



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

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Friday 16 September 2022

**Submission**  
**Draft #2 Namoi 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 Namoi 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 are concerned about the order of priorities outlined in the short-listed actions consultation paper for the RWS in that they do not meet the priorities and objects of the NSW *Water Management Act 2000*. While addressing critical human needs is priority under drought conditions, protecting environmental health of water sources is the main priority at all other times. The RWS process should reflect NSW law.

It is recognised that the overall ecosystem health of the Namoi region (including the Peel River) is poor and the region’s fish community is in very poor health.<sup>1</sup> It is critical that the highest priority actions relate to improving ecosystem function and health.

We do not agree with the presentation of the Dungowan Dam and Pipeline Project as a commitment of the NSW Government. There is conditional commitment contingent to an agreement by the Federal Government to fund 50% of the cost. This agreement is not in place with the new Federal Government and the recent analysis of the project final business case by

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<sup>1</sup> DPIE-Water, March 2021. Draft Namoi Regional Water Strategy p 39

Infrastructure Australia has recommended low funding priority. This project should not be in the RWS.

We are concerned that the areas of proposed future development and emphasis on regional development growth in a drying climate is concentrating water use towards the top of the Namoi catchment in the Tamworth and Narrabri areas at the expense of the lower catchment that is already under stress and critical to maintain important connectivity with the Barwon-Darling/Baaka.

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.

IRN offers the following recommendations for a final Namoi RWS and implementation plan.

### **High priority actions**

The following actions must be given highest priority to achieve improvement in the health and resilience of water dependent ecosystems, security of water supply for critical human needs and opportunities for new regional industries.

**Action 3.1** – *Assess gaps in the flow regime that are preventing achievement of environmental watering objectives and identify cooperative actions to improve ecological outcomes.*

This action proposes to investigate opportunities to:

- review relevant water sharing plan rules to improve flexibility and certainty of environmental water in changing climate conditions
- achieve more natural flow patterns and protect important flows down the system
- coordinate dam releases with unregulated tributary flows to promote higher flow events, within system constraints

This action must include:

- a review of water sharing plan rules that regulate pumping from wetland areas (lagoons and billabongs) so that critical drought refuge is better protected
- a review of the impact of groundwater extraction on environmental water flows in areas of high surface water and groundwater connectivity. This is particularly critical in times of low flow and gaps in flow regime
- a review of system constraints and opportunities for their removal
- cooperation with the Federal Department of Climate Change, Environment, Energy and Water and the Commonwealth Environmental Water Holder to recover the outstanding gap of 9.5 GL in water recovery to achieve the Sustainable Diversion Limit under the Basin Plan. (NB: The RWS consultation paper incorrectly reports the Namoi water recovery gap as 5.1 GL (p 93))

**Actions 3.8, 2.5 and 2.12** - *Continue investment in groundwater science in the Namoi region, undertake research to inform reviews of groundwater extraction and condition limits and increase transparency in the management of groundwater resources in the Namoi region*

These actions need to occur concurrently so that the groundwater source and its dependent ecosystems are better protected in the Namoi region.

It is critical to invest in more extensive scientific research to address gaps in knowledge of groundwater dependent ecosystem (GDE) water requirements, groundwater quality risks and aquifer compaction risks. This is needed to enable the establishment of a current baseline condition of GDEs, and aquifer structural integrity before any further reliance on groundwater sources is considered.

There are considerable issues with the management of groundwater extraction in the Namoi, identified as having one of the highest uses of groundwater in NSW. The impact of this use on regional GDEs must be better understood.

There has been extraction over the plan limit in Upper Namoi Zones 3 & 5<sup>2</sup> and declining water levels in the Lower Namoi and Upper Namoi Zones 3,4, 8 and 12.<sup>3</sup> Any new management decisions must include the water requirements of GDEs and culturally significant sites and not focus solely on interference with other extractive users.

The protection of the structural integrity of aquifers is an intergenerational responsibility.

**Action 3.5** - *Remediate unapproved floodplain structures*

It is imperative that all unapproved floodplain structures are removed from the landscape to enable improved flows to important wetlands, aquifer recharge and enhanced downstream connectivity. This must occur before floodplain harvesting works approvals and entitlements are finalised. Unapproved works should not be recognised in the development of the new Namoi Source Model.

