RICEGROWERS' ASSOCIATION OF AUSTRALIA

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Submission to the Murray Darling Basin Royal Commission

April 2018

The Ricegrowers' Association of Australia (RGA) is the peak industry body representing more than 1500 voluntary member rice growers and industry associates. The purpose of the RGA is to support Australian growers on issues affecting the viability of their industry, business and communities.

The RGA thanks the Murray Darling Basin Royal Commission for the opportunity to participate in this Inquiry.

The RGA is very happy to discuss any of the matters outlined in this document in further detail. For further assistance please contact Rachel Kelly, RGA Policy Manager, on or at

Yours sincerely

Jeremy Morton
RGA President

The Australian Rice Industry

The Australian rice industry is predominantly located within the Riverina region of south-west NSW, with a small component also situated in the Northern Rivers region of north NSW and Northern Queensland.

The Australian rice industry is reliant upon irrigation, mainly sourced from the Murray and Murrumbidgee valleys. Provided water is available, the rice industry is considered one of the world's most successful rice growing industries, delivering significant yields while leading the world in water use efficiency.

The Australian rice industry is also a world leader in water usage at 12 ML per hectare, with the world average being 15 – 20 ML per hectare, and with some countries using upward of 50 ML per hectare.

The regions rice growing success is mainly due to the temperate climate, the largely pest and disease free growing environment (requiring minimal chemical use), the heavy clay soils and the gravity fed irrigation systems which ensure efficient water delivery and use.

In a typical year, the rice industry produces around eight hundred thousand tonnes of premium paddy rice with a farm gate value of around $350 million. The total industry value is well over $1 billion each year. This makes the rice industry a significant economic contributor to the Australian economy. The towns of Griffith, Leeton, Coleambally, Finley, Jerilderie, Deniliquin, Wakool and Moulamein are highly dependent on rice production for their social and economic wellbeing.

Additionally, rice growers have individually invested over $2.5 billion in land, water, plant and equipment and collectively invested around $400 million in mill storage and infrastructure through SunRice.

While the Australian rice industry is very small by world standards, it remains a competitive supplier of premium rice products into world markets.

RGA's Responses to the Terms of Reference:

In brief, the RGA provides the following responses to the Murray Darling Basin Royal Commission's Terms of Reference:

Water Resource Plans

Terms of Reference:

a. Whether the Water Resource Plans will be delivered in full and in a form compliant and consistent with the Basin Plan by 30 June 2019.

b. If any Water Resource Plans are unlikely to be delivered in full and in a form compliant and consistent with the Basin Plan, the reasons for this.

The RGA is working closely with the NSW government, the Murray Darling Basin Authority (MDBA) and the other water users within our respective valleys to ensure the Water Resource Plans are delivered by 30 June 2019.

The RGA believes that the objective for all Basin Governments should be to deliver Water Resource Plans that are fit for purpose and maximize both the environmental and productive outcomes that can be achieved at a valley level. If required to achieve this objective, the Basin State Governments should consider agreeing to provide an extension of the due date beyond 30 June 2019 for any Water Resource Plans which have not achieved this objective at this time.

The likely reasons for an extension being required for the delivery of the Water Resource Plans is because they are incredibly complex legal instruments and therefore it is only fair to the water users reliant on those Water Resources Plans that adequate time be dedicated to seeking the best possible environmental, economic, social and cultural outcomes from those Water Resource Plans.

Views of Indigenous People

The RGA believes that it is important that the process for developing Water Resource Plans allows for the incorporation of the views of indigenous people into the Water Resource Plans.

