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Submission to Review of the *Water Sharing Plan for the Belubula Regulated Water Source 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; Central West Environment Council; Wilderness Australia and Healthy Rivers Dubbo.

Introduction

IRN welcomes the opportunity to participate in the Natural Resources Commission (NRC) review of the *Water Sharing Plan for the Belubula Regulated Water Sources 2012* (the WSP).

We note that the version of the WSP being reviewed was amended on 27 June 2018. We also note that the WSP was amended in 2020 partly to meet NSW's commitments under the Murray-Darling Basin Plan to develop water resource plans (WRP) consistent with the Basin Plan.¹ IRN would appreciate an understanding of how this review process will inform the final version of the WSP to be included in the Lachlan Surface Water WRP. We understand that this WRP has been returned to the NSW Government by the Murray-Darling Basin Authority for improvement before final accreditation and has since been resubmitted. There has been no transparency around this process.

IRN has also participated in the development of the Lachlan Regional Water Strategy. This process has identified that rule changes in the region's water sharing plans may be needed

¹ DPIE Water, 2020. Final Draft WSP Belubula Regulated p 3

to improve water security. This indicates that clear opportunities for amendment are needed in a new plan. New climate modelling for the Lachlan region demonstrates an increasing challenge in the future to share water between extractive users and the needs of healthy river ecology.

IRN notes that an audit of the WSP conducted in 2018 found that the following provisions were not being given effect to:

- Part 2 Vision, objectives, strategies and performance indicators, cl. 10 Performance indicators used to measure the success of the WSP strategies to reach the objectives of the WSP
- Part 7 Limits to the availability of water, cl. 34 Calculation of the long-term average annual extraction limit and current levels of annual extraction, cl. 35 Assessment of long-term average annual extractions against the long-term average annual extraction limit, and cl. 36 Compliance with the long-term average annual extraction limit.

And that a number of provisions were only partially given effect to.²

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Context to the water plan's area

The regulated Belubula River is highly connected to the regulated Lachlan River and provides tributary inflows that trigger rules for the release and application of the Environmental Water Allowance in Wyangala Dam. This has implications for the end of system flow rules in the WSP that trigger access to uncontrolled flows in the Belubula River for both general security and high security licences.

There is high connectivity between surface water and groundwater sources in the Belubula River catchment. This connectivity could be as high as 90% with the stream gaining above Canowindra and losing downstream. Groundwater extraction is linked to loss of surface flow. This is significant in periods of dry conditions and can extend the number of low flow days during drought.⁴

² Alluvium, October 2019. *Audit of the Water Sharing Plan for the Belubula Regulated Water Source 2012*

³ Ibid p24

⁴ SKM 2012, 'Impacts of groundwater extraction on streamflow in selected catchments throughout Australia', Water lines report Series No. 84.

IRN notes that the Cadia Goldmine is a large water user in the catchment with a significant regional groundwater drawdown that is likely to intercept base flows to the regulated river.

Environmental Health

Key environmental assets and ecosystem functions

In-stream habitat, fringing vegetation communities and critical fish refuge are priority environmental assets and values under the Lachlan Long Term Watering Plan.⁵

Native fish species recorded in the Belubula River include: southern purple-spotted gudgeon, freshwater catfish, northern river blackfish, obscure galaxias, Australian smelt, freshwater shrimp, yabby, alpine crayfish, Suttons crayfish, flathead gudgeon, freshwater prawn, Rieks crayfish, carp gudgeon, golden perch.

Threatened native fish species include: Murray cod, Southern Pygmy Perch, Silver Perch, Macquarie perch.

The Belubula River contains the Endangered Ecological Community consisting of the aquatic ecological community in the natural drainage system of the lowland catchment of the Lachlan River.

Other water-dependent threatened species include: Booroolong Frog, Southern Bell Frog, Sloane’s Froglet, Australasian Bittern, Black-necked Stork, Black-tailed Godwit, Blue-billed Duck, Brolga, Freckled Duck, Painted Snipe, Large-footed Myotis.

Other flow dependent species include platypus, turtles, water rats and a range of frogs. Water-dependent plant communities include the River Redgum Woodland community.

The Belubula contains one of the Basin Plan hydrological indicator sites for ecosystem function (F29) downstream of Carcoar Dam.⁶

The Lachlan Long-term Watering Plan identifies flow thresholds for the regulated Belubula River at gauge 412033 (Helensholme gauge) and the timing for these flows to meet environmental outcomes:

Flow category ⁷	Frequency ⁸	Timing ⁹
Very low flow: 10 – 30 ML/d	Annual	Anytime
Base flow: 30 – 70 ML/d	Annual	Sept – March (75% of yrs)
Small fresh: 70 – 655 ML/d	Annual	Oct – April (75% of yrs)
Large fresh: 655 – 5,000 ML/d	75% of yrs	July - Sept

⁵ DPIE July 2020. Lachlan Long Term Watering Plan Part B p 20

⁶ MDBA, 2016. Lachlan Region Key Environmental Assets and Hydrological Indicator Sites