The draft RWS released for comment in March 2021 identified eleven floodplain hotspots in the Upper Namoi and 28 in the Lower Namoi Valley.<sup>4</sup> However, the shortlist options identify ‘20 unapproved works in the Upper Namoi Valley floodplain and six in the Lower Namoi Valley floodplain.’<sup>5</sup> This discrepancy in information is of great concern. IRN urges water managers to be transparent about the accelerated compliance program for unapproved flood structures in the Namoi region along with requirement that all must be clearly identified and removed.

**Actions 1.3 and 1.4** *Adopt a stronger focus on water efficiency and demand management for towns and progress advanced water treatment facilities for industries reliant on town water supplies*

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<sup>2</sup> <https://www.industry.nsw.gov.au/water/allocations-availability/managing-access-to-groundwater>

<sup>3</sup> DPE August 2022. Namoi shortlist options – Consultation paper p 79

<sup>4</sup> DPIE-Water, March 2021. Draft Namoi Regional Water Strategy p 73

<sup>5</sup> DPE August 2022. Namoi shortlist options – Consultation paper p 96

These actions must be combined and prioritised across all urban areas in the Namoi region. All Local Councils should be supported to develop and implement an Integrated Water Cycle Management Plan as agreed to under the 2004 National Water Initiative.

For improved security of town water supply it is imperative that potable water used by industry is recycled as soon as possible. This is particularly important for Tamworth where 43% of town water is used by large meat processing works.

A key focus for demand management requires immediate funding for an education program to increase community understanding of purified wastewater treatment to increase the reliability of town water supply in a drying climate. This includes priority funding for a regional mobile water treatment plant to promote the safety of purified recycled water.

## Support for other Priority Actions

IRN supports the following actions proposed in the shortlist:

1. Improving the health and resilience of water-dependent ecosystems  
**Actions 3.2, 3.3, 3.6:** Protecting habitat and fish migration, improved monitoring. More fishways is a requirement of the Northern Basin toolkit measures.
2. Town water supply:  
**Actions 1.1, 1.2, 1.7:** Improve drought planning and staff resources for local government
3. First Nations opportunities  
**Actions 2.3, 2.9, 2.10** Recognising First Nations knowledge, aspirations, and Closing the Gap
4. Better information  
**Actions 2.1, 2.2, 2.4:** Improved modelling and information sharing. This should include investment in more river flow gauges at key points in the catchment.
5. Better management of Peel River water use  
**Actions 2.6 and 2.7:** Review allocation rules and risks from over-allocation
6. Making existing water go further  
**Actions 2.11 and 2.14 (conditional):** Improving industry efficiency and diversification into less water dependent industries

## Conditional Support for Priority Actions

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

**Action 3.7** *Investigate ways to improve connectivity with the Barwon–Darling River on a multi-valley scale*

This action proposes to develop the most effective coordinated options to improve connectivity across all Barwon-Darling/Baaka tributaries through the Western RWS. However, the high level of connectivity of the Namoi River to the Barwon-Darling/Baaka

must be recognised within the Namoi RWS with appropriate end-of-system target flows to manage in-valley access to floodplain harvesting and tributary inflows.

IRN supports the need to improve connectivity to Menindee Lakes and the Lower Darling/Baaka. 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. We do not support the approach taken in the Western RWS and believe it will lock in ongoing ecological collapse. To ensure improvement in Barwon-Darling/Baaka ecosystem health the trigger for upstream access to flood water and tributary inflow must be at least 450 GL in Menindee Lakes.

Rule changes to the Namoi WSPs to include floodplain harvesting regulation must improve connectivity of flows to the Barwon-Darling/Baaka. Because the Namoi contributes almost 25% of flows to Menindee Lakes, it is critical to have a larger end-of-system flow target than proposed.

This is in keeping with the RWS aim to *‘do more to support the resilience of the region’s ecosystems, improve overall waterway health and work out how we can best protect water-dependent species, communities and habitat.’*<sup>6</sup>

See Appendix 1 for connectivity and in valley flow targets for improved ecological outcomes.

**Action 1.5:** *Reduce uncertainty in groundwater security for regional towns*

This action includes providing support to local water utilities to undertake local level investigations to understand and improve the security of groundwater supplies using the latest data. This action must not include increasing the dependency of towns on groundwater during drought. Actions 1.3 and 1.4 should take priority to improve water demand and efficiency.

