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**Submission**  
**Draft #2 Border Rivers Regional Water Strategy**

**Introduction**

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

IRN welcomes the opportunity to engage in the refinement of proposed actions for the Border Rivers Regional Water Strategy (RWS). We participated in the first stage of the RWS development process by providing feedback on options that are beneficial to the environment and community, options that would cause environmental harm and identified several missing options.

We fully support the decision to not progress the options to build a new dam at on the Mole River, enlarge the Mungindi weir, raise Pindari Dam or divert coastal water. We applaud that the option to improve industry efficiency includes our suggestion to better manage evaporation from on farm storages. Improved industry efficiency must also focus on a move away from flood irrigation of crops in the Border Rivers region.

IRN notes that the NSW Government is developing several strategies under the State Water Strategy. These include an Aboriginal Water Strategy, the NSW Groundwater Strategy, the Town Water Risk Reduction Program and the Water Efficiency Framework and Program. These over-arching strategies should be in place before the RWS is finalised to ensure consistency at the regional level. If necessary, an interim Aboriginal Water Strategy may be useful, to give time for full consultation with Aboriginal people while having some guidance for RWS decisions.

It is of great concern that consultation with the Aboriginal community has been very poor and that the impacts of many proposed actions is unknown. It is critical that this analysis is an early action to demonstrate regard and respect for First Nations knowledge and values.

## **Support for priorities and actions**

IRN supports the four priorities identified in the RWS and supports the following proposed actions under each priority:

### **1. Priority 1: Address knowledge gaps and make information easily accessible**

*Action 1.1 Improve public access to climate information and water availability forecasts*

#### **What water availability information and information products do you need to make decisions for your business?**

It is not only businesses that need information to understand the impacts of climate change, policy, and current operational decisions on water management.

The volume of tributary inflows assigned to Tributary Utilisation Rates is a key piece of information that is still not forthcoming, even though there was a commitment to provide this information to the Connectivity Stakeholder Reference Group.

#### **How can long-term climate information be communicated in a way to help water users and businesses undertake long-term climate change planning?**

It needs to be recognised that long-term climate predictions are based on models that are indicative only. There has been warning of increased variability of the Australian climate through climate change impacts over many years. Information needs to be presented in simple terms. The Bureau of Meteorology has been given this task. Reference to this information should be useful. A key hurdle is the large number of climate change deniers in regional NSW.

*Action 1.2 Develop ongoing arrangements for participation of local Aboriginal people in water management*

#### **What kind of support needs to be provided by Government to assist Aboriginal communities to establish a governance approach for better involvement in water management?**

Government officials and public servants need to stop paying lip service to the feedback that has been constantly received from Aboriginal communities across NSW. The proposed Aboriginal Water Strategy needs to be prioritised and well-funded to establish culturally appropriate consultation processes that build capacity, recognise remoteness, and provide resources to enable meaningful participation.

*Action 1.3 Improve understanding of river flows, water use and water quality at priority locations in the Border Rivers*

*Action 1.4 Invest in continuous improvement in water modelling in the Border Rivers region*

## **2. Priority 2: Do more with less water**

**Action 2.1** *Support adoption of on-farm water use efficiency measures.* This action should include investment in more efficient irrigation technology to move away from flood irrigation practices. It should also occur throughout the region with most support going to businesses relying on unregulated water sources and using dryland or grazing techniques to do better with less rainfall. Their efforts should be designed to also have downstream benefits.

### **What should be the focus of future water use efficiency research and investment?**

Attention should be given to subsurface irrigation technology and evaporation control options for on farm storages such as floating solar farms. This fits in with the diversification of the economy and meeting renewable energy targets.

Attention could be given to regenerative agricultural techniques that improve soil carbon and water infiltration, researching how this influences stream flow in relation to storm runoff, sustaining base flows and water quality.

