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SUBMISSION

Namoi Alluvium Water Resource Plan

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Introduction

The NSW Irrigators' Council (NSWIC) is the peak body representing irrigation farmers and the irrigation farming industry in NSW. Our Members include valley water user associations, food and fibre groups, irrigation corporations and commodity groups from the rice, cotton, dairy and horticultural industries. Through our members, NSWIC represents over 12,000 water access licence holders in NSW who access regulated, unregulated and groundwater systems.

NSWIC engages in advocacy and policy development on behalf of the irrigation farming sector. As an apolitical entity, the Council provides advice to all stakeholders and decision makers.

Irrigation farmers are stewards of tremendous local, operational and practical knowledge in water management. With over 12,000 irrigation farmers in NSW, there is a wealth of knowledge available. To best utilise this knowledge requires participatory decision making and extensive consultation to ensure this knowledge can be incorporated into best-practice, evidence-based policy. NSWIC and our Members are a valuable way for Governments and agencies to access this knowledge.

NSWIC welcomes this public exhibition as an opportunity to share local, practical and operational knowledge and expertise in water management. NSWIC offers the expertise from our network of irrigation farmers and organisations on an ongoing basis to ensure water management is practical, community-minded and follows participatory process.

This submission represents the views of the Members of NSWIC with respect to *the Namoi Alluvium Water Resource Plan* (WRP). NSWIC has prepared this submission in support of our Member organisation to whom this WRP directly impacts – Namoi Water – as well as on behalf of the NSW irrigated agricultural industry whereby these issues may resonate more broadly across the State. Each member reserves the right to independent policy on issues that directly relate to their areas of operation, expertise or any other issues that they deem relevant.



NSW Irrigators' Council's Guiding Principles

Integrity	Leadership	Evidence	Collaboration
Environmental health and sustainable resource access is integral to a successful irrigation industry.	Irrigation farmers in NSW and Australia are world leaders in water-efficient production with high ethical and environmental standards.	Evidence-based policy is essential. Research must be on-going, and include review mechanisms, to ensure the best-available data can inform best-practice policy through adaptive processes.	Irrigation farmers are stewards of tremendous knowledge in water management, and extensive consultation is needed to utilise this knowledge.
Water property rights (including accessibility, reliability and their fundamental characteristics) must be protected regardless of ownership.	Developing leadership will strengthen the sector and ensure competitiveness globally.	Innovation is fostered through research and development.	Government and industry must work together to ensure communication is informative, timely, and accessible.
Certainty and stability is fundamental for all water users.	Industry has zero tolerance for water theft.	Decision-making must ensure no negative unmitigated third-party impacts, including understanding cumulative and socio-economic impacts.	Irrigation farmers respect the prioritisation of water in the allocation framework.
All water (agricultural, environmental, cultural and industrial) must be measured, and used efficiently and effectively.			Collaboration with indigenous nations improves water management.



Overview

NSWIC welcomes the public exhibition of the draft *Namoi Alluvium Water Resource Plan* (WRP). WRPs, as well as the subsequent changes to Water Sharing Plans (WSPs), are of critical importance for the irrigation industry and rural communities. NSWIC acknowledges that the development of WRPs is a key commitment of the NSW Government's obligations under the Murray-Darling Basin Plan.

NSWIC, and our Member organisation Namoi Water, believe that both the WRP and the WSP in the current form are not fit for purpose until the issues highlighted in this submission are addressed. Addressing these issues is critical in order to give confidence to both water users and the environment in which this WRP shall apply.

NSWIC is concerned that the impending timeframe to present the WRP to the Murray-Darling Basin Authority (MDBA) for accreditation has resulted in a number of these issues arising.

Submission

GENERAL

Consultation with Water Users

Water users hold incredibly valuable local knowledge on local river systems and water management. Participatory policy development is required to best utilise that knowledge. With the fundamental purpose of the Basin Plan being to shift water away from agriculture, it is critical that water users are involved with the process of implementing the Plan during WRP development, to ensure that transition does not have adverse impacts on the industry or rural communities.

