



**Submission to the House of Representatives Standing
Committee on Regional Australia**

*Inquiry into the impact of the Murray-Darling Basin Plan
in Regional Australia*

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MACQUARIE RIVER FOOD & FIBRE

Chairman: Mark Miller

Executive Officer: Susan Madden

Introduction

Macquarie River Food and Fibre (MRFF) represents the interests and concerns of around 600 irrigated farming families in the Macquarie Valley and is associated with a number of supportive local businesses. Our membership comprises riparian irrigators along the regulated section of the Macquarie River, the groundwater irrigators of the Lower Macquarie Groundwater Sources, as well as the individual members of the Valley's seven off-river irrigations schemes being the Buddah Lake, Greenhide, Narromine, Nevertire, Marthaguy, Tenandra and Trangie Nevertire irrigation schemes.

MRFF welcomes the opportunity to provide a submission to the House of Representatives Standing Committee on Regional Australia's (the Committee) Inquiry into the impact of the Murray-Darling Basin Plan in Regional Australia (the Inquiry). MRFF wishes to provide some general comments in relation to the objectives and process of the development of the Basin Plan, as well as some specific feedback on the Committee's terms of reference.

MRFF supports the submissions of the peak groups NSW Irrigators Council and National Irrigators Council, of which we are members. MRFF provides our own submission to highlight areas of particular concern in relation to the Macquarie region.

It is important to note that while MRFF's submission is provided on behalf of food and fibre producers in the Macquarie Valley, our members reserve the right to provide their own individual submissions to the Inquiry.

General Comments

MRFF considers the major issue with the development of the Basin Plan to be its underpinning in the Federal *Water Act 2007* (the Act), which is seemingly flawed in two fundamental areas:

1. The Act has a strong bias toward meeting environmental requirements at the expense of social and economic imperatives. In its current form we do not believe the Act can deliver an outcome that balances the social, economic and environmental needs of the Basin, and
2. The Act is focused solely on hydrological flow solutions, that is, a "just add water" approach. We know that a solution focused only on one aspect of the problem will be neither an effective nor efficient way to achieve lasting on-ground environmental improvements.

With these premises as its basis, it is little wonder that the Guide to the proposed Basin Plan presents information and recommendations that are both inappropriate and unacceptable to the communities relying on the water resources of the Murray Darling Basin, and one would hope, unacceptable to the tax-paying Australian public more generally.

Firstly, despite what appears to be conflicting interpretations from the Murray Darling Basin Authority (MDBA) and the Federal Government, it seems clear that the strong bias in the Act toward environmental requirements is at the expense of economic and social imperatives and means that the development of Sustainable Diversion Limits within the Basin Plan must surely compromise a balanced, triple-bottom line outcome.

This issue is well covered in submissions put forward by the NSW and National Irrigators' Councils and MRFF echoes their concerns. In particular, MRFF reinforces its commitment to the principles of the National Water Initiative, as agreed by the Commonwealth, all states and industry in 2004, and providing the foundation for ongoing water reform, that a triple-bottom line approach be taken to the management of the nation's water resources – that is, one that “optimises economic, social and environmental outcomes”¹.

In line with this, MRFF submits:

That the MDBA, in fulfilling its obligations pursuant to the *Water Act 2007*, will be in breach of the National Water Initiative.

Further, that there is a need to amend the *Water Act 2007* so as to provide equal consideration of social, economic and environmental outcomes in line with commitments made under the National Water Initiative.

MRFF's comments in relation to the second issue with the Act, that is, the focus on a “just add water approach”, is dealt with in specific comments to address the terms of reference below.

Response to Committee Terms of Reference

The direct and indirect impact of the Proposed Basin Plan on regional communities, including agricultural industries, local business activity and community wellbeing

MRFF considers the proposed reductions for the Macquarie-Castlereagh system as clear evidence of a Basin planning process that does not allow the optimisation of social, economic and environmental considerations, and even if the Act allowed it to, it seriously lacks the information on which to base such decisions.