**Action 2.2** *Coordinate the management of irrigation water releases and water for the environment to improve ecological outcomes*

### **Do you support adjustments to the management of the regulated river to optimise outcomes for the environment as well as consumptive users?**

It is critical that river operations are optimised for improved environmental outcomes. Issues such as dam outlet sharing, rules in water sharing plans that do not protect environmental water (eg no protection of daily environmental releases below the junction of Severn River and Frazers Creek) and preventing gaps in river flow during important native fish breeding opportunities, among other requirements that need to be considered.

Timing, volume, and duration of Tributary Utilisation Rates is a key issue with river operations that must be transparently addressed. Bulk water deliveries and stopping base flows below Boggabilla during extreme drought should not be part of a drought operations strategy.

### **Is this likely to impact on business operations?**

IRN strongly objects to this leading question. The priority for water management and sharing is clear in the WMA. Most large-scale irrigation operations in the Border Rivers have on farm storages that enable management of water availability for immediate needs.

**Action 2.3** *Identify and address physical barriers to the delivery of water for the environment*  
The reduced overbank flow in the wetland complex located on the Macintyre River floodplain south and west of Boggabilla is likely to be caused by floodplain harvesting and floodplain works.

The Healthy Floodplain Project has identified 33 existing floodwork structures (hotspots) that have most significantly altered the flow of floodwaters in the Border Rivers, causing social, economic, ecological, and cultural impacts.

We expect that the implementation of Action 3.7 will improve the situation, however, the restriction of the action to unapproved works rather than also including structures that significantly alter flood flows is a serious weakness with unacceptable consequences for wetlands, including those of the highest cultural importance along Morella Watercourse.

**Action 2.4** *Provide clarity and certainty for environmental needs during drought operations*

The environment has priority over consumptive users in the *Water Management Act 2000* (WMA) during drought except for critical human needs. It is essential that the operation of the regulated river maintains critical environmental values such as drought refugia. The management of available water determinations must be based on the most recent drought of record to ensure that human needs and environmental needs can be provided during drought.

The policy to include critical industries in drought management strategies fails to implement the priorities of the WMA and results in environmental harm. The use of block releases and shutting the river down at Boggabilla has caused significant ecological damage.

**What do you see as the key challenges that need to be addressed to improve the management of the rivers in drought?**

The rules operating available water determinations must keep sufficient water to provide certainty for critical human and environmental needs. The water sharing plan must recognise the most recent drought of record and the possibility that a worse drought could occur. Planning water determinations for a 2-year period is not applicable under climate change scenarios.

**3. Priority 3: Make the region more resilient to climate variability**

**Action 3.2** *Ensure water management framework can support sustainable economic diversification*

It is also necessary to make sure that further loss of existing ecological, social and economic diversity does not occur in a changing climate, as well as looking at new sustainable industries.

**What are the key barriers to unlocking industries with low water reliance in the Border Rivers?**

Lack of government support and research, lack of recognition of current emerging industries such as carbon farming and regenerative agriculture. Industries such as industrial hemp production with regional processing of seed oil, building materials and fibre is an example of an opportunity that could be promoted.

Better investment in natural resource management and monitoring would generate local and regional employment, especially for pest and weed control.

**Action 3.3** *Support place-based initiatives to deliver cultural outcomes for Aboriginal people*

**What kind of support needs to be provided by government to make sure initiatives for Aboriginal communities are enduring and support long-term programs that can meet local needs?**

The implementation of the WMA and the Basin Plan to provide water entitlements to Aboriginal people is essential. The positive outcomes should be for First Nations groups in recognition of their loss of connection to country.

**How can Aboriginal place-based solutions be implemented in a way that provides opportunities for all?**

The broader community has benefited from all water use to date. It is time to recognise and respect First Nations knowledge and needs.