Recommendation 1: Ensure meaningful engagement with water users in development of WRPs, by working with water users from the earliest possible stage through a participatory process – rather than just consultation at a later stage.

Recommendation 2: Ensure a feedback mechanism is developed for Stakeholder Advisory Panels to ensure that representatives understand how their input is incorporated (or not incorporated).

Improved readability is needed to ensure clarity and reduced likelihood of misinterpretation

To read this WRP requires extensive cross-referencing across a portfolio of relatively complex documents. There is concern that this risks the clarity of the document, whilst also broadening the scope of interpretation. It is understood that the intended audience of this document is largely the MDBA for accreditation, and that *Water Sharing Plans* (WSPs) are the main document governing licence holders in the management and utilisation of their entitlements. However, in the interests of transparency and clarity, a core principle of WRPs should be accessibility and comprehension by a broader audience. NSWIC does note that updated language in the plan does improve readability.



NSWIC raised this concern in the first tranche of WRPs that were on public exhibition earlier this year. NSWIC understands that the reason for this approach was to allow flexibility for supporting documents to be amended as required, without needing to amend the WRP itself. With respect to that need, greater attention is needed to simplify the information. Hyperlinks may offer one method of allowing flexibility for the modification of supporting documents whilst reducing the complexity of the document.

As primary principles of any WRPs, NSWIC submits that WRPs should be communicated in a manner where it is able to be effectively, easily and clearly understood by water users.

Recommendation: Wherever possible, reduce the complexity of the WRP and provide additional explanatory materials for stakeholders. To reduce complexity, NSWIC encourages DoI-Water to consolidate multiple documents by incorporating sections of key supporting documents into the WRP where length of text permits, or provide hyperlinks to more easily guide the reader. Explanatory materials should be plain English, and prioritise key principles of accessibility, clarity, comprehension and simplicity.

ENVIRONMENTAL USAGE

The risk assessment methodology may lead to inaccurate calculations of risk

There are significant issues with the risk assessment, and these issues require addressing prior to this WRP progressing to accreditation. Due to the below range of issues in the determination of the risk assessment, the outcomes produced are unnecessarily overly conservative.

Methodological issues

The methodology for risk assessment may lead to an overstated assessment of risks. This is because:

- The approach to categorising consequences in the risk assessment methodology (as low, medium and high) based on percentiles means that there will automatically be groundwater sources considered in the high category.
- The consequence rating is determined on a state-wide basis rather than the particular groundwater area.
- The metrics are based on the number of users and the volume of extraction. As a result, larger groundwater sources will likely fall within the high consequence rating category regardless of the actual risk in the aquifer itself.

The result of using this methodology for risk assessment is that the risk outcomes in some groundwater sources will be over-stated simply because there is a higher volume of extraction or larger number of users. We acknowledge that the risk treatment pathway outlined in the Consolidated Risk Tables does take into account the management rules applied in the Water Sharing Plan to ameliorate the risk and that in the cases where the risk outcome is classified as High, the residual risk is identified as High – tolerable.



Absolute or Relative Risks

There is inconsistency in understanding whether the risks are absolute or relative. The Department has informed the assessment risk categories are not 'absolute' risk, but are 'relative' risk; yet later in the document the discussion about mitigation talks in terms of the assessment findings being absolute. Amendments are required to delineate that the progression of 'high' risk as a priority for further assessment needs to determine if it is a *relative risk*. More detail is required on the 'medium' to 'high' risks, given the solutions propose rule changes based on information that is acknowledged as not being absolute.

Data and Information Inputs

NSWIC is disappointed that the data inputs contributing to this assessment were not provided.

Numerical Groundwater Models

There is a lack of data to inform the *Numerical Groundwater Models*. In particular, the lack of actual data on groundwater-surface connectivity is problematic, as it is critical to risk analysis of this kind.

