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SUBMISSION

Draft Murray Alluvium Water Resource Plan

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Introduction

The NSW Irrigators' Council (NSWIC) is the peak body representing irrigation farmers and the irrigation 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 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 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 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 work with the Department of Industry – Water (DPIE) to incorporate 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 draft Murray Alluvium Water Resource Plan. However, 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.

Overview

NSWIC welcomes the Draft Murray Alluvium Water Resource Plan (WRP). Water resource plans (WRPs) are a key mechanism for implementing the *Basin Plan 2012* (the Basin Plan). NSWIC acknowledges that the development of WRPs is a key commitment of the NSW Government under the Basin Plan.

WRPs must comply with Chapter 10 requirements for it to be accredited under Part 2 Division 2 of the *Water Act 2007 (Cth)*. This includes compliance with the Sustainable Diversion Limit (SDL), water trade rules, planning for environmental watering, water quality objectives, measuring and monitoring, and arrangements for extreme weather events.

Whilst Water Sharing Plans remain as the key regulatory instrument, WRPs are of critical importance to irrigation farmers and the irrigation farming industry. WRPs underlie irrigation farming operations and practices, and potentially have large economic and social impacts. Thus, it is crucial that WRPs are evidence-based, developed without rush, and that consultation is extensive.

NSWIC has several general positions and core considerations for the development of alluvium WRPs across the state. At the core of these positions are key principles that WRPs must be tailored to the

specific requirements of the area, be developed with the utmost participatory process, draw on the expertise of local groundwater authorities wherever possible, be clearly accessible and comprehensible in the manner and format of presentation, have no measures that result in negative third party impacts, be based on evidence and extensive research and allow for reviews.

This submission explains these general positions, and includes specific comments relating to the Murray WRP area. These general positions have also been outlined in earlier NSWIC submissions:

Summary of NSWIC positions on WRPs:

- Whilst consistency between areas in the template/form, methodologies and definitions of the WRP is neat, consistency does not outweigh the need to be flexible and context specific.
- The Risk Assessment Methodology must give a reflective, accurate and site-specific indication of risk.
- Further studies into Groundwater Dependent Ecosystems are needed.
- The methodology for determining Annual Permitted Take must be developed based on the local knowledge of groundwater source authorities and communities to be context-specific and consider underlying crop type, soil, and usage patterns.
- Water users must be consulted if there are any impacts from ongoing consultation with Indigenous nations on the ability of entitlement holders to utilise their entitlements.
- Basic Landholder Rights require clarification.
- Compliance with WSP and Basin Plan use limits should be managed to ensure there are no more than minimal impact, and the method should be guided by local groundwater authorities.
- Greater community participation is required, particularly in relation to Extreme Events Policy.

Submission

General Positions of NSWIC for WRPs

Whilst consistency between areas in the template/form, methodologies and definitions of the WRP is neat, consistency does not outweigh the need to be flexible and context specific.

NSWIC requests to meet with DPIE to discuss changes which are needed to the template being adopted to WRPs across the state, and state-wide issues.

NSWIC acknowledges the need for consistency in approach across the state. However, the methods, processes, standards and thresholds of one WRP should not be replicated inflexibly between valleys, as the issues, and requirements of each valley are context-specific. Whilst there is neatness in applying a consistent methodology or format, extreme care must be taken to ensure that the methods are the most effective and beneficial, particularly in relation to water users. NSWIC strongly encourages DPIE-Water to undertake an increased level of public participation in decision-making at a local level and consult with local groundwater licence holders across the state to develop the most suitable methodologies and practices for each area, and/or ensure that previously used methodologies and practices are appropriate in that instance. This approach acknowledges that each aquifer and groundwater source (and usage of that resource) is unique, and values the local, practical and operation knowledge held by people within these areas.

WRPs must be developed based on principles of accessibility, readability and clear comprehension.

WRPs should be communicated in a manner where it is able to be effectively, easily and clearly understood by water users. In principle, WRPs should be accessible and comprehensible to the broadest range of stakeholders. Complexity and need for extensive cross-referencing will make it difficult for stakeholders to be cognisant of all requirements in the WRP and may result in issues of clarity and a perceived lack of transparency.

Whilst a primary purpose of the WRPs is for accreditation by the Murray-Darling Basin Authority (and this does require technical detail), the audience for WRPs is broad and includes stakeholders who do not have professional policy or legislative training. Simplification and streamlining are necessary to prevent water users from feeling removed from the process, overwhelmed or misunderstanding the content of the Plans. NSWIC appreciates that the intention of the Fact Sheets and FAQs has been to address this issue of readability but encourages evaluation of the WRP template itself to distinguish between information for accreditation by the MDBA and explanatory material (possibly by separating these into separate documents). NSWIC appreciates the colour coding system adopted with this intention.

