



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

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## **SUBMISSION**

### **Draft NSW Border Rivers Alluvium Water Resource Plan GW18 Water Resource Plan Area**

#### **Introduction**

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

IRN appreciates the opportunity to comment on the draft NSW Border Rivers Alluvium Water Resource Plan (draft WRP).

#### **Background**

IRN submitted substantial comments to the Status and Issues Paper on the NSW Border Rivers Alluvium WRP released in 2017.

We noted that that groundwater recovery levels have declined from the pre-development levels.

We also raised the importance of consultation with First Nations people and are concerned that consultation has occurred with only one First Nations group of the 6

with country in the WRP area. The draft WRP should not be on exhibition for comment with this significant gap in consultation and information.

We are concerned that the allocation of aquifer access licences in the Border Rivers Alluvium upstream of Keetah Bridge is almost twice the Long Term Annual Average Limit of Take (LTAAEL) and the corresponding Sustainable Diversion Limit (SDL).

There is a high level of connectivity with surface waters and the water sources on the Queensland side of the border.

Poor water quality is an issue downstream of Keetah Bridge.

There is a lack of monitoring for water quality in the groundwater source and for water take in parts of the groundwater source.

IRN does not support the draft WRP and accompanying Water Sharing Plan (WSP) because of the information gaps and failure to adequately protect the environmental values supported by this groundwater source.

### **Protection of Groundwater Dependent Ecosystems (GDEs)**

The NSW Border Rivers Alluvium groundwater source supports significant GDEs of very high ecological value, including endangered ecological communities, threatened species, vegetation, and base flow ecosystems.

These include twelve groundwater dependent woodland forests and wetlands including grey box, coolibah, lignum, yellow box and river red gum and two non woody wetlands including water couch marsh.

Priority environmental assets also include surface water connectivity.

With significant hydrological connectivity of this groundwater source to surface waters it is important to have rules in the WSP that protect GDEs, including base flows and riparian vegetation, and instream ecological values during times of low surface flow and drought.

IRN does not support that the proposed rules in the WSP will protect high value GDEs in this groundwater source. Some rules for protecting GDEs in current WSPs will be significantly changed.

The current rules are:

Rules to protect environmentally sensitive areas include:

Water supply works (bores) used solely for extracting basic landholder rights are not to be granted or amended within:

- 100 m of a high priority GDE listed in the plan
- 40 m from the top of the high bank of a river or stream
- a distance greater than 200 m of a high priority GDE listed in the plan if the bore is likely to cause drawdown at the perimeter of any high priority GDE listed in the plan.

Bores not used solely for extracting basic landholder rights are not to be granted or amended within:

- 200 m of a high priority GDE listed in the plan
- 40 m from the top of the high bank of a river or stream.

The proposed new rules in the NSW Border Rivers Alluvium WSP remove some of these protections for high priority GDEs.

CI 40 For water supply works (with exceptions):

1)

- (a) 40 metres of the top of the high bank of a river,
- (b) 200 metres of any other high priority GDE shown on the High Priority GDE Map.

This rule hasn't changed but a number of unacceptable exemptions have been made.

2) d) IRN does not support this rule change that allows location of the water supply work at a lesser distance than that specified in subclause (1) if it would result in no more than minimal impact on any high priority GDE shown on the High Priority GDE Map.

IRN maintains that there should be no allowable drawdown on GDEs because this will impact on their resilience during prolonged drought.

3) IRN does not support this rule change. It is highly contradictory because a high priority GDE has been mapped because it has groundwater dependence. This clause is a threat to the protection of GDEs.

CI 42 Basic Landholder Rights

1) This clause removes the greater than 200m rule if the bore is likely to cause drawdown at the perimeter of any high priority GDE listed in the plan. This is a loss in protection of high priority GDEs

While this clause remains the same with a 100m minimum setback for basic rights bores, IRN does not support this rule.

We support a state-wide standardisation of 200m setback to protect GDEs from basic rights extraction. This is because basic rights bores are unlicensed and unmetered and there are no restrictions on the number of basic rights bores. Basic rights is a significant use of water in some of the resource units, equalling the SDL in the Ottleys Creek resource unit.

2) b) IRN does not support this rule change that allows location of the water supply work at a lesser distance than that specified in subclause (1) (c) if it would result in no more than minimal impact on any high priority GDE shown on the High Priority GDE Map.

IRN maintains that there should be no allowable drawdown on GDEs because this will impact on their resilience during prolonged drought.

#### CI 43 Replacement groundwater works

All replacement bores should be at least 200m from high priority GDEs.

We do not consider that the proposed rules in the WSP will protect the GDEs in the NSW Border Rivers Alluvium groundwater source.

Discussion of the risk assessment, water quality management, the importance of connectivity and recharge protection is provided further in this submission in regard to protection of GDEs in this groundwater source.