The information in the Guide to the proposed Basin Plan aggregates the Macquarie and Castlereagh systems, and combined, shows the region as currently having the lowest rate of extraction for productive purposes – at around 13% (i.e. Current Diversion Limit as a percentage of Total Inflows). Under the 3,000 GL/y scenario, an additional 104 GL/y is sought from the Macquarie-Castlereagh region. This would bring the rate of extraction back to a level of around 10%, i.e. provide an additional 3% of total inflows for environmental purposes. The impact on industry, however, would equate to a reduction of 31% assuming the additional water were sourced from General Security irrigation entitlement. MRFF seriously questions whether the marginal benefit of an additional 3% of water available for the environment would justify the social and economic impacts that would result from the 31% reduction in water available to the irrigation industry.

The proposed impact for the Macquarie-Castlereagh region is even more concerning when considering that 80% of the proposed reduction is actually for downstream requirements. That is, of the required 104 GL/y (under the 3,000GL/y scenario), 20 GL/y is additional water said to be required for the regions

¹ Intergovernmental Agreement on a National Water Initiative, para 23

key environmental asset, the Macquarie Marshes, while 84 GL/y is to provide an additional contribution to the downstream needs of the Barwon-Darling system.

Given the issues with the basis (i.e. the *Water Act 2007*) and the process the MDBA has employed to date in developing a Basin Plan, it is little wonder that the Guide to the proposed Basin Plan (the Guide) contains a series of errors, omissions and so-called “judgements” that inevitably lead to a completely unsatisfactory set of recommendations, in terms of the new Sustainable Diversion Limits, to which communities relying on the Basin’s water resources will be made adhere.

The “scientific” or “technical” basis of the Guide is, in the MDBA’s own admission, lacking the rigour and confidence that is required to:

- a) define what actually constitutes environmental health and ‘sustainability’,
- b) determine the environmental watering requirements to maintain system health, and
- c) ensure that recommended levels for environmental watering can be delivered and will actually lead to sought environmental outcomes.

MRFF does not have the in-house capacity to undertake a critique of the full gamut of technical information outlined in the Guide, particularly given the timeframe available for response, suffice it to say, however, that as an organisation that represents individuals whose livelihoods will be affected by the outcomes of this process, we are incredibly alarmed by statements, such as those copied below, that appear right throughout the various volumes of the Guide:

“The Authority acknowledges, however, that there are inherent limitations with data analysis and hydrological modeling of this scale and complexity”²

“The independent review... reinforces the Authority’s view that there is much scope for further work and additional data capture”³

“Most of the evidence base falls into the medium confidence category... which have not undergone any significant peer-review scrutiny”⁴

“the current level of understanding of ecological responses to environmental water is relatively poor”⁵

Given this, MRFF finds it baffling that the MDBA continues to stand by a position that the environmental watering requirements of the Basin can so definitely be put in the range of 3,000 GL/y to 7,600 GL/y. How can the MDBA have such confidence in this range when they have such little confidence in the information upon which it relies? In fact, MRFF suggests that it is quite dangerous to have numbers of

² P. xvi, Overview, Volume 1, Guide to the proposed Basin Plan

³ P. 37, Overview, Volume 1, Guide to the proposed Basin Plan

⁴ P. 38, Overview, Volume 1, Guide to the proposed Basin Plan

⁵ P. 69, Overview, Volume 1, Guide to the proposed Basin Plan

such low confidence in the public arena, particularly for those stakeholders whose very livelihoods could be in jeopardy if such severe reductions were to go ahead. MRFF submits:

That the MDBA cannot be certain, even within a range, of the environmental watering needs of the Basin on any technical or scientific basis.