The 'groundwater source' scale datasets rely on appropriate groundwater numerical models to determine current and future impacts on receptors for each zone. NSWIC seeks confirmation that all *Numerical Groundwater Models* are peer-reviewed, with a subsequent report provided to stakeholders prior to the WRP progressing to accreditation.

Zones

The risk analysis does not delineate within areas. A broad categorisation of the zones/areas means that a large area is considered as one risk category. This jeopardises the appropriateness of the assessment given the inherent variations to risk existing within one zone.

For example, the Namoi Alluvial Aquifer is assumed to be a singular saturated unit for the risk assessment. The whole of the Namoi Alluvium is considered as one uniform aquifer, which does not allow for unconfined (upper tributary zones 1, 6, 7, 10, 11 and 12), semi-confined (Zones 2, 8 and 9; parts of Zones 3, 4 and 5) and confined (Lower Namoi; and parts of Zones 3, 4 and 5) aquifer conditions within the Namoi Alluvial aquifer sequence. Whilst this has been recognised by the Department, based on feedback provided by Industry 18 months ago, there remains no approach to correct these issues.

Mitigation

NSWIC recommends that intermediate steps between risk assessment and mitigation are established.

Impacts on accessibility, reliability and compensation

Water users are concerned about the potential impacts of high or medium risk classification of groundwater zones on groundwater access and reliability.

NSWIC is concerned that the urgent timeframes to progress WRPs, and resourcing constraints, may lead to progression of rules that are not backed by adequate evidence and data.



Furthermore, there is concern that if the rule changes flagged in the WRP are not implemented for a further 5 years, the apparent risks identified in the WRP may be used to negate NSW compensation provisions, if the consequent changes are made after 5 years of the Plan coming into effect.

Recommendation: The risk assessment methodology requires significant amendments and is not adequate to be progressed for accreditation in the current form.

Further studies into Groundwater Dependent Ecosystems are needed

NSWIC requests that all policy decisions regarding Groundwater Dependent Ecosystems (GDE) must be made through an evidence-based process, with evidence being appropriately reviewed, ground-truthed, and knowledge gaps filled.

Reviews

Further reviews are urgently needed to better understand the nature and magnitude of the linkages between groundwater extraction and GDEs. There is limited data informing the connectivity of shallow resources to groundwater dependent assets and their reliance on water resources. Greater certainty in the methodology underpinning identification of GDEs is required before this method can be used to predict whether groundwater extraction poses any risk to a GDE which is not managed by the existing WSP rules.

Historically, provisions for further studies and reviews of recharge have been included in Water Sharing Plans but have not been completed. This has resulted in policy creep where the status quo has been maintained without justification. Consequently, any water greater than the extraction limit has become Planned Environmental Water by default. Precautionary action should only be an interim measure whilst sufficient information can be captured. The longevity of this issue creates concern that precautionary principles may lead to policy creep where policies lack a robust methodology, and consequently have unreasoned social and economic impacts.

The risk for water users is that if the Department does not undertake reviews (as have been committed to in the past) insufficient information is known about GDEs to be able to determine how GDE management should interact with water users. Specifically, the degree of reliance of GDEs and which specific aquifer system that GDE depend upon, are crucial pieces of information in order to best manage both the GDE and water usage. The result of delaying reviews is that a precautionary approach is taken which is likely overly conservative, and does not pay equal caution to the potential social or economic impacts of the rules of groundwater extraction.

NSWIC recommends that the WRP should facilitate further reviews to:

- Improve knowledge gaps;
- Validate existing data; and
- Quantify the degree of reliance.



Recommendation: The Department undertake an investigation into GDEs to improve the certainty of the evidence-base (improve knowledge gaps, validate existing data and quantify the degree of reliance GDEs have on groundwater) within the timeframe of the WSP, and amend GDE provisions in the WRP accordingly.

