



I N L A N D
R I V E R S
N E T W O R K

PO Box 528, PYRMONT NSW 2009
ph 0428 817 282
email inlandriversnetwork@gmail.com
web inlandriversnetwork.org
ABN 34 373 750 383

Natural Resources Commission
GPO Box 5341
Sydney NSW 2000
nrc@nrc.nsw.gov.au

Friday 29 April 2022

Submission to Review of the *Water Sharing Plan for the Lachlan 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; 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 Lachlan Unregulated Water Sources 2012* (the WSP).

We note that the version of the WSP being reviewed was amended on 1 July 2016. 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 was 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.

¹ DPIE Water, 2020. Final Draft WSP Lachlan Unregulated p 7

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 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. 12 Performance indicators
- Part 6 Limits to the availability of water, cl. 31 Compliance with the long-term average annual extraction limit for the EMU.

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

It is significant that the audit found that the likelihood of compliance with the long-term average annual extraction limit not being met was very high. Also, that the lack of monitoring and metering led to a high likelihood of the intended objectives of the WSP not being met.

Context to the water plan's area

The Lachlan River and its tributaries, including the Abercrombie, Boorowa, Belubula and Crookwell Rivers are located in the Southern Tablelands, Central West, and Riverina regions. The Lachlan catchment covers an area of approximately 84,700 km². The Lachlan River rises near Gunning and terminates in the Great Cumbung Swamp near Oxley, 1450 river kilometres to the west.³

The Lachlan River system is a very long catchment with delivery problems from major storages. Tributary inflows from unregulated streams form an important role in rules for meeting environmental flow triggers and for providing inflows to downstream storages at Lake Cargelligo and Lake Brewster.

There are only 11 flow gauges across the WSP area and an MDBA hydrological indicator site at Wylandra Weir used for generating flow sequences in the unregulated Lachlan rivers.

There is high connectivity between surface water and groundwater sources in the Lachlan Valley, particularly in the Belubula sub-catchment. While there are objectives in the WSP relating to connectivity between water sources specific rules are needed to better protect longitudinal, lateral and groundwater recharge connectivity.

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

³ MDBA June 2020. NSW Lachlan surface water fact sheet

The Basin-wide Watering Strategy has an expectation that connectivity between the Lachlan River and its floodplains is improved by 10-20% in the Lachlan WRPA.⁴ This has implications on rules in the WSP.

The review of the WSP also needs to consider its context within the implementation of the Murray Darling Basin Plan and how the rules for management and access of water in the WSP contribute to keeping water take within the constraints of the Basin Plan.

There are only 3 water quality sampling sites in the WSP area. These demonstrate some high risk of poor water quality. Consideration of flows and management actions to improve water quality for ecological benefits is also needed.

Environmental Health

Key environmental assets and ecosystem functions⁵

The Lachlan catchment has significant aquatic ecological value, including:

- 471,011 ha of wetlands in the lower floodplain
- nine wetlands with particular values for water bird and migratory bird habitat, listed in the Directory of Important Wetlands in Australia (Environment Australia 2001)
- native fish species including the Australian smelt, freshwater catfish, silver perch, golden perch, big-headed gudgeon and western carp gudgeon
- habitat for threatened species, such as Sloane's froglet, Australian painted snipe, osprey, blue-billed duck and the fishing bat
- areas of river red gum forest and woodland, black box woodland and lignum (Commonwealth Environmental Water Office 2012).

The nine nationally important wetlands include the Booligal Wetlands, Murrumbidgee Swamp/Lake Merrimajeel, Cuba Dam, Merrowie Creek, Great Cumbung Swamp, Lachlan Swamp, Lake Brewster, Lower Mirrool Creek Floodplain, and Lake Cowal/Wilbertroy wetlands (Commonwealth Environmental Water Office 2012).

The Booligal Wetlands and the Great Cumbung Swamp are notable sites as both wetlands are well known for providing habitat for both large numbers and species of waterbirds, particularly straw-necked, white and glossy ibis when the area is flooded. The catchment has been recorded to support 80,000 breeding pairs of ibis. The Great Cumbung Swamp also contains one of the largest stands of river red gums in NSW (Commonwealth Environmental Water Office 2012).

The Lachlan riverine system supports a diverse assemblage of species, including over 23 native freshwater fish species. Of the species recorded in the Lachlan seven are listed as threatened in NSW waters.