The action must include findings from Actions 3.8, 2.5 and 2.12 and be integrated with these actions. The finalisation of the NSW Groundwater Strategy is critical to improve knowledge and management of groundwater sources.

**Action 1.6** *Plan for the next long term water supply augmentation as Tamworth grows*

Because the Dungowan Dam is not a certainty, several of the proposed actions need to be prioritised as short-term requirements. These include additional water treatment facilities and an increase in the water reserved for Tamworth in Chaffey Dam.

IRN does not support proposals to pipe water from the Upper Namoi or Manning Valley. This is taking water from other users including the environment.

**Action 2.13:** *Investigate managed aquifer recharge*

This action aims to develop a regulatory framework for Managed Aquifer Recharge and provide guidance on the feasibility of locations in the Namoi region. The assessment of

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<sup>6</sup> DPE August 2022. Namoi shortlist options – Executive Summary p 9

environmental impact must be a key focus of the framework. Also, the issue of costs/benefits analysis and who will pay should be a key consideration for this option.

**Action 2.14** *Ensure the water management framework can support sustainable economic diversification and transitioning economies*

This action aims to work across government to understand the water supply and demand needs of emerging industries and begin planning for the long-term diversification away from coal dependant economies.

IRN does not support the development of the gas industry in the Namoi as a form of diversification. A move away from all fossil fuel industry is imperative to prevent worse climate change impacts on the region's water sources than those already predicted. The Narrabri Gas project will impact on recharge of the Great Artesian Basin and cause drawdown of existing productive agriculture groundwater sources. It is not an Ecologically Sustainable Development and should not be included in the RWS as an example of sustainable economic diversification.

However, IRN fully supports diversification into less water dependent industries. Research into the development of new industries using by products from wastewater during the purified recycling process eg extracted nutrients such as phosphorous, medications and other useful by products. These new industries are being developed in Europe providing useful case studies to draw on.

### **Actions not supported**

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

**Action 2.8** *Make provision for voluntary licence conversions*

This action proposes the conversion of 5% of General Security (GS) entitlements in the Namoi Valley to High Security. This will have an impact on the environment through loss of reliability of remaining GS entitlements, including held environmental water. It will also cause a decrease in end-of-system flows that are critical for connectivity to the Barwon-Darling/Baaka and for Walgett critical water needs.

This action is also likely to increase the volume of Tributary Utilisation Rates and reduce the variability of natural inflows into the Upper and Lower Namoi regulated water source. This is a threat to current supplementary entitlement rules that provide the main planned environmental water in the water source.

**Action 3.4** - *Fully implement the NSW Floodplain Harvesting Program (the FPH policy).*

IRN does not support the FPH policy as it currently stands nor how it is being implemented. It is estimated that more than a quarter of all surface water used in the Namoi region comes from water diverted from the floodplain and intercepted before it enters rivers and creeks.

We note that a new Source Model for the Namoi regulated river is being developed to account for water take from the floodplain. There is serious concern about the methodology used under the FPH policy to assess entitlement in the unregulated water sources and for properties with only groundwater licences.

IRN strongly objects to this action being considered as a benefit to the environment. Any reduction in the historic take from the floodplain is not a “gift to the environment”; rather 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 Namoi 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 25% of all surface flows in the region.

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. These are outlined in Appendix 1.

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>7</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.

It is also critical that connectivity flows to lagoons, billabongs and wetland areas in the Namoi are improved to support native fish breeding to help rebuild threatened species populations.

Groundwater recharge is an important function of flood flows. This is critical in the Namoi with current high dependence on groundwater use.

Achieving all environmental water requirements of the Namoi and Barwon-Darling/Baaka should have priority over floodplain harvesting.

The policy has key faults that must be rectified 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

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<sup>7</sup> DPE June 2022. Border Rivers shortlist options – Consultation paper p 84

## Response to Questions

1. What kind of information and information products do you need to make decisions for your business or water use?

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.

More river gauges with telemetry to provide real time flow information will improve decision-making for environmental water holders and community.

2. How can place-based solutions be implemented in a way that creates opportunities for Aboriginal people and communities in the Namoi region, while also delivering positive outcomes for the broader community?

The implementation of the NSW *Water Management Act 2000* and the Basin Plan to provide water entitlements to Aboriginal people is essential, particularly for cultural flows to protect and enhance cultural values in wetlands and floodplain country. 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 in line with Closing the Gap.

3. What should be the focus of future research and investment in water-use efficiency?

There must be encouragement for industry investment in more efficient irrigation technology to move away from flood irrigation practices. 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.

A focus should also occur throughout the region on 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.

Attention needs to 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.

4. What do you see as the key challenges that need to be addressed to improve the management of the region's 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.

5. What are the relative benefits and impacts of options to improve connectivity with the Barwon–Darling River system?

It is critical that the high level of connectivity between the Namoi and Barwon-Darling/Baaka is recognised and enhanced. Improvements in water use efficiency for towns and industry in the Namoi should allow for more water to flow downstream for critical ecological repair and critical human needs. This is especially important under climate change predictions. Reduction in demand for water in the Namoi will reduce any perceived impacts of protecting more water to connect downstream.

The benefits of improving connectivity from all northern tributaries to sustain the Barwon-Darling/Baaka and connectivity between the Northern and Southern Basin are well-known and must be recognised in the RWS.

The Commonwealth Water Act and the Murray-Darling Basin Plan were developed with bipartisan support to allow the complex Basin to be managed as a connected whole. Water Resource Plans (WRPs) connect the rules for each catchment (be they regulated, unregulated or alluvium) under the one plan. The WRPs then connect to each other over state boundaries. The deadline for having Water Resource Plans (WRPs) accredited was 30 June 2019, and to date no NSW WRPs have been accredited. As the Inspector General of Water Compliance stated:

*“It is up to the NSW state government to ensure WRPs, are submitted soon, otherwise they are failing the environment, individual water users and the broader community across not only NSW, but the entire Basin.”*

NSW should submit WRPs that meet the requirements of the Murray Darling Basin Plan as a matter of urgency.

Finalising the Sustainable Diversion Limit water recovery for the Namoi by co-operating with Federal agencies to meet the 9.5 GL gap will assist in the improvement of connectivity Barwon-Darling/Baaka.

Improved flow targets to be included in an amended Namoi Regulated Water Sharing Plan are provided in Appendix 1.

## **Conclusion**

IRN supports the move away from some infrastructure projects that will increase environmental harm. This must also include the proposed Dungowan Dam that does not meet the objective of the RWS for affordability or cost benefit ration of >1.

We fully support the focus on improved water use efficiency and sustainable economic diversification away from water intensive industries. The implementation of water recycling for industry and purified water recycling to better secure town water supply in the region must be given highest priority.

Climate change will seriously impact on current water policy and management arrangements. The environmental and cultural values of the Namoi 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



Bev Smiles, President

## **Appendix 1**

IRN recommends the following flow targets to improve in valley ecosystem health and connectivity with the Barwon-Darling/Baaka. These must be achieved unless the Minister is confident that there are sufficient forecast gauge flows to achieve each flow rate and duration:

- flows at Namoi at Gunnedah in the last 485 days has exceeded 5,400 ML/day for 5 consecutive days; or
- flows at Namoi at Gunnedah in the last 1,000 days has exceeded 32,700 ML/day for 3 consecutive days; or
- flows at Namoi at Gunnedah in the last 910 days has exceeded 40,000 ML/day for 2 consecutive days; or
- flows at Namoi River upstream of Walgett in the last 485 days has exceeded 2,250 ML/day for 5 consecutive days; or
- flows at Namoi River upstream of Walgett in the last 910 days has exceeded 8,500 ML/day for 5 consecutive days; or
- flows at Namoi River upstream of Walgett in the last 1,200 days has exceeded 10,600 ML/day for 10 consecutive days; or
- flows at Barwon River at Brewarrina in the last 365 days has exceeded 1,000 ML/day for 10 consecutive days; or
- flows at Barwon River at Brewarrina in the last 485 days has exceeded 9,000 ML/day for 15 consecutive days; or
- flows at Darling River at Wilcannia in the last 365 days has exceeded 1,400 ML/day for 10 consecutive days; or
- flows at Darling River at Wilcannia in the last 485 days has exceeded 14,000 ML/day for 15 consecutive days; or

- flows at Darling River at Wilcannia in the last 1,200 days has exceeded 30,000 ML/day for 15 consecutive days; or
- there is less than 450 GL stored in the Menindee Lakes System