Recommendation: *Wherever possible reduce the complexity of the WRP and provide additional explanatory materials for stakeholders. The format of the WRP requires evaluation and NSWIC seeks to meet with DPIE to discuss this. Explanatory materials should be in plain English to ensure clarity, comprehension and simplicity while key principles of accessibility are logically prioritised.*

The Risk Assessment Methodology must give a reflective, accurate and site-specific indication of risk.

A cautionary approach is needed when calculating risk to ensure that the methodology captures a fair, reflective and accurate indication of risk.

Risk assessment methodologies which categorise consequence based on percentiles will automatically result in some groundwater sources being categorised in each of the low, medium and high categories, irrespective of the absolute risk level. This will likely lead to an overestimated calculation of risk. If a percentile-based methodology is adopted, this must be adjusted to the absolute risk (not just relative) when applied.

The consequence rating should be specific to a groundwater area, rather than being calculated state-wide. Each groundwater system has unique characteristics, functions, processes and uses. It is not appropriate to amplify or reduce the scale of risk assessment as results will be skewed since risks in some groundwater systems are not reflective across all groundwater systems, and the nuances of each groundwater system will not be captured.

Using metrics such as numbers of water users and the volume of extraction to calculate risk may lead to an overestimation of risk. A large groundwater source with a large number of users would automatically receive a high consequence rating category. This may create an inaccurate indication of risk, which would have unnecessary impacts on water users. We acknowledge that in some WSPs, the risk treatment pathway outlined in the Consolidated Risk 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. Additional metrics, adjustments or measures are necessary to ensure that risk assessment methodologies capture accurate, appropriate, context-specific representations of risk.

Recommendation: *DPIE-Water is to ensure the risk assessment methodology reflects threats to the aquifer itself, using absolute rather than relative measures which are context-specific. Risk assessment methodology should also be based on local recommendations.*

Further studies into Groundwater Dependent Ecosystems are needed.

NSWIC notes the reduction in the landholder rights that setback the GDE distance has reduced from 200m to 100m while also increasing the groundwater dependent ecosystems (GDEs). It is important that this policy decision be subjected to further evidence-based process, with evidence being appropriately reviewed, ground-truthed, and knowledge gaps filled.

High priority GDEs need defining and consistency – NSWIC requests clarification with regard to application of the High Ecological Value Aquatic Ecosystems (HEVAE) framework in the creation of the various classes of GDE assets. GDEs are defined and mapped, the inclusion of this terminology implies that there are some GDEs that of low significance and perhaps deserves limited attention. 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.

Methodology to identify GDEs requires increased certainty – Greater certainty in the methodology underpinning identification of GDEs is required before this method can be used to assess risks of groundwater extraction to GDE that are not managed according to the existing WSP rules.

Need for further research – Historically, provisions for further studies and reviews of recharge have been included in WSPs 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. 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.

Although the plan stated there is no connectivity to a non-Basin water resource in the valley such that there is no take from non-Basin water resources that affect, or potentially affect, the SDL resource units of the Murray Alluvium WSPA. There is a strong connectivity between the groundwater and surface water resources in the valley that requires further study rather than reliance on modelling.

The result of delaying reviews is that a precautionary approach is taken which does not apply 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:

- Identify and close knowledge gaps
- Validate existing data
- Quantify the degree of reliance

Unless the evidence relied upon is validated, water users should not be impacted, and GDE identification should be removed. NSWIC is mindful of water extraction having proven significant impacts on groundwater that would require water extraction rules being amended. However, the onus to prove whether groundwater extraction poses any risk to a GDE should be on government agencies. Decisions made primarily based on vegetation mapping which are not ground-truthed are insufficient. Precaution should be exercised in the interim whilst further information is being captured to underpin development of a robust methodology to inform long-term rules and avoid adverse social and economic impacts. Further reviews are urgently needed to better understand the nature and magnitude of the linkages between groundwater extraction and GDEs.

***Recommendation:** DPIE-Water should 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 to be implemented in 2019, and amend GDE provisions in the WRP accordingly.*

The methodology for determining Annual Permitted Take must be developed based on the local knowledge of communities to be context-specific that consider cropping systems, soil and land characteristics and water usage patterns.

The method for determining APT must be valley-specific and determined based on consultation with local stakeholders. Since usage pattern is unique to each valley, the method to determine SDL

compliance must be based on the specific needs of each valley. Consistency of methodology is not as important as ensuring accuracy and appropriateness of the approach used in each individual circumstance.

When new and relatively untested methodologies are used, there are numerous critical issues to consider. For example, the rainfall relation model may be suitable in some valleys (e.g. where people use surface and groundwater conjunctively) but not in others (e.g. where there is a rapidly changing irrigation sector and fluctuating water demand).

Key considerations when selecting the methodology to determine APT include:

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. For example, a shift away from seasonal cropping towards permanent plantings (such as almonds), results in less significant fluctuations in the demand for water, and requirements for greater continuity in water extraction. Thus, in these circumstances, it is expected that water demand will become increasingly decoupled from rainfall. The relationship between rainfall and water demand must be a key consideration, particularly if rainfall-relation models are being considered.

Distribution of rainfall

The areas covered under WRPs are large, and rainfall may vary considerably within one WRP. 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. This can be managed by having several rainfall points to account for spatial variability.

Caution is needed in the use of historical data for future projections

Care must be taken when using rainfall historical data as an indicator of future trends. This is because of changes in the agricultural enterprise, rainfall characteristics and in pattern of water; all these have to be considered.

A process to explain compliance triggers is needed

Water license holders need the certainty of knowing from the beginning what happens if there is a compliance breach. For example, under a rainfall relation model, 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 all relatively new and untested methodologies within a predetermined timeframe. DPIE-Water should reserve the right to amend a method if it is

found to be inappropriate when implemented. Flexibility must be retained to discontinue a methodology beyond 2029 if circumstances require.

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.

Recommendation: *DPIE-Water should consult with local stakeholders in each groundwater source on the appropriateness of the APT methodology in that area to ensure local circumstances are considered (e.g. crop type, underlying soil type, rainfall variability, etc). Also, rainfall data should be collected from several locations to account for spatial variability in the valley. This process should be subject to review at the conclusion of the WSP. NSWIC suggests that when a new untested methodology is being implemented, that a tested complimentary methodology is simultaneously applied to provide control for validation of the new technique.*

Water users must be consulted if there are any impacts from ongoing consultation with Indigenous nations on the ability of entitlement holders to utilise their entitlements.

NSWIC welcomes and respects the consultation with Indigenous people and organisations as part of the development of WRPs. NSWIC understands that consultation with Indigenous stakeholders is ongoing and respects cultural connections to groundwater. If this consultation results in the development of any new proposals which may impact the rights or ability of water access entitlement holders to utilise their entitlements, then there must be further consultation with license holders before any new provisions are developed.

Recommendation: *License holders should be advised of the outcomes of consultations with indigenous communities and of any potential implications for the rights or ability of water access entitlement holders to utilise their entitlements.*

Basic Landholder Rights require clarification

NSWIC members seek clarification on whether the definition of basic landholder rights has been changed. Clarification is needed as to whether stock and domestic rights are recognised under basic landholder rights. Clarification is also needed for the definition of “reasonable use”. DPIE-Water has advised that as long as a property overlays the groundwater source, the property owner is entitled to utilise groundwater as a basic landholder right even if the bore isn’t located on the property. NSWIC requests clarification of this.

Recommendation: *Clarification is needed on basic landholder rights on the rights to the groundwater and any limits to take.*

Compliance with WSP and Basin Plan use limits should have only minimal impacts on the rights of licence holder and should be guided by local groundwater authorities.

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. While this would benefit the more active users, it should enable 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 to ensure compliance with the use limit. This is likely to disadvantage more active users, particularly in groundwater areas where there is significant over-allocation. It will however allow carryover and presumably making all allocation tradeable.

The position of NSWIC is that steps be taken to ensure that implementation of WSP will have minimal impact on the rights of license holder to participate in the water market. Furthermore, the approach should be guided by the recommendation of each groundwater source authority. This will ensure that addressing any issues of overallocation will be valley specific and reliant on local expertise. NSWIC offers to assist in identifying the local expertise to provide confidence and viability of the scheme.

Recommendation: *The water market must foster confidence from all water users by being transparent, simple to use, based on well-informed price data and sound reporting.*

Monitoring water quality

NSWIC understands the role of the approval holder for ongoing monitoring of the water quality. The guideline is not clear on the specific variables/parameters to monitor to avoid situations that will trigger ministerial intervention. Requirements for monitoring should not be too burdensome on our members.

NSWIC understands the importance of MER programs for ensuring accountability and transparency and how they inform adaptive management approaches based on continuous learning, review and improvement. NSWIC believes that reports from these schemes are made available in an easy-to-understand format to guide and incentivise continued improvement in management practices.

Recommendation: *The DPIE-Water provides guidelines on water quality monitoring appropriate for the locality*

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

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: *Greater stakeholder participation in decision making, such as by requirements for representation on advisory panels to ensure practical and local knowledge resources are utilised. The WRP should include a clear process for how Critical Water Panels*

should be established, how they should operate, what transparency requirements are needed, and what communications and reporting are required.

Conclusion

NSWIC welcomes the Draft Murray Alluvium Water Resource Plan. NSWIC requests that DPIE-Water respond to the aforementioned issues. It is crucial that flexibility is maintained between valleys, and that local expertise is utilised in decision-making. NSWIC is happy to work with DPIE-Water on any of the above issues.

Kind regards,



NSW Irrigators' Council.