of water to the Aboriginal people of the Murrumbidgee is significant. Water is integral to healthy waterways, resource availability (such as food and medicine), cultural practices that form customs and belief systems, and the contemporary economic and social requirements of indigenous people. There has never been a comprehensive formal legal mechanism to specifically account for cultural water in the water governance arrangements. There is a need to embed indigenous (1) respect, (2) recognition, (3) representation, and (4) responsibility and self-determination in water planning processes.
- The combined effect of the water plan, having unspecified take, and water trading creates an operating environment that encourages privately owned constructed dams. Such dams do not help drought-stricken towns, struggling small irrigators or the wider public. They are built for the benefit of large corporate agribusiness.
- ABARES suggest there will be a significant increase in average water allocation market prices. Compared to the current market scenario, allocation prices are estimated to be up to 50 per cent higher in the future market. High value permanent plantings and relaxed local government laws is leading to greater pressure for inter-regional water trade, more frequently binding trade limits and large differences in prices between regions. There should be some consideration of the wellbeing of water dependent regional communities beyond the geographical boundaries of the plan.

To what extent do you feel the plan has contributed to economic outcomes?

- The plan suggests one of its economic outcomes is: “to maintain, and where possible improve, access to water for agriculture, surface water-dependent businesses and landholders”,
- Australian Bureau of Statistics (ABS) data from the August 2020 Labour Force Survey indicate that Health care and social assistance was the largest employment sector with 12,300 people, followed by agriculture, forestry and fishing sector with 9,200 people
- The gross value of agricultural production in the Riverina region was \$2.5 billion, which was 21 per cent of the total gross value of agricultural production in New South

Wales (\$11.7 billion). The data also shows the Murrumbidgee whilst traditionally a rice-growing region, is increasingly moving to cotton production. This is because the financial returns to cotton farming exceed those from alternative crops, including rice. Expanding cotton production has implications for water demand in the Murrumbidgee and needs to be considered in any revised water sharing plan. Considerations about the resilience of regional communities when they become dependent on one crop also need to be considered

To what extent do you feel the plan has contributed to meeting its objectives?

- Part 2 of the plan outlines the Vision, objectives, strategies, and performance indicators.
- They consist of:
 - Environment: protect, and contribute to the enhancement of, the ecological condition of these water sources and their water-dependent ecosystems over the term of this Plan.
 - Economic: to maintain, and where possible improve, access to water to optimise economic benefits for agriculture, surface water-dependent industries and local economies.
 - Indigenous: to maintain, and where possible improve, the spiritual, social, customary, and economic values and uses of water by Aboriginal people.
 - Social: to provide access to surface water to support surface water-dependent social and cultural values.
- It would seem that although the plan has performance indicators, there is no commitment to either design a critically sensitive monitoring program let alone implement an ongoing monitoring regime. Specifically, there are signs that:
 - Environment: ecosystem health is in decline and there has been no critical design of
 - Economic: the economic benefits are increasingly going to narrower sections of the community and reducing the diversity of goods produced
 - Indigenous: the plan focuses on water as a 'commodity' and cannot allow for spiritual, social and customary values associated with use.
 - Social: the wider benefits of water to building resilient regional communities and to parts of that community that depend on water for a range of non-agricultural uses is ignored

What changes do you feel are needed to the water sharing plan to improve outcomes?

- 'Crystal ball gazing to find possible alternative operating parameters that might at least maintaining, if not increase the well-being and resilience of society is difficult. It is important to view these issues as a holistic canvass of complex (almost wicked) problems with multiple feedbacks and tools that can be triggered.
- Overall, governments need to adjust their existing formal process from government centric and listen to the Indigenous community and move to community-centric management. Governments and the governance arrangements need to act more as a facilitator than an authoritative resource manager. More inclusive and participatory management models will allow a range of views to be expressed, listened too, discussed and considered
- Recognise the water sharing plan is simply 'one management tool' with a limited and narrow focus. There is a need for a range of complementary programs such as those that diversify the economy by investing capital in other non-agricultural industries provides pathways for basin to realize a sustainable future.

- Noting that Australia is a land of floods and droughts, during high basin inflows there should be mechanisms that ensure the consumption of water (e.g., through floodplain harvesting or private dams) does not feed unsustainable economic expansion.

Some literature cited

Roobavannan, M., Kandasamy, J., Pande, S., Vigneswaran, S., Sivapalan, M., 2017. Allocating environmental water and impact on basin unemployment: role of a diversified economy. *Ecol. Econ.* 136, 178–188. <https://doi.org/10.1016/j.ecolecon>. 2017.02.006.

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