Progress of the Basin Plan, Water Recovery and the SDL Adjustment Mechanism

Terms of Reference:

c. Whether the Basin Plan in its current form, its implementation, and any proposed amendments to the Plan, are likely to achieve the objects and purposes of the Act and Plan and the 'enhanced environmental outcomes' and additional 450 GL, respectively.

d. Whether the underlying assumptions in the original modelling used to develop the objects and purposes of the Act and the Basin Plan have been sufficiently adjusted for the impact of improved technologies.

e. If the Basin Plan is unlikely to achieve any of the objects and purposes of the Act and Basin Plan and/or the 'enhanced environmental outcomes' and the additional 450 GL referred to above, what amendments should be made to the Basin Plan or Act?

f.	**Any legislative or other impediments to achieving any of the objects and purposes of the Act and Basin Plan and/or the 'enhanced environmental outcomes' and additional 450 GL referred to above, and any recommendations for legislative or other change if needed.**

Progress of the Basin Plan

The RGA believes that much data has or is currently being collected with respect to the progress of the Murray Darling Basin Plan against its key objectives, including:

- the Final Report from the Productivity Commission's Public Inquiry into the Intergovernmental Agreement on a National Water Initiative 2004
- The Murray Darling Basin Authorities 2017 Basin Plan Evaluation; and
- The Productivity Commission's yet to be completed Five Year Assessment of the Murray Darling Basin Plan

These first two report's each suggest that the Basin Plan is generally on track to achieve its objectives.

Water Recovery to date including the Environmentally Sustainable Level of Take

The RGA understands that as at 31 December 2017 2106.4 gigalitres of water has been recovered for the environment through the Department of Agriculture and Water Resources 'Bridging the Gap' program (http://www.agriculture.gov.au/SiteCollectionDocuments/water/progress-towards-bridging-gap.pdf). The RGA has no reason to believe this figure is inaccurate or that this recovery has been compromised.

The RGA has long sought further information from the Murray Darling Basin Authority regarding the modelling used to determine the Environmentally Sustainable Level of Take (ESLT). Without understanding this model, and the assumptions used for this model, it is very difficult to comment on the MDBA's method for determining the ESLT. Nevertheless the RGA and its members have committed to the achievement of the Sustainable Diversion Limits in our respective valleys – the NSW Murray and Murrumbidgee. Subject to the current passage of legislation for the SDL Adjustment Mechanism Supply Measures, these valleys will have likely met their Sustainable Diversion Limit recovery targets.

The Sustainable Diversion Limit Adjustment Mechanism – Supply Measures

The RGA strongly supports the use of Supply Measures to achieve improved environmental outcomes while at the same time mitigating the impacts of water recovery on communities, industries and individual businesses.

The Sustainable Diversion Limit Adjustment Mechanism – Efficiency Measures

With respect to the 'enhanced environmental outcomes' and the additional 450 GL of recovery, the RGA believes that it is critical that a different definition of 'neutral or improved socioeconomic outcomes' be adopted. The RGA argues that the current definition does not recognise the intent of the legislation - to prevent further social and economic impacts to irrigation communities and industries in the Basin. The current definition unfortunately does not account for all the socioeconomic impacts of water recovery – including those impacts felt by other water users.

The RGA believes that there are three key options available to the government for recovering water for the environment. These methods of water recovery achieve the triple bottom line objective of

the Basin Plan as set out at section 3(c) of the *Water Act 2007*, as they focus on non-productive water sources. These three methods are as follows:

- ***Urban Water Use:***

  RGA refers the Royal Commission to the EY report.

- ***River and storage operations:***

  With on average of over 20,000 gigalitres of water flowing through the Murray Darling Basin each year, a 2% increase in the efficiency of river and storage operations will result in over 400 gigalitres of water being made available for the environment. It is suggested that Governments look for opportunities to improve the efficiency of water regulation.

  We note that these projects should be differentiated from Supply Measures, as their focus would not be on achieving improved environmental outcomes, but rather on reducing losses incurred through storage and regulation. The additional water that is therefore made available could be attributed to the environment.

  Through the use of Efficiency Measures there is an exciting opportunity for river and storage regulators to embrace new technologies, such as a properly engineered infrastructure solution to the Murray Mouth closing and solutions to managing the Southern Lagoon of the Coorong, including salinity levels and nutrient loads.

- ***Complementary measures****:*

  To ensure the effectiveness of the Basin Plan, it is critical that Basin governments seek to integrate catchment management and other complementary resource management activities with current environmental water activities to achieve improved environmental improvements across the board.

  In addition to Supply Measures, it has been proposed that non-flow based environmental works and measures and rule changes should be considered within the Basin Plan framework. These projects are commonly referred to as 'Complementary Measures' and are a reflection of the principles of integrated catchment management. Examples include controls for pest species, erosion and nutrient run-off occurring within the riverine environment, mitigation of cold water pollution and re-stocking of native fish species.

  These projects are particularly important as many of the locations that have been identified to have low water quality are located outside of the regulated systems and hence their water quality issues cannot be addressed through flow based options. However these sites continue to contribute to poor water quality downstream. For example, of the 26 sites on the Murrumbidgee Surface Water Resource Plan Area monitored for water quality, only 4 sites currently have poor water quality and two of these sites exist in the unregulated system.

  The RGA understands that the key reason why these projects have not been included within the Basin Plan framework is because the MDBA's hydrological model cannot currently account for the positive outcomes resulting from these projects. For this reason we encourage all Basin governments to work together to ensure a suitable model is developed to measure the environmental outcomes equivalence achieved by Complementary Measures, hence allowing the implementation of these measures to contribute to the achievement of the Up-Water.

Finally we note that it is critical that the matter of Constraints Management is addressed before the government proceeds with the recovery of an additional 450 gigalitres of water for the environment. If governments are unable to 'relax' key constraints, then they will not be in a position to deliver the water in a manner that will achieve the 'enhanced environmental outcomes' that the 450 gigalitres is intended to achieve.

The Northern Basin Review

The RGA supports the recommendations of the Northern Basin Review. If legislated, the toolkit measures in particular set an important precedent for the use of 'complementary measures' which will hopefully influence future thinking about how environmental outcomes can be further improved in the Southern Basin.

COMPLIANCE AND METERING

Terms of Reference:

g. The likely impact of alleged illegal take or other forms of non-compliance on achieving any of the objects and purposes of the Act and Basin Plan, and the 'enhanced environmental outcomes' and the additional 450 GL, referred to above.

h. In relation to any found instances of illegal take or work, whether appropriate enforcement proceedings have been taken in respect of such matters and if not, why.

i. Whether, in any event, the enforcement and compliance powers under the Act are adequate to prevent and address non-compliance with the Act and the Basin Plan, and any recommendations for legislative or other change if needed.

j. Whether monitoring, metering and access to relevant information (such as usage data) is adequate to achieve the objects and purposes of the Act and Basin Plan and the 'enhanced environmental outcomes' and additional 450 GL referred to above.

k. Whether water that is purchased by the Commonwealth for the purposes of achieving the objects and purposes of the Act and Basin Plan and/or the 'enhanced environmental outcomes' and the additional 450 GL referred to above will be adequately protected from take for irrigation under water resource plans, and any recommendations for legislative or other change if needed.

The RGA strongly opposes the illegal take of water – and is supportive of the introduction of metering and compliance arrangements for all irrigation water users in the Basin.

The RGA's members operate within the Murrumbidgee and Murray valleys of the Southern Connected Basin where they utilise world leading systems for metering and compliance – and many of these systems have been upgraded over the past two decades with the assistance of government programs.

The introduction of new statutory provisions to address metering and compliance issues in other parts of the Basin should not impact upon the significant investment already made by irrigators in the Murray and Murrumbidgee valleys in installing state of the art metering and compliance technologies. These provisions should also not result in unreasonable compliance charges for valleys that have already been proven to be highly compliant.

CLIMATE CHANGE

Terms of Reference

l. Whether the Basin Plan in its current form, its implementation, and any proposed amendments to the Plan, are adequate to achieve the objects and purposes of the Act and Basin Plan, the 'enhanced environmental outcomes' and the additional 450 GL referred to above, taking into account likely, future climate change.

The RGA understand that the modelling upon which the Sustainable Diversion Limits have been created account for the likely future impacts of Climate Change.

