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Wednesday 29 June 2022

Submission
Draft #2 Gwydir 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 Gwydir 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 missing options.

We fully support the decision to not progress the options to build a new dam at Gravesend or to enlarge the Tareelaroi reregulating weir. 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 Gwydir 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 cultural impacts of many proposed actions is unknown. Leaving this assessment to a business case is inappropriate and demonstrates an ongoing disregard of First Nations knowledge and values.

Supported priorities and actions

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

1. **Priority 1: Water for critical human needs and environment**

Action 1.1 – *Investigate source augmentation for Uralla water supply*. It is pleasing to see the results of the Znet Uralla project referred to, indicating support for a range of ways that demand could be reduced. IRN supports demand reduction in multiple ways including the prioritisation of funding for purified water recycling. Recycling should be implemented in multiple trial sites and plans made to roll out efficient reuse and recycling through all urban areas in the region as the most efficient form of non-rainfall dependent water source. Demand reduction should be a prerequisite for assistance with source augmentation.

Action 1.2 – *Support urban water efficiency measures in Moree*. As per comments under 1.1

Action 1.3 – *Develop and publish clear policy on how the region's groundwater resources will be managed sustainably into the future*. The State-wide Groundwater Policy must be finalised to inform the approach at the regional level. We look forward to seeing drafts of the State-wide Policy then the regional policy.

Do you support changing the groundwater assessment framework so that towns are given priority over other water users?

Allocation of water in any water source must meet the priorities of the NSW *Water Management Act 2000* (WMA) ie water to the environment then basic rights then town water supply. In a drought scenario town water supply must have precedence over other water users. All use of groundwater must be within ecologically and physically sustainable limits. Recharge to groundwater sources must be protected. Connectivity with surface water must be better understood, particularly in long drought sequences and in relation to the effects of protection of first flush flows and of other high flows during or after these sequences.

Action 1.4 – *Investigate ways to improve connectivity with the Barwon-Darling River 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 Gwydir water sharing plans[1] 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 Gwydir catchment is used to provide base flows in a regulated system and town water supply in unregulated systems.

[1] DPE June 2022. Gwydir shortlist options – Consultation paper p52

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

The Gwydir is a significant contributor of flows to the Barwon-Darling. The increase in development in the Gwydir 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. Changes to all Northern Basin water sharing plans are needed to ensure that the ecosystems of the Barwon and whole Darling/Baaka can regain full health and that they are not at risk of collapse, properly applying the legislated water management principles.

We support the view raised in the Gwydir targeted consultation that First Nations water rights need to be reflected in the objectives and triggers and note that this includes native title rights of the Baakandji people.

IRN will comment further on appropriate targets in our submission on the Western Regional Water Strategy including North-West Flow Plan and critical dry conditions triggers.

Are there specific actions in the Gwydir that we should analyse?

It is imperative that connectivity between the Gwydir and Barwon-Darling is improved with strong end-of-system flow targets to trigger cease-to-pump events. End of system targets should be additional to, and complement, targets based on circumstances applying further downstream. They should contribute to environmental water needs and reduce the frequency of the latter targets being triggered.

The value of connectivity from the Gwydir together with Border Rivers was demonstrated in 2007 when a s324 order was in place as there had been very little or no flow at Wilcannia for over a year, the Barwon was also reduced to shrinking pools and tributary catchments were drought-affected. Storms produced runoff into the Border Rivers and Gwydir.

No Supplementary use was permitted. Most Gwydir inflows were directed through Carole Creek and the Mehi and protected from extraction. Some of the flow in each reached the Barwon shortly after small peaks from the Border Rivers and Moonie had filled drying pools. The Gwydir water then flowed further and enabled Bourke weir pool to fill in April 2007 then overflow slightly for the first time in over 6 months. By wetting the channel this far, the Gwydir contribution enabled subsequent small storm inflows to produce small rises at Bourke peaking within the baseflow range and each achieving the riparian target for a few days. This may have suppressed algal bloom development in the spring. It also contributed to ecological needs and basic rights further downstream: Wilcannia received water in spring of 2007. Any suggestion that restriction of Supplementary use in the Gwydir or elsewhere is unlikely to usefully contribute to meeting critical low flow needs in the Barwon-Darling is clearly incorrect.

We request that DPE investigate how many of the Barwon-Darling Long-Term Watering Plan environmental water requirements were met in each reach because of the embargo on Supplementary and Barwon-Darling licences in 2007 and 2008, and how many more could

have been met if floodplain harvesting had also been restricted. Of course, the benefits to local people from the protected flows should also be considered. This was not the end of the drought as the Darling/Baaka was dry again for much of 2008. Studying this example period should enable a greater focus on the multiple benefits that can be achieved by protecting a series of flows when there is no large, prolonged flow and may assist in setting multi-benefit targets that will be practical to implement.

New rules should be developed that enable all environmental watering requirements to be met. The existing North-West Plan rules should be applied if their trigger conditions are met, prior to all of these rules being incorporated in a Gwydir WSP.

2. Priority 2: Regional Economy

Action 2.1 – *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.

Action 2.2 – *Support adoption of on farm 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. There are study sites in the Gwydir catchment.

Action 2.3 – *Assess potential costs and benefits of event-based trade of supplementary flows*. This action is supported on condition that there are no environmental impacts. This action should not be given a high priority in the RWS. If supplementary licences are not accessed during an event the water is likely to go to the environment anyway. This assessment must be conducted on a reach-by-reach basis to fully understand the environmental impacts.

Potential for this to enable increased use of supplementary flows, such that the environment gets less water perhaps at important times, until limits require reduction of supplementary diversions should be investigated, both in relation to the stochastic and much drier climate scenarios.

Action 2.6 – *Develop ongoing arrangements for participation of local Aboriginal people in water management.* IRN supports the concept of enabling First Nations people to be involved in ways that actually meet their diverse needs.

Action 2.7 - *Support place-based initiatives to deliver cultural outcomes for Aboriginal People*

How can Aboriginal place-based solutions be implemented in a way that creates opportunities for Aboriginal people and communities in the Gwydir region, while also delivering positive outcomes for the broader community?
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. The broader community has benefited from all water use to date. It is time to recognise and respect First Nations knowledge and needs.

Action 2.8 - *Support Aboriginal business opportunities in the Gwydir region*

Action 2.9 - *Ensure the water management framework can support sustainable economic diversification*. The framework should support ecologically, socially and economically sustainable water use and management. It is important to focus on helping existing users improve their sustainability in a diversity of ways that reduce dependance on water. There should not be a focus on diversifying the economy with new water intensive industries such as permanent planting of nuts. The suggestions for new industries under the Special Activation Precinct in Moree still include water dependent industries.[2]

What are the key barriers to unlocking industries with low water reliance in the Gwydir?

Lack of government support and research, lack of recognition of current emerging industries such as carbon farming and regenerative agriculture.

Are there other industries that could generate sustainable employment in the region?

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.

3. Priority 3: Better use of Environmental Water

Action 3.2 - *Invest in continuous improvement to water modelling in the Gwydir region*

[2] Ibid p31

Action 3.3 - *Provide clarity and certainty for environmental needs during drought operations*

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

The environment has priority over consumptive users in the WMA during drought except for critical human needs. It is essential that the operation of the regulated river maintain critical environmental values such as drought refugia. The management of available water determinations must be based on the most recent drought of record, together with recognition that a worse drought could occur, to ensure that human needs and environmental needs can be provided during drought.

Is this likely to impact on business operations?

IRN strongly objects to this leading question. The priority for water allocation 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 3.4 - *Mitigate the impact of water 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 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 3.5 - *Identify regionally significant riparian, wetland, and floodplain areas to protect or rehabilitate*

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

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.

Stronger land-clearing regulation, removal of structures and constraints, implementation of floodplain management plans, better rules in Water Sharing Plans to protect environmental water and improved demand management for extraction need to be addressed to improve management of rivers including all their dependent ecosystems.

Action 3.6 - *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 Gwydir Floodplain Management Plan.

Action 3.7 - *Modify or remove physical and operational barriers to delivering water for the environment in the western Gwydir catchment.* This is a requirement of the Basin Plan under the Constraints Management Plan and Northern Basin toolkit measures.

Action 3.8 - *Protect ecosystems that depend on groundwater*

Action 3.9 - *Assess gaps in the flow regime that are preventing achievement of environmental water requirements and identify cooperative actions to reinstate them*

Actions with conditional support

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

Action 2.5 - *Investigate managed aquifer recharge in the Gwydir region*. This action should not be prioritised until the State-wide Groundwater Strategy is developed. The issue of costs/benefits analysis and who will pay should be a key consideration for this option.

Actions not supported

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

Action 2.4 - *Increase the availability of high security water access licences*. We note that this option includes the original long option 26 '*addressing inefficient delivery system management'* and long option 29 '*Investigation of licence conversions*' both of which have been identified as having a major environmental impact. [3]

Do you see there being appetite for conversion of general security licences to high security licences?

The NSW Government should not be encouraging the introduction or expansion of large-scale permanent plantings such as nut production in the Gwydir. This has caused significant problems in the Murray and should not be repeated elsewhere, especially in the Northern Basin. Conversion to some high security could only be appropriate if major efficiencies are achieved in the use of general security entitlements.

Action 3.1 - *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 Gwydir region comes from water diverted from the floodplain and intercepted before it enters rivers and creeks.[4]

[3] Ibid p 108 & p 109
[4] Ibid p 82

The RWS also identifies that the long-term average annual water use in the regulated river system exceeds extraction limits.[5]

The identified decrease of 58.5 GL annual average floodplain harvesting diversion is to bring the level of Gwydir 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 Gwydir 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 30% of all surface flows in the region. The 58.5 GL only returns 30% of the total floodplain diversions on average. [6]

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. [7] 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 Gwydir 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 3.6 (removal of unapproved floodplain works) is completed

[5] Ibid p 57
[6] Ibid p 82
[7] DPE June 2022. Border Rivers shortlist options – Consultation paper p 84

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 Gwydir 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.

For more information about this submission please contact IRN at:

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Yours sincerely

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