In terms of measuring the direct and indirect impacts of the proposed Basin Plan, MRFF considers the social and economic work undertaken by the MDBA to be quite inadequate. The most obvious comment on the socio-economic assessment presented in the Guide is that at an estimate of a Basin-wide loss in irrigated agriculture productivity of \$800 million and 800 jobs, the MDBA have grossly underestimated the impact of the proposed reductions to the irrigated agricultural industry and the economy at large. MRFF therefore has little confidence in the socio-economic information the MDBA has used to base decisions such as the scenario assessments (i.e. 3,000GL/y to 4,000GL/y) and the allocation of downstream water requirements to upstream valleys, such as the additional 84GL/y required from the Macquarie-Castlereagh system for the Barwon-Darling.

In the 3,000 GL/y scenario presented in Table C.1 (pp. 211-214, Volume 1), the reduction required for downstream needs for the total Darling system is reported to be 183 GL/y. The required contribution from the Macquarie-Castlereagh region of 84 GL/y is therefore 46% of the total Darling requirement. MRFF has serious questions around how this conclusion is drawn (and suspects that it is somewhat arbitrary), particularly given elsewhere in the report the Macquarie-Castlereagh region is highlighted as an area at particular risk of “substantial” social and economic impacts.

Such an approach has major equity implications, which must certainly be subject to detailed explanation followed by open and transparent discussion between government and stakeholders. MRFF is concerned that this is a critical decision point that has largely been lost in translation and suggests this is an area that requires further explanation from the MDBA.

As a final point against this terms of reference, and for the information of the Committee, MRFF has over the last 12 months been working with the Narromine and Warren Shire Councils and the Central West Catchment Management Authority on a project funded by the Federal Government *Strengthening Basin Communities* program, which aims to consider the social and economic impacts of reduced water availability across the two local government areas and adaptation options for industry and community. The project report, which is being undertaken by Melbourne-based consultant’s Psi Delta, will provide important information on the likely direct and indirect impacts of the Proposed Basin Plan on the lower Macquarie Valley community and water dependent industries. MRFF requests the opportunity to present findings of this study to the Committee (in written or verbal form) when it becomes available in early 2011 (with the first draft of the report due by the end of January).

Options for water-saving measures or water return on a region-by-region basis with consideration given to an analysis of actual usage versus licence entitlement over the preceding fifteen years

As mentioned above, the major issue for the Macquarie-Castlereagh is the proposal by the MDBA that the system contribute significantly to the downstream requirements of the Barwon-Darling system. MRFF considers this requirement to be based on flawed modeling of the end-of-system or “outflow” figures for the region. While MRFF acknowledge that there could be some distortion due to the aggregation by the MDBA of the Macquarie, Castlereagh and Bogan systems, on face value the Macquarie system contribution to the Barwon-Darling seems to be reported at a far higher percentage (modeled at 17%) than history would suggest (observed at around 5%). Given the Macquarie is a semi-terminal wetland, historically, it has only been in high flood years that water makes it from the Macquarie River to the Barwon-Darling. MRFF therefore contends that the MDBA has failed to recognise that there are physical constraints in the regulated Macquarie system that would preclude the flow targeted for the Barwon-Darling system from being achieved.

That having been said, MRFF would also like to raise with the Committee the issue of the narrow focus in the Basin planning process on flow solutions to meet environmental objectives. MRFF is of the strong opinion that an Act focused solely on flow, that is, a “just add water” approach, is a fundamental flaw in a Basin-wide planning process that aims to achieve integrated water management. Such an approach flies in the face of an otherwise national move toward integrated catchment management that incorporates, for example, land management, pest and weed control, and where appropriate, infrastructure measures. Surely it is obvious that an approach focused only on one of a number of key inputs or drivers will be neither an effective nor efficient way of achieving a desired outcome?