However the RGA believes that Governments can further enhance the environmental outcomes of the Basin Plan to combat any unforeseen consequences of climate change through:

- The more efficient delivery of environmental water;
- Supply Measures;
- Complementary Measures; and
- The co-management of environmental water.

Co-management of Environmental Water

The RGA strongly encourages Basin government to continuously consider innovative and adaptive uses of environmental water. The RGA believes that there are fantastic opportunities for water users to manage their resources in ways that results in mutual benefit for multiple users. To this end the RGA has pursued the concept of 'co-management' of water, focusing on how rice growers and other irrigation water users and the environment can manage their water parcels collaboratively.

Co-management provides decision makers with the opportunity to take a triple bottom line approach to implementing the Basin Plan, as projects provide for both positive environmental outcomes and positive social and economic outcomes for irrigators and communities.

Currently the RGA has identified four opportunities for co-management, however further options may be identified:

- using irrigation infrastructure to efficiently deliver water to key environmental sites;
- using environmental water for watering natural wetlands located on private property. We note that this is already happening to a degree however even greater outcomes could be achieved by isolating wetlands that are currently connected to major water ways that receive too frequent and or extended inundation due to higher river flows. Private landholders could provide alternate habitat by enhancing-modifying existing wetlands where targeted, efficient and timely environmental water would be delivered using irrigation infrastructure ;
- using environmental water for watering man-made wetlands located on private property which provide environmental benefits (see case study below); and
- recognising current environmental benefit achieved on private property.

Using environmental water for co-management purposes may also provide a method for managing in-river constraints to the delivery of environmental water.

A suitable MDBA model is required to measure the environmental outcomes achieved by co-management.

Case Study: Bitterns in Rice

The Bitterns in Rice program, administered by the RGA in a partnership with a number of other government and private organisations, demonstrates how irrigation infrastructure can provide valuable environmental outcomes. The Bitterns in Rice program highlights how the Riverina rice crops support the largest known population of the nationally threatened Australasian Bittern.

There is a known conflict between the pursuit for irrigation efficiency in rice production and the provision of habitat for the Bitterns. The adoption of the new efficient irrigation rice growing technologies and practices often significantly reduces the capacity of the Riverina rice fields to provide the surrogate wetlands necessary to assist the recovery of this critically endangered waterbird. This is because the objective of many of these technologies/practices is to reduce the period of flooding within the rice fields. However this also results in a reduction to the period of time for the natural development of prey (bittern food) in the rice crop and a reduction to the period of time these birds have to nest and have the offspring fully fledge.

As demonstrated in the Central Valley of California, rice farming irrigation infrastructure (layouts) can be used to create surrogate wetland habitats from rice fields. These are ponded by the efficient supply of environmental water through irrigation infrastructure at controlled depths and for targeted timeframes. This practice is providing habitat for hundreds of thousands of waterbirds, comprising over 230 water bird species including migratory waders.

Australian rice growers want to support the recovery of the Australasian Bittern, however as water is their most significant input cost, they will need to receive support to provide the ponding period required for successful Bittern breeding.

Further government investigation and investment into research and on farm infrastructure will enable rice farmers to efficiently deliver environmental water to natural and constructed wetlands to create habitat for a range of targeted species.

Value of annual plantings for Climate Change

Rice is predominately grown using NSW Murray and Murrumbidgee General Security allocation and therefore is only grown when the water is available. Consequently the rice industry is an industry that is highly adaptable to annual changes in water availability, and therefore highly suited to irrigation in the Murray Darling Basin. For this reason Rice and other annual plantings are the most suitable irrigation commodity for adapting to the impacts of climate change.

Governments should seek to recognise the value of annual plantings in planning legislation.

Better climate forecasting technologies

Considering the main driver of water supply is rainfall and climate, and while it is not possible to influence the climate, better long-range weather forecast systems will assist both environmental agencies, irrigators and other water users to adjust their environmental watering plans and farming practices to accommodate the weather. To this end the RGA encourages government to invest in research, development and technologies that increase the accuracy of long range weather forecasts.

Contacts

For further information, please contact:

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