*Action 3.4 Support Aboriginal business opportunities in the Border Rivers region*

*Action 3.5 Mitigate the impact of infrastructure on native fish*

**Do you agree that the actions around limiting impact of infrastructure on fish, enabling flows to move across floodplains more easily and rehabilitating high-priority locations will help support the long-term resilience of the environment?**

IRN strongly supports all action and investment to improve fish passage. This is a Northern Basin toolkit measure that requires action to support an improvement in the health of in native fish populations. The removal of floodplain structures that impeded critical fish breeding opportunities is essential. This must occur before floodplain works are licenced for floodplain harvesting. The removal of unnecessary weirs is another important action.

Additional investment is needed throughout the catchment in promoting removal of other unnecessary barriers to fish movement and appropriate modification or replacement of needed structures by their owners. The needs of fish can be used to promote community enthusiasm for caring for their habitats and for compliance with water management rules such as restrictions on pumping from pools and low flows.

*Action 3.7 Remediate unapproved floodplain structures* This option must have top priority in the region and be finalised before floodplain harvesting works are licenced. This action should also include the removal or modification of ‘hot spot’ structures identified under the Healthy Floodplain Project. See also 2.3 above.

*Action 3.8 Identify regionally significant riparian, wetland, and floodplain areas to protect or rehabilitate* A lot of the identification and prioritisation work has been done in previous Catchment Management Plans – this work is being undertaken by LLS and Landcare. These planning documents need to be acknowledged and better resourced for implementation.

Implementation of floodplain management plans has failed in the past but has included wetland identification. Removal of barriers affecting key wetlands, as discussed above, could enable improvement of the current floodplain management plan. Implementation would assist in protection and rehabilitation.

#### **4. Priority 4: Share water differently to address critical needs of Border Rivers and downstream users**

##### **Action 4.1** *Map critical drought refugia*

##### **Do you agree that critical needs include water for towns, basic landholder rights, domestic and stock licences and water to prevent drought refuges drying out?**

IRN is concerned that DPE-Water is asking questions about agreement with priorities that currently stand in law under the WMA. We are not aware that the RWS process is preparing to make major changes to water legislation in NSW.

It is essential that mapping of critical drought refugia is undertaken to protect native fish populations and other water dependent species such as turtles, frogs, and platypus. The fact that some drought refugia on floodplains can only be filled by large connecting and overbank flows <sup>1</sup> is an important consideration before licencing and management of floodplain harvesting activities. This must include the removal of floodplain works.

##### **If not what other needs should be considered in critical needs and how reliable should water supplies be for those needs?**

IRN strongly objects to this leading question. The priority for water sharing in drought is clear in the WMA. The policy to include critical industries in drought management strategies fails to implement the priorities of the WMA and results in environmental harm.

##### **Action 4.3** *Investigate innovative water projects to support bushfire efforts*

**Action 4.5** *Investigate ways to improve connectivity with the Barwon– Darling on a multi-valley scale* IRN supports the need to improve connectivity to Menindee Lakes and the Lower Darling. The proposed trigger of 195 GL in Menindee Lakes is too low and will not protect critical human or ecological needs in the lower catchment.

There is reference to the impact of rule changes in the Border Rivers water sharing plans<sup>2</sup> if water availability to licence holders is significantly impacted by new connectivity targets. It is imperative that scientifically rigorous targets are established before new floodplain harvesting entitlements are finalised.

It is inappropriate under the Commonwealth *Water Act 2007* that held environmental water from the Border River catchment is used to provide base flows in a regulated system and town water supply anywhere. Co-ordinating well targeted release of Held Environmental Water with other water for towns may be efficient and desirable so long as accounting for distribution “losses” is fair. Full recovery of environmental water, as required, is urgent. Northern Basin toolkit measures will be useful but are not an effective substitute.

##### **What are the relative benefits/impacts of options to improve connectivity with the Barwon–Darling?**

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<sup>1</sup> DPE June 2022. Border Rivers shortlist options – Consultation paper p84

<sup>2</sup> Ibid p 91

The Border Rivers are a significant contributor of flows to the Barwon-Darling providing 20% of downstream flows. The increase in development in the Border Rivers has prevented natural flows to connect downstream. This has caused a cumulative impact with loss of flows from all Northern Basin tributaries resulting in the near ecological collapse of the Barwon-Darling River.