⁴ Risk assessment p 67

⁵ DPI -Water 2016. Background document for Lachlan Unregulated and Alluvial Water Source

Over 40 species of water birds including some that are listed under international conservation agreements are found in the lower catchment. This area is also important refuge for waterbirds listed as vulnerable including the freckled and blue-billed duck.

In recognition of this the aquatic ecological community in the lowland catchment of the Lachlan River has been listed as an Endangered Ecological Community (EEC) under the *Fisheries Management Act 1994* (Lachlan CMA, 2012).

Sixteen of the 23 unregulated surface water sources within the WSP area are identified as having high instream values. This includes Mandagery Creek where the instream value assessment was updated in 2015 with new data.

In the upland and midland zones, the Abercrombie River above Wyangala Dam, the Crookwell River, the Lachlan River above Reids Flat and Mandagery Creek have high ecological values due to the occurrence of threatened fish and frog species, including Macquarie perch, silver perch, Murray crayfish and the southern bell frog.

In the lowland and terminal zones, the mid-Lachlan unregulated water source and the unregulated effluent creeks water source have high and medium consequence scores due to the presence of Murray cod, Menindee nightshade and the southern bell frog.⁶

Rules to protect and improve environmental health, such as cease to pump rules, must be more specific and regularly monitored for compliance.

Current river health

High evaporation rates and seepage to groundwater mean that large volumes of water are needed to provide benefits to environmental assets that rely on surface water. In addition, the region's main storages cause cold water pollution which poses risks to native and threatened fish species. Floods and droughts can also increase the risk of blackwater events or localised algae blooms. At present, despite a number of measures, the fish community of the Lachlan valley is in poor health and some species are under serious threat.⁷

Stressed River Assessments show consistent scores of 'high' stress across the inland unregulated streams

Unregulated rivers in the Lachlan WRPA have medium or high risk of not meeting environmental flow requirements in the following water sources⁸:

Belubulah tributaries, Bogandillon and Manna Creeks, Boorowa River and Hovells Creek, Burrangong Creek, Crookwell River, Crowther Creek, Goobang and Billabong Creeks, Goonigal and Kanga Rooby Creeks, Lachlan River, Mandagery Creek, Mid Lachlan unregulated, Ooma Creek and tributaries, Tyagong Creek, Unregulated effluent Creeks, Waugoola Creek, Western Bland Creek.

⁶ Risk assessment p 75

⁷ DPIE -Water, September 2020. Draft Lachlan Regional Water Strategy

⁸ Ibid (Table 4-3) p 12

These unregulated water sources have highly altered low flows of >50% compared to natural flows. Rules in the WSP must be updated to improve the risk to river ecology and environmental assets.

Lachlan Long Term Water Plan (LTWP)

The LTWP identifies management strategies for each unregulated stream that must inform the remake of the WSP. These include raising cease to pump and commence to pump triggers.

The objectives and outcomes in the WSP must have improved alignment with the LTWP management strategies for access to all water sources.

Fish Research in the Lachlan:

Attached is a report on fish monitoring conducted in the Lachlan catchment between 2017 and 2020.

Groundwater extraction

The irrigation industry in the Lachlan Valley does not rely on on-farm storage to improve water access and security. There is total reliance on surface water flows and public storages with the main irrigation districts relying on groundwater licences in prolonged dry periods.

This has placed significant pressure on both surface and groundwater sources. The volume of water needed to recharge overdrawn aquifers must be better understood in relation to connectivity to surface hydrology and impacts on ecological values. Some areas of the Lachlan aquifers have suffered permanent drawdown through over extraction during recent intense droughts. This level of stress impacts the entire system including connected unregulated water sources.

Raising of Wyangala Dam Wall

IRN has major concerns about the proposal to raise Wyangala Dam wall to increase the storage level by 10m. This will result in further inundation of the unregulated Lachlan above Reid's Flat and the Abercrombie River. These water sources have been recognised as having high ecological values.

The impact of the proposal on river health and water licences in the inundation area is an issue that has not yet been publicly discussed. Changes to WALs in these river reaches need to be better understood in relation to the WSP and LTAAEL.

Cease to pump rules (CtP)

The Lachlan Unregulated Water Sources rules summary⁹ describes the mostly generic CtP rules across all unregulated streams with a few exceptions.