Verification

Unless the evidence-base is ground-truthed, water users should not be impacted, and GDE identification should be removed. NSWIC is respectful that if water extraction is proven to have a significant impact on groundwater, then water extraction rules will need to be amended. However, **the onus to prove whether groundwater extraction poses any risk to a GDE should be on government**, and this should be codified in the Plan. NSWIC is aware that the Department has informed water users that they will provide a process to verify and ground-truth the GDE if it affects trade or a new bore. NSWIC is concerned however, of the onus shifting to water users to disprove a GDE on their property, rather than onus on the Department to prove it exists.

Decisions made primarily based on vegetation mapping which are not ground-truthed are insufficient. Furthermore, the map provided during the public consultation does not allow individual farmers to identify if a GDE is present on their specific property. It is inconsistent for the identification to be possible or probable GDEs, yet for the proposed mitigation involves assessment rules which treat the risk as absolute.

NSWIC requests clarification with regard to 'high priority' GDEs compared to GDEs. This terminology is used in both the WRP and the proposed WSP but is not consistent. GDEs are defined and mapped, but there is no definition of 'high priority' GDEs. The inclusion of this terminology implies that there are some GDEs that are more important than others and get treated with a higher priority than others. If this is not the case, the term 'high priority' needs to be removed from all documents and only reference GDEs as defined in the dictionary and as identified in the attached map schedule.

Recommendation: The onus must be on the Department to verify the existence of GDEs on a property.

CONSUMPTIVE USAGE

Managing compliance with WSP and Basin Plan use limits

NSWIC has received feedback that the information presented at the public consultation sessions did not provide sufficient detail for water users to make a decision on the most appropriate method for determining annual permitted take.

There are two main options for addressing non-compliance with either the WSP long term average annual extraction limit, or the Basin Plan SDL:

1. Allocate water to all licenses and then reduce the allowable water account debit to limit usage:



- This would benefit the more active users, but also allows all licence holders the capacity to use or trade a known volume of their entitlement.
2. Reduce the available water determination (allocation) to all licences:
- This would disadvantage more active users, because it would need to allow for carryover, and would assume that all allocation would be tradeable. In these circumstances the AWD would need to be significantly reduced to ensure compliance with the use limit if the decision does not include an assessment of irrigator behaviour.

NSWIC is concerned the department have not done an assessment of reliability as a result of the proposed changes to Annual Permitted take (APT) and the rolling average limits to LTAAEL.

Namoi Water has informed NSWIC that:

- The Upper Namoi is unlikely to breach using either the simple or the variable take method.
- The Lower Namoi using the variable method reduces the potential for build up of credit over a longer term period.
- The Lower Namoi would likely breach if the year of the WRP commences in a dry year and this is likely to result in the Department being required to provide assessment of reasonable excuse (this would likely occur under both simple and variable method).

The position of NSWIC is that there should be no more than minimal impact, and the method should be guided by the recommendation of each groundwater source authority. The method to address compliance must be valley specific and formed on the basis of local expertise. NSWIC offers to assist in seeking local expertise.

NSWIC and Namoi Water suggest that the Department adopts both methods and report on the one that provides the most beneficial outcome. In using both methods - the APT + 20% and the 10 year rolling average (applying later in the WRP), and using 16 years of physical extraction data - the Upper and Lower Namoi continue to be well under the SDL limits.

The rainfall relation model for SDL compliance may not be appropriate in all areas

The proposed method for determining APT is the variable method of using the rainfall relationship model. NSWIC feels this is a logical proposal in some instances as many people use surface and groundwater conjunctively. However, this model is new and relatively untested, and may not be suitable to be applied in all circumstances given that we are witnessing significant changes in the irrigation sector in some valleys. For this reason, **NSWIC does not endorse replicating this method to other valleys**, as consistency of methodology is not as important as ensuring accuracy and appropriateness of the method in each case. For future WRPs, NSWIC recommends that the method for determining APT must be valley-specific and determined based on consultation with local stakeholders.



The important considerations for this model are outlined below.

- *Underlying crop type* - The irrigation sector is constantly evolving. Some areas are experiencing changes to the underlying crop type, which directly influences the demand (volume and seasonality/timing) for water. In many valleys, it is expected that water demand will become increasingly decoupled from rainfall. The relationship between rainfall and water demand must be a key consideration if choosing to adopt this model.
- *Distribution of rainfall* - The areas covered under WRPs are large, and rainfall may vary considerably within one WRP. There is concern if the selected site for measuring rainfall may not be representative of the variable rainfall across the area. Consideration must be given to: rainfall variability and distribution within the WRP area; where rainfall is measured; how many measuring points are required; the timing and seasonality of rainfall; the ability (physical and regulatory) to capture rainfall; and long-term rainfall trends.
- *Caution is needed in the use of historical data for future projections* - this approach may not be appropriate in valleys experiencing change in the underlying crop type, or future rainfall patterns until further data has been collected and analysed.
- *A process to explain compliance triggers is needed under the rainfall relation model* - NSWIC has concerns that the processes and triggers for compliance issues under this model are inadequately developed. Water license holders need the certainty of knowing from the beginning what happens if there is a compliance breach (e.g. a review is requested). The use of groundwater when rainfall conditions are low may push a user over a compliance trigger unknowingly. NSWIC requests that compliance triggers and processes be outlined.
- *A provision for a review period is needed* - A provision is required for a review of the rainfall relation method at a predetermined point in time. The Department should reserve the right to amend this method if it is found to be ineffective when implemented. Flexibility must be retained to discontinue this model beyond 2029 if circumstances require.

NSWIC is concerned that the data for the rainfall relation method for all valleys was not provided during the Groundwater SAP meetings, and that the Department did not meet commitments to provide state-wide analysis. This does not allow stakeholders to have a clear understanding of the impact of this aspect of the proposal. NSWIC and Members strongly requests that stakeholders are provided with all available information at the earliest possible opportunity to best be involved in decision making, and to be able to share the local and operational knowledge of how polices will function on ground.

Since usage pattern is unique to each valley, the method to determine SDL compliance must be based on the specific needs of each valley.

Recommendation: The Department should consult with local stakeholders in each groundwater source on the appropriateness of the rainfall relation model in that area to ensure the model captures local circumstances (e.g. underlying crop type and rainfall variability). This model should be subject to review at the conclusion of the



WSP. NSWIC suggests that when a new untested methodology of this kind is implemented, that a complimentary tested methodology is simultaneously implemented to provide a control measure to evaluate the accuracy of a new methodology.

Mining

There is a lack of transparency regarding the actual take from mining. Currently, the actual take from mining is not reported on the Water Register. Whilst induced recharge estimates are provided by mining companies through annual reports, it is not being assessed by the Department for accuracy. NSWIC understands that the Department has responded that this was a role for the then Department of Planning & Environment. This requires urgent attention.

OTHER

Greater community participation is required, particularly in relation to Extreme Events Policy

Generally, the extreme event management and the incident response guide are viewed as a reasonable framework. However, the process for assessment is not clearly documented in the response guide and should be included prior to accreditation.

NSWIC remains concerned of the lack of community involvement in the composition of Critical Water Advisory Panels (CWAPs). At the minimum, the information from CWAPs must be made transparent, reported upon, and actively communicated to communities. NSWIC firmly believes that the continual reduction in stakeholder involvement is becoming a critical issue, which risks the loss of valuable practical and operational knowledge that is integral to sustainable management of water resources.

Recommendation: The WRP must outline how Critical Water Advisory Panels should be established, how they should operate, what transparency requirements are needed, and what communications and reporting are required.

Conclusion

NSWIC welcomes the public consultation of the draft *Namoi Alluvium WRP*.

It is critical that the aforementioned issues are responded to prior to progressing the WRP for accreditation.

NSWIC, and our Member organisation Namoi Water, welcome further opportunity to work with the Department to address the issues raised in this submission.

Kind regards,

NSW Irrigators' Council.