**Are there other actions in the Border Rivers that we should analyse?**

It is imperative that connectivity between the Border Rivers and Barwon-Darling is improved with strong end-of-system flow targets to trigger cease-to-pump events.

We note that the current Border Rivers water sharing plan includes flow targets in the Barwon-Darling to inform access to supplementary entitlement. There is provision to amend these targets. Barwon-Darling flow targets are also applicable for managing floodplain harvesting access and for protecting first flush flows after a drought.

The word “extended” should be removed from the proposed objective “Protect the first flush of water after an extended drought” because the environment and basic rights holders downstream should be given priority when opportunities to avoid worse problems are available. It is rarely predictable whether the first possible flush will precede the end of a drought or be just a break in what may turn out to be an extreme drought. The suggestion that the proposed triggers for this rule should be severity of drought in the tributaries “and” shortage of water in the Barwon-Darling rather than “or” is unacceptable. The triggers proposed fail to give priority to environmental and human needs downstream.

There should be rules to limit duration of cease to flow periods in the Barwon above and below the Namoi confluence, as well as in the Darling at Bourke and Wilcannia. The length of time the Macintyre has ceased to flow at Goondiwindi is relevant to the Macintyre aquatic ecosystems but may not be indicative of critical needs in the Barwon.

The contribution to reduced connectivity attributable to dams and rules for supplying orders from tributary inflows or environmental releases should be assessed, along with options to partially restore connectivity by changing these. Options should include protection of environmental releases to end of system and protecting more of the smaller tributary inflows (including in April to August when the 100ML/d rule at Mungindi does not apply, and inflows that are not available for Supplementary access such that the 25% protection rule does not apply.)

In addition to investigating the proposed objectives for connectivity, the objective of increasing achievability of additional environmental water requirements in the Long-Term Watering Plan should be investigated now. This should include but not be limited to meeting targets for the duration, frequency, and maximum time between low and baseflow events during dry years to ensure survival of all mollusc and fish species and recruitment of short-lived fish species. Spawning of longer-lived fish species should not be limited to infrequent wet years.

Full recovery of held environmental water in the Border Rivers should have high priority.

## **Actions with conditional support**

IRN gives conditional support to the following proposed actions in the RWS:

**Action 4.2** *Support towns to understand if groundwater can provide a reliable water supply when surface water availability is limited*

**Action 4.4** *Investigate sustainable levels of groundwater extraction in the Border Rivers Alluvium and the Great Artesian Basin aquifers*

Decisions on groundwater cannot be made before the State Groundwater Strategy is developed to ensure consistency at the regional level. We look forward to seeing a draft of this policy.

Multiple means of reducing unrestricted demand and enabling reuse or recycling in towns must be actively pursued to minimize use of both surface and ground water. IRN has previously identified the use of hydropanels for isolated regional communities. This option needs to be pursued to compare with costs of drilling bores and of poorer groundwater quality including consequent use of bottled water and softdrinks.

The significant drawdown of groundwater sources across the state during recent intense drought is a significant issue that must be taken into consideration for long-term sustainability of the water source.

More work needs to be undertaken to map and protect groundwater dependent ecosystems. We note that this is an action in the Gwydir RWS and should also be included in the Border Rivers actions.

Whether any fractured rock sources need to be at a high level to maintain natural springs, including springs that open up during droughts, need to be investigated. The Dumaresq used to gain water from alluvial groundwater in dry seasons. Drawing down of Border Rivers alluvial sources could impact on groundwater dependent ecosystems and cultural values and increase the dam releases required to meet regulated flow orders in dry or normal periods.

IRN does not support the proposal to increase Sustainable Diversion Limit for groundwater sources under the next Basin Plan. What seems sustainable now may soon not be if climate change is worse than expected.

## **Actions not supported**

IRN does not support the following proposed actions in the RWS:

**Action 3.1** *Increase the availability of high security water access licences*

IRN does not support this action because the ecological assessment demonstrates extreme environmental impacts on frequency of no flows, frequency of small freshes and frequency of large freshes. Also, a major environmental impact on duration of no flows.<sup>3</sup>

If cotton growers want to switch to growing pecans, they can invest in drip irrigation that will give more reliability for general security entitlements than current flood irrigation practices.

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<sup>3</sup> Ibid p134



**Action 3.6** *Fully implement the NSW Floodplain Harvesting Policy (the policy).*

IRN does not support the policy as it currently stands or how it is being implemented. The RWS identifies that more than one third of all surface water used in the Border Rivers region comes from water diverted from the floodplain and intercepted before it enters rivers and creeks.<sup>4</sup>

The identified decrease of 15 GL annual average floodplain harvesting diversion is to bring the level of Border Rivers extraction back under the plan limit. It is not a gift to the environment. It is addressing 30 years of unfettered, unregulated water use that has been stolen from the environment with no recourse taken.

The significance of this level of diversion has not been assessed for its cumulative instream and downstream environmental, cultural, and social impacts. The claim that by implementing the policy in the Border Rivers valley significant environmental outcomes will be achieved fails to recognise the significant long-term environmental damage that has occurred over time through the removal of more than 30% of all surface flows in the region. The 15 GL only returns 13% of the total floodplain diversions on average.<sup>5</sup>

The policy and its implementation have focussed on assessing on farm infrastructure and modelling diversions with the purpose of calculating entitlements and licencing works. The criterion for floodplain works assessment and licencing does not include identification of works that may need to be removed because of their significant impact on essential flood flows to important ecological assets and cultural values.

The regulation of floodplain harvesting must be preceded by an assessment of the cumulative environmental, cultural, and social impact of decades of floodplain harvesting and must include cease-to-divert flow targets that are scientifically based on environmental sustainability. The removal or modification of ‘hotspot’ and unapproved floodplain works must occur before works licences for floodplain harvesting are granted.

It is recognised that the main replenishment of off-channel drought refugia occurs from larger connecting and overbank flows.<sup>6</sup> Floodplain harvesting can prevent this very important ecological function. The identification of key floodplain drought refugia is imperative before the licencing of floodplain harvesting diversion and works.

Achieving all environmental water requirements of the Border Rivers and Barwon-Darling should have priority over floodplain harvesting.

The policy has key faults that must be addressed before implementation:

- locks in an environmentally unsustainable level of water diversion from floodplains and downstream
- allows for 5 years of entitlement to be captured at once
- excludes rainfall runoff from licences
- works should not be licenced until action 3.7 (removal of unapproved floodplain works) is completed

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<sup>4</sup> DPIE-Water October 2020 Draft Regional Water Strategy. Border Rivers: Strategy p 12

<sup>5</sup> DPE June 2022. Border Rivers shortlist options – Consultation paper p 75

<sup>6</sup> Ibid p 84

## Missing action

The full recovery of environmental water under the Basin Plan Sustainable Diversion Limit for the Border Rivers has still not been achieved. There remains a shortfall of 5.1GL in the NSW Border Rivers.<sup>7</sup> It is imperative that high priority is given to complete NSW legal requirements under the Commonwealth *Water Act 2007*.

## Conclusion

IRN supports the move away from infrastructure projects that will increase environmental harm. We also fully support the focus on improved water use efficiency and sustainable economic diversification away from water intensive industries.

Climate change will seriously impact on current water policy and management arrangements. The environmental and cultural values of the Border Rivers region have been significantly impacted by poor water management practices in the past. These need to be ameliorated before the worse impacts of climate change occur. Meeting the full Basin Plan water recovery requirement is an important first step.

For more information about this submission please contact IRN at:

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Yours sincerely

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<sup>7</sup> Ibid p 53