The unregulated water sources with specific CtP rules protecting some low flows include Abercrombie River, Boorowa River, Crookwell Creek and Lachlan above Reid's Flat

⁹ DPIE -Water, 2020

Mandagery Creek is the only water source with management zones. This is because a specific plan was developed for this water source with community consultation. This process needs to be developed for other water sources with high use in the WSP area.

Booberai and Effluent Creeks have specific rules carried over from the *Water Act 1912* relating to rules in the Lachlan Regulated WSP.

Lake Waljeers can be pumped down to 80% of full capacity and Lake Forbes can be pumped to 50%.

It is noted that many CtP rules commence at year 5 of the WSP commencement (July 2016 to June 2017). The Alluvium audit of the WSP was conducted in 2018. There is no clear discussion around the implementation of the year 5 rules.

The generic CtP rules across most water sources do not protect very low flows and include:

Access rules for rivers and creeks:

Pumping is not permitted from natural pools when the water level in the pool is lower than its full capacity.

Notes:

- Full capacity can be approximated by the pool level at the point where there is no visible flow into and out of that pool
- Natural pools include in-river pools found within the channels of rivers and creeks and off-river pools located on floodplains and effluents eg lakes, lagoons and billabongs
- For pumps not within a natural pool, the cease to pump rule is when there is no visible flow at the pump site.

Access rules for natural off-river pools:

Pumping is not permitted when the water level in that natural off-river pool is lower than its full capacity.

Notes:

- ‘Full capacity’ can be approximated by the pool water level at the point when there is no visible flow into or out of that pool
- Off-river pools include those natural pools located on flood runners or floodplains, or an effluent that only commences during high flow

These access rules do not apply:

- If the existing *Water Act 1912* entitlement had more stringent access licence conditions. These existing conditions will be carried forward under the plan and are included in schedule 1.
- To major water utility, local water utility or unregulated river (town water supply) access licences.
- To water taken for domestic consumption by stock and domestic access licences.
- For the first 5 years of the plan to water taken for stock watering by stock and domestic access licences.

- To water taken from existing dams. Any existing licence conditions associated with a dam will be carried forward under the plan.

IRN has major concerns that the range of CtP rules and the various exemptions are not adequate to protect the ecological values in the Lachlan unregulated streams. These streams experience prolonged drought conditions and all need a first flush CtP rule. The protection of very low flows is needed in all water sources.

The genuine protection of environmental water from consumptive take across all connected water sources is fundamental to the WSP making its contribution to NSW's commitment to the Basin Plan. Strong CtP rules are part of a suite of rules that protect environmental water, and these should be well co-ordinated within and across a water source to properly achieve the purpose of environmental water to meet well-defined environmental watering requirements.

CtP rules need to take full account of identified risks to all environmental assets especially future risks associated with a changing climate.

Aquifer Interference from Mining and CtP rules:

IRN notes that there are significant mining operations in the Lachlan unregulated streams catchment. Conditions of approval often require the purchase of surface water licences to mitigate volumes of groundwater and surface water intercepted through mining operations.

The exemption to the mining industry from CtP rules in unregulated water licences purchased to mitigate mining interception is a key issue for the long-term management of riverine ecology in these areas. (Cl 47 (1)). This clause should be removed or modified so that replacement flows are a provision.

Replacement flows should be a recommended requirement in the conditions of approval for all mining operations.

IRN understands that this aquifer interference exemption has been removed from the new draft Hunter Unregulated WSP.

Response to Review Questions

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

The implementation of CtP and trading rules in Lachlan unregulated streams has commenced the process of recognising the need to protect river health. However, the current ecosystem health of water sources in the region needs to be better protected or improved. More targeted rules are needed to achieve enhanced environmental outcomes and to meet the WSP environmental objectives.

The definition of Planned Environmental Water (WSP Part 4 cl 16 (c))'by reference to 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 ' demonstrates that water for environmental health of the river system has the lowest priority in the WSP.

The lack of protection for very low flows in the majority of the WSP area and the range of exemptions from CtP rules fails to provide important environmental outcomes.

The risk assessment for the Lachlan WRP SW 10 identified medium to high risk of elevated phosphorus and nitrogen and decreased dissolved oxygen. The WSP does not have clear rules to manage for improved water quality.

Many of the important environmental assets in the Lachlan are floodplain dependent species. There is currently no rule to stimulate breeding opportunities such as an aligned 'first flush no take' rule.

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

The WSP has failed to meet the vision to provide for *the spiritual, social, customary and economic benefits of surface water to Aboriginal communities*.

No native title determinations have been achieved, no cultural water licences have been allocated and fish populations are in very poor health.

It is unclear how First Nation peoples' views about cultural flows have been incorporated into the WSP and where this has been defined in the WSP. Cultural objectives should not be conflated with environmental objectives. There is need for greater regard of the views of First Nations in the management of cultural flows within all the Lachlan waters. Better management of unregulated waters is important to protect and maintain cultural flows for the social benefit of First Nation peoples.

Lagoons, billabongs and off-river natural pools have significant Aboriginal cultural value. These provide important drought refuge for many native species and are not fully protected from water extraction in dry times.

The protection of basic landholder rights requires more recognition. The lack of protection of flows for downstream use has caused a failure to achieve social outcomes.

The ongoing risk of poor water quality also impacts social outcomes.

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

The WSP has clear trading rules and aims to provide certainty for all water users. Most of the WSP rules are tailored to large extractions for the agricultural industry.

This is mainly at the expense of secure town water supply, stock & domestic access, and basic rights access.

The economic value of irrigated agriculture must be assessed against the environmental and social costs associated with unhealthy rivers. The long-term sustainability of water extraction under newly modelled climate change scenarios must be a key consideration for

the WSP review. Current Long-term annual average diversions limits were not set with climate change impacts under consideration. The environmental health of the river is likely to be the key victim of unchanged water sharing arrangements in a drying climate.

The economic value of town water supply, water-related tourism and recreational fishing and community well-being must be included in consideration of economic outcomes.

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

The lack of clear monitoring and reporting requirements to demonstrate the meeting of objectives and performance indicators is a failure of the plan.

The ongoing high risks to ecosystem health and water quality, the lack of allocation of Aboriginal cultural water licences, and the failure to protect very low flows demonstrates that the WSP is not able to meet its objectives.

The lack of rules to stimulate breeding opportunities for important floodplain dependent species is a failure to meet the targeted environmental objectives of the WSP.

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

- Specific rules to improve connectivity between water sources to better protect longitudinal, lateral and groundwater recharge connectivity. The rule changes outlined in the Lachlan LTWP must be considered in the new WSP.
- The establishment of management zones with gauges in all water sources with high water entitlement. More than half of the water sources in the WSP area have entitlements over 1,000 ML.
- Rules to protect and improve environmental health, such as CtP rules, must be more specific and regularly monitored:
 - For extraction from instream flows, all reaches must have a very low flow class attached to a gauge and, as an interim measure until very low flow classes are established, standard conditions should not permit pumping unless there has been visible flow past the pump for at least the previous 24 hours. The current rule for CtP when there is no visible flow at the pump site does not protect downstream connectivity.
 - For extraction from in-river and off-river pools, pumping should be prohibited unless there has been visible outflow from the pool for at least 24 hours and unless there is both visible inflow **and** visible outflow from the pool.
 - Extraction from Waljeers Lake and Lake Forbes must have the same CtP rule as all other natural pools
- All sub-catchments must have a CtP rule that protects the first flows after prolonged drought and active management to protect these flows for environmental, social and cultural benefits of instream flow as far downstream as possible.

- The exemption from CtP rules in unregulated water access licences owned by mining companies must be mitigated through a requirement in conditions of approval to provide replacement flows into the associated unregulated streams of water with high quality and the timing needed to maintain and restore the aquatic ecosystems. This must also be a rule in the WSP.
- Volumes for some classes of water licences permitted under the WSP need to be checked for consistency with the requirements of the Basin Plan to reduce over-extraction of basin waters.
- No new or enlarged in-river dams on stream orders 3 or higher should be permitted without public exhibition of an environmental impact statement.

Conclusion

IRN looks forward to recommendations from the NRC that will inform the making of new WSPs for the Lachlan Unregulated Water Sources. Improved water sharing rules will help ecosystem function and health to improve in this stressed and poor condition catchment.

For more information about this submission please contact:

Bev Smiles

inlanddriversnetwork@gmail.com

0428 817 282