#### **LTADEL/SDL**

IRN questions the validity of information provided in the draft WSP and draft WRP for this groundwater source in relation to share components of aquifer access licences, the LTADEL/SDL and available water determinations for aquifer access licences.

This is particularly an issue in the groundwater source Upstream Keetah Bridge.

The draft WSP contains the following clauses:

#### CI 22 Share components of aquifer access licences

On the commencement of this Plan, it is estimated that the share components of aquifer access licences total 15,877 unit shares, distributed as follows:

- (a) 15,392 unit shares in the NSW Border Rivers Upstream Keetah Bridge Alluvial Groundwater Source,
- (b) 485 unit shares in the NSW Border Rivers Downstream Keetah Bridge Alluvial Groundwater Source,
- (c) 0 unit shares in all other groundwater sources.

#### CI 24 Long-term average annual extraction limits

(1) The long-term average annual extraction limit for the Macintyre Alluvial Groundwater Source is 373 ML/year.

(2) The long-term average annual extraction limit for the NSW Border Rivers Upstream Keetah Bridge Alluvial Groundwater Source is 8,085 ML/year.

(3) The long-term average annual extraction limit for the NSW Border Rivers Downstream Keetah Bridge Alluvial Groundwater Source is 316 ML/year.

(4) The long-term average annual extraction limit for the Ottleys Creek Alluvial Groundwater Source is 30 ML/year.

#### CI 32 Available water determinations (AWD) for aquifer access licences

Unless the Minister otherwise determines, at the commencement of each water year an available water determination of 1 ML per unit share is to be made for aquifer access licences.

IRN cannot justify this set of figures as being meaningful.

If the AWD for Upstream Keetah Bridge is 1 ML per unit share then 15,392 ML/yr can be extracted from the groundwater source.

The LTADEL/SDL is 8,085 ML/yr for this groundwater source. There appears to be no provisions within the draft WSP to achieve this extraction limit unless this

groundwater source is automatically non - compliant with the SDL thus triggering Cl 28.

The AWD for Upstream Keetah Bridge should be 0.5 ML per unit share to achieve compliance with the LTAAEL/SDL.

There is a similar anomaly with the Downstream Keetah Bridge groundwater source with a share component of 485 unit shares, an AWD of 1 ML per unit share and an SDL of 316 ML/yr.

We also note that the LTAAEL/SDL for the Ottleys Creek resource unit is 30 ML/yr which is equivalent to the basic landholder rights in Cl 18 (d).

There appears to be no provision in the draft WSP to prevent growth in use of basic rights in the Ottley Creek resource unit.

IRN is not confident that the rules in the draft WSP will cause the groundwater source to be compliant with the LTAAEL/SDL and thus protect planned environmental water or meet the objectives of the Basin Plan

### **Connectivity**

There is a high level of hydrological connection with this groundwater source and the NSW Border Rivers surface flows. The Upstream Keetah Bridge resource unit is hydraulically connected to the regulated Dumaresq River and the McIntyre alluvium is known to be highly connected to surface flows. The Downstream Keetah Bridge is considered not so well connected and there is no gauge in the Ottley Creek system to inform decision-makers.

It is recognised that groundwater extraction can, over time, potentially impact the surface water/groundwater flux, and extraction from groundwater can impact on adjacent groundwater resources.

This is a concern with the high number of share units in the groundwater source. The impact of loss of surface planned environmental water into the alluvium is not addressed in the draft WSP or NSW the Border Rivers surface water WRP.

Likewise, there is Held Environmental Water in the surface water source that needs to be protected from alluvial extraction.

We also note that the NSW Border Rivers Alluvium is hydraulically connected to the Queensland Border Rivers Alluvium in the north. Both alluvium units are of the same origin composition and structure, only administratively separated by the state border.

There appears to be no policy or statutory imperative for addressing the impacts of groundwater extraction in one state, on other uses across the border.

While the draft WSP includes provisions to give effect to any future arrangements, particularly in regard to interstate trade, there needs to be careful consideration given to the protection of GDEs and instream ecological values in any trade rules.

IRN does not consider that the rules in the draft WSP adequately protect the high level of connectivity in these groundwater sources, especially in periods of prolonged drought and low surface water availability.

## **Risk Assessment**

The risk assessment identifies the Upstream Keetah Bridge resource unit to have a high risk of growth in basic rights reducing groundwater availability and a high risk in reduction of recharge through increases in irrigation efficiency and improved water delivery.

This resource unit also has medium risks to structural integrity, local drawdown to other users, climate change reducing recharge, and medium risk of groundwater extraction causing local drawdown and impacting GDEs.

There are also various medium risks identified in the other resource units.

IRN does not support the assessment outcome that the risk of climate change reducing recharge and groundwater availability and impacting on GDEs is low in all resource units.

There is a medium risk in the Upstream Keetah Bridge resource unit of climate change reducing recharge and groundwater availability to aquifer access licence holders.

We maintain that climate change is also highly likely to impact on groundwater availability for GDEs and instream ecological values.

Climate change is already causing a major reduction in rainfall and surface flows that provide recharge to the NSW Border Rivers Alluvium. This assessment of risk needs to be re-examined.

IRN notes that many risks are assessed qualitatively particularly in regard to water quality. This indicates major information gaps that need to be filled. We do not support that many of the qualified risks are Nil or Low.

The assessment outcome of low risk for poor water quality in the Downstream Keetah resource unit is highly questionable.

The draft WRP states that *'The risk assessment outcomes for potential risks to GDEs associated with groundwater extraction causing drawdown were medium and high in the NSW Border Rivers Alluvium'*.<sup>1</sup>

This is most likely the case that the risks to environmental assets are higher than reported, particularly with the risk of climate change.

We do not consider that the draft WRP has adequately assessed the risks to environmental assets in the groundwater source or that the rules in the draft WSP will adequately manage the risks to environmental assets.

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<sup>1</sup> Draft WRP p 46

## **Water Quality**

We note that there is no routine monitoring of groundwater quality in the NSW Border Rivers Alluvium WRP area. Also, there is no map displaying the salinity in the NSW Border Rivers Alluvium WRP area.

From various dated sources of information it is reported that the highly connected resource units have freshwater salinity levels. The Downstream Keetah Bridge resource unit is highly saline ranging from 14,000  $\mu\text{S}/\text{cm}$  to 50,000  $\mu\text{S}/\text{cm}$ .

The draft WRP identifies that downstream of Keetah Bridge, the relationship between the groundwater and the surface water is not as well understood. The groundwater shows higher salinity levels than the river indicating that the river and groundwater are not well connected.

IRN does not support the risk assessment that there is a low risk of poor water quality or groundwater extraction inducing connection with poor quality groundwater in the Downstream Keetah resource unit.

IRN notes that the Water Quality Management Plan (WQMP) identifies salinity targets for the NSW Border Rivers Alluvium in Table 7 to protect freshwater dependent ecosystems.

These are:

Zone 1	900 EC
Zone 2	<3,000 EC

IRN does not consider that the strategies in Table 6 of the WQMP will assist in achieving these targets.

We do not consider that the proposed rules in the WSP or the management of the water allocations in this groundwater source will protect high priority environmental assets from poor water quality.

## **Water Sharing Plan Objectives**

IRN supports the broad environmental objective of the NSW Border Rivers Alluvial Groundwater Sources WSP.

This is to protect the condition of the groundwater sources and their GDEs over the term of the plan.

This support includes the targeted objective to protect the extent and condition of high priority GDEs that rely on the groundwater sources, to contribute to the maintenance of salinity levels within water quality target ranges and to protect the structural integrity of the aquifers.

The performance measures need to include the maintenance of the structural integrity.

A targeted objective to contribute to the maintenance of the structural integrity of the aquifer and improved salinity levels should also be included in the economic, social and cultural objectives.

### **Proposed WSP Rules**

#### 1. Minimum distance rules

As stated above, IRN does not support the proposed minimum distance rules for water supply works.

These will not give the required protection to GDEs and instream ecological values from risk, as proposed in the risk management assessment and WQMP.

#### 2. Time period for LTAAEL compliance

IRN does not support a time period of five years over which compliance with the LTAAEL is assessed in the NSW Border Rivers groundwater source.

IRN considers that consistency of compliance to LTAAEL should be a three year rolling average across all water sources in NSW.

This will give much greater assurance that planned environmental water is protected.

#### 3. Compliance triggers

IRN does not support the current 10% trigger in the NSW Border Rivers groundwater source for requiring action to ensure compliance with the LTAAEL.

The trigger should be 5% in all water sources to ensure compliance with the SDL.

#### 4. Removal of protection of recharge

IRN does not support the proposed rule change for the protection of planned environmental water. The protection of recharge inflows to this groundwater source is critical for the reasons outlined above.

We do not agree that this proposed change '*will not alter the actual volume of planned environmental water or the timing of its availability to the environment*'.<sup>2</sup>

The timing of the availability of planned environmental water is critical during dry periods and the protection of a percentage of recharge is an important factor in protecting the integrity and water levels in alluvial aquifer systems. It is also critical for supporting high priority GDEs.

The protection of recharge to the NSW Border Rivers Alluvium must be maintained.

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<sup>2</sup> Fact Sheet: Proposed changes to groundwater sharing plans

## **Conclusion**

IRN does not consider that the draft NSW Border Rivers Alluvium WRP will meet the requirements of the Basin Plan.

The proposed rules in the draft WSP rules not protect planned environmental water, achieve management of risk, or improve water quality.

The over- allocation of water in this groundwater source must be addressed.

For more information please contact:

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