⁷ DPIE July 2020. Lachlan Long Term Watering Plan Part A Table 9 p 48

⁸ DPIE July 2020. Lachlan Long Term Watering Plan Part B Lachlan planning units Table p 21

⁹ Ibid

Bankful: 5,000 – 6,000 ML/d	40% of yrs	Aug - February
Overbank small: 6,000 – 8,000 ML/d	40% of yrs	Aug - February
Overbank large: 8,000 – 14,000 ML/d	25% of years	Sept - May

Current river health

Hydrology

The Lachlan WRP risk assessment identified high and medium risks in the Belubula at Carcoar and Helensholme gauges of the likelihood of insufficient water to meet environmental needs and environmental watering targets.^{10 11}

The flow regime of the Belubula River has been substantially altered by the construction of the Carcoar Dam. The high fish diversity, presence of threatened species and healthy riparian vegetation has identified the Belubula River as having a high-risk consequence from extraction pressure.¹²

The combination of very high and high values of consequence, along with significant flow alterations (likelihood), were a contributing factor in influencing the high and medium risk categories throughout the regulated river.¹³

In the lower reaches of the river, downstream of Canowindra, there are a few wetland features (e.g. billabongs) which are generally in poor health.¹⁴

Water Quality

Water Quality in the Belubula Regulated River is assessed as being fair.¹⁵

The management of cold-water pollution in the Belubula River needs to be undertaken with urgency. Releases from Carcoar Dam during summer can result in localised cold-water impacts in the river downstream of the dam. Water temperature influences many biological and ecosystem processes. Warmer temperatures can increase growth rates and metabolism of in-stream plants, animals and algae. Temperature influences spawning, breeding and migration patterns of many aquatic animals.

¹⁰ DPI Water, November 2018. Risk assessment for Lachlan water resource plan area Table 4-7 p 85

¹¹ Ibid Table 4 – 11 p 90

¹² Ibid p88

¹³ Ibid p 89

¹⁴ NSW Office of Water, February 2013. Background document Water Sharing Plan for the Belubula River Regulated Water Source p5

¹⁵ DPI Water 2016 Status and Issues paper Lachlan Water Resource Plan Surface Water p11

Response to Review Questions

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

The failure to monitor and report on the performance indicators and the failure to transparently manage the compliance with the long-term average annual extraction limit (Alluvium audit 2018) makes it difficult to comment on the contribution of the plan to environmental outcomes.

The WSP does define planned environmental water as:

- (a) the commitment of the physical presence of water in this water source,
- (b) the long-term average annual commitment of water as planned environmental water, and
- (c) the water that is not committed after the commitments to basic landholder rights and for sharing and extraction under any other rights have been met.

This whole definition does contribute to environmental outcomes but only to the extent that most of the environment's share is what's left after other rights holders are enabled to take water, and therefore that related WSP rules are complied with. As climate change tends to exacerbate droughts, the rules that prioritise rights holders will leave less for the environment.

With no clear compliance with the long-term average annual extraction limit, it is impossible to ascertain whether the long-term average annual commitment of water as planned environmental water has been met.

Pre-Plan operational rules¹⁶ included:

- 200% account limit for general security licences
- Carryover for general security, not sleeper or high security, forfeited after one year, tradable
- Minimum end-of-system flow of 10ML/day at Helensholme gauge
- Minimum flow release 2ML/day to supply stock & domestic
- Off-allocation rules introduced during Millenium Drought in 2006 when flows >10 ML/day at Helensholme gauge up to 20% of entitlement when water availability <20% to be debited against future increases in availability in same water year.

The WSP has not changed the minimum end-of-system flow rule at Helensholme gauge of 10ML/day and this is the only environmental rule managing Carcoar Dam releases.

Supplementary licences were introduced with access limited to when flows are \geq 20ML/day at Helensholme gauge. This does not protect variability of very low flows or base flow

¹⁶ NSW Office of Water, February 2013. Background document Water Sharing Plan for the Belubula River Regulated Water Source pp 7,8

regimes. Pumping capacity could be sufficient to reduce part of some small freshes in duration and height.

Access to uncontrolled flow rules were also introduced for general security and high security licences according to water availability from Carcoar Dam and with end-of-system flow rules at Helensholme gauge. Up to 50% of licenced entitlement can be extracted from uncontrolled flows during dry years.

The uncontrolled access rules are:

- If available water (allocations stored in Carcoar dam) is less than 20% of entitlement, then when flows are ≥ 13 ML/day at the Helensholme gauge, or
- If available water is between 20% and 50%, then when flows are ≥ 20 ML/day at the Helensholme gauge

These rules have locked in water use behaviour introduced during the Millenium Drought and added access for high security licences. They are aimed purely at extraction rights with limited acknowledgement of the needs of the riverine environment and dependent species.

While flows at Helensholme gauge are slightly above the minimum allowable end-of-system flow rule, there is no clear relationship with environmental needs or how the uncontrolled flow access rules impact on the flow requirements outlined in the Long-term Watering Plan.

Uncontrolled flows are the tributary inflows below Carcoar Dam that provide significant environmental value and hydrological function to the regulated Belubula River. The access to uncontrolled flows in addition to supplementary licence provisions are a backward step in achieving the WSP objective to:

protect, preserve, maintain and enhance the important river flow dependent ecosystems of this water source

These rules reduce water for the environment and there is an increased likelihood that Cap and SDL will be breached.

The high connectivity with groundwater below Canowindra, where the bulk of water extraction occurs, is significant for the health of the river and wetlands. This lower section of the Belubula River has wetlands in poor health. The WSP fails to enhance these important river flow dependent ecosystems.

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

The WSP provides for basic rights and stock and domestic licences. It supports town water supply through a requirement to maintain water in Carcoar Dam based on the worst inflows on record. However, there are no water utility licences held in the WSP.

It fails to meet the objective to:

protect, preserve, maintain and enhance the Aboriginal, cultural and heritage values of this water source

There are no Native Title rights established in the water source. No specific purpose licence for Aboriginal culture has been allocated.

There have been no amendments made to the WSP as outlined in Part 12 cl 66 (5) to:

- identify water dependent Aboriginal cultural assets in a Schedule to this Plan,
- amend the access rules to protect water dependent Aboriginal cultural assets,
- restrict the granting and amending of water supply work approvals to protect water dependent Aboriginal cultural assets, or
- amend the dealing rules to protect water dependent Aboriginal cultural assets.

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

The key focus of the WSP rules has been to contribute to economic outcomes. The rules for carryover and account management were proposed by the water users.¹⁷

The reduction of carryover from 200% (pre-plan) to 130% has provided more security to all water users on the regulated river. This has prevented the maximum volume held in accounts from exceeding the capacity of Carcoar Dam.

By providing access to uncontrolled flows dependent on available water determinations for both general security and high security licences the WSP has greatly contributed to economic outcomes at the expense of river health.

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

The WSP has failed to meet its first two objectives:

- *protect, preserve, maintain and enhance the important river flow dependent ecosystems of this water source*
- *protect, preserve, maintain and enhance the Aboriginal, cultural and heritage values of this water source*

There is also limited evidence that the water quality or adaptive management objectives have been met:

- *contribute to the maintenance of water quality*
- *adaptively manage this water source*

The objectives to protect basic landholder rights, to ensure equitable sharing between users, to provide trading, water allocations and flexible account management rules have been met.

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

The following changes are needed to ensure this WSP can achieve its required outcomes:

¹⁷ NSW Office of Water, February 2013. Background document Water Sharing Plan for the Belubula River Regulated Water Source p 22

5.1 First Flush Protection

A rule to protect the first fresh after a prolonged dry period has been recommended in the Lachlan WRP Risk Management Plan.¹⁸ A similar first flush protection rule must be added to the management of extraction from uncontrolled flows and supplementary access announcements to ensure environmental benefit along the Belubula River and further downstream. IRN also advocates for the continued protection of such flows after they enter the Lachlan Regulated water source.

5.2 Meeting environmental needs for low flows and other flow characteristics

The rules for access to uncontrolled flows or tributary inflows must be adjusted to ensure that the Long-Term Watering Plan for the Regulated Belubula River can be met.

a. Low flows

We note that all flows below 30 ML/day, not just those between 13ML/day and 20ML/day; are in the very low flow range. The Long-Term Watering Plan says that a minimum duration for these flows should occur for 265 days per year (50 days in very dry years).¹⁹ At the very least, the WSP should be changed to require that no access that would lower uncontrolled flows below 30 ML/day be permitted under General Security, High Security or Supplementary licences unless this target has been achieved.

IRN would prefer that licenced extraction of uncontrolled flows below 30 ML/day not be permitted at any time, especially not in very dry years. At these times some water will be taken by basic rights holders and ecosystems will be under stress and need the remainder, while GS and HS licensees will benefit from whatever flows are trapped in Carcoar Dam after other rules are implemented.

b. Base flow and small fresh targets

Rules to protect base flows >30ML/day from September to March must be in place to ensure that the maximum duration, frequency, and maximum inter-event timing are met.

Similarly rules to achieve Long Term Watering Plan targets for small fresh events >70ML/day in October to April should be added.

5.3 First Nations Values

The WSP must include a Schedule identifying First Nations cultural heritage values and the means of protecting these values.

5.4 Carryover

The carryover provision should be lowered to 100% of entitlement to allow for predicted less inflows to the water source due to climate change.

¹⁸ DPI Water, November 2018. Risk assessment for Lachlan water resource plan area Table 8-5 p 155

¹⁹ DPIE July 2020. Lachlan Long Term Watering Plan Part B Lachlan planning units Table p 21

5.6 Keeping within SDL and LTAAEL

The rules to respond to and prevent growth in use Part 7 cl 34 – 36 must be simplified to ensure compliance.

5.7 Compliance with Basin Plan

Amendment 61 (1) Part 9 cl 45 (10) must be removed in regard to socio-economic impact because the Plan Limit in the WSP is consistent with the Sustainable Diversion Limit for this water source under the Basin Plan.

Conclusion

IRN looks forward to recommendations from the NRC that will inform the making of a new WSP for the Regulated Belubula River water source. Improved water sharing rules will help ecosystem function and health to improve in this stressed catchment.

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