Let us consider an analogy in the business in which many of MRFF’s members operate, for example, water as a primary input to cotton production. In fact, access to water would be considered a *necessary condition* of growing cotton – without it, either in terms of access to irrigation water or some assuredness of summer-rainfall events, one would not attempt to grow such a crop. But water, on its own, is not a *sufficient condition* to optimise crop potential. To realise crop potential, and indeed maximise profitability, a manager must also pay heed to insect pest control for example, manage weeds that might compete for soil moisture, and indeed, amongst other things, understand and adaptively manage the crop water requirements, and ensure that the irrigation delivery system itself operates in a way so as to optimise the use of every available megalitre. Failing such an integrated approach to its management the crop must surely fail, or at the very least not reach to its full potential. This being the case, then at the end of the season, the manager themselves, and those looking over the fence, could only conclude that the significant investment in water alone would have been nothing more than a waste of money and precious resource.

While there are likely numerous examples across the Basin that might demonstrate such a point in the context of seeking environmental outcomes, MRFF’s experience is in relation to the management of the Identified Key Environmental Asset in the Macquarie-Castlereagh region, that is, the Macquarie Marshes.

The Macquarie Marshes are currently defined as the area that was inundated by major flooding in 1990, and therefore occupies an area of approximately 200,000 hectares. Around 90% of this area is privately owned and utilised for grazing and cropping. While the cause and potential solutions remain a point of contention, the fact that there are a number of threats to the environmental health of the wetland system is generally accepted.

Despite a tendency to focus on the availability of water as the root cause of problems relating to the health of the Macquarie Marshes, there is clear evidence to suggest that in fact the loss of important vegetation and habitat that once thrived in the Marsh area can be attributed to a range of factors including overgrazing, artificial water diversions, tree clearing and cropping⁶. This is, in part, evidenced by the fact that much of this degradation occurred during the 1950s, a time of above average inflows to the Marshes, and prior to the construction of Burrendong Dam and associated regulation of the Macquarie River system⁷. Hogendyk (2007) provides a more in-depth discussion on the factors leading to degradation of the Macquarie Marshes.

While it is obvious that water is a *necessary condition* for an area to be defined a wetland, like water to a cotton crop, it is not alone a *sufficient condition* if the objective relates to some kind of plant yield or, in the case of the Marshes, vegetative condition target. On this basis, MRFF contends that a solution focused solely on sourcing additional water entitlement will be neither environmentally effective nor economically efficient in achieving the set objectives.

To further demonstrate this point, MRFF has provided a copy of the paper “Macquarie Marshes Pilot Project ‘Burrima’: 3 year Report 2005-2008” as an attachment to this submission. This paper, prepared by the Macquarie Marshes Environmental Trust, presents an outline of the current problems facing the Macquarie Marshes and alternative solutions, with emphasis on the cost benefit of purchasing land rather than water. The paper also presents an on-ground case study where significant improvements have been made in the health and diversity of flora and fauna on private property site, "Burrima". It is suggested that the "Burrima" case study has wider applications for land management within the Macquarie Marshes, and for other ephemeral wetlands throughout the Murray-Darling Basin.

MRFF acknowledges that the *Water Act 2007* specifically excludes the Basin Plan from dealing with “land use or planning, management of natural resources other than water and control of pollution”⁸. The Act does, however, require consideration of risks to achieving sought objectives and the development of strategies to manage identified risks. MRFF does not consider the list provided on p. 603, Volume 2, Part II, Appendix B, of the Guide sufficient to meeting this requirement.

It is our assertion that further consideration needs to be given to the management of risks that jeopardise environmental outcomes, significant tax payer investment and our precious water resource.

⁶ Macquarie Marshes Adaptive Environmental Management Plan 2010

⁷ Hogendyk (2007) *The Macquarie Marshes: an ecological history*. The Occasional Paper from the Institute of Public Affairs

⁸ *Water Act 2007*, Section 22(10)

Based on these issues, MRFF submits:

That focusing solely on flow as a means of achieving environmental objectives is likely to be both inefficient and ineffective.

Further, there is a need to amend the *Water Act 2007* to allow non-flow related approaches to be considered to meet environmental objectives.

That the Basin planning process be based on a proper cost-benefit analysis of the full range of options, including non-flow considerations such as infrastructure works and other policy and management measures, for achieving environmental objectives.

The role of governments, the agricultural industry and the research sector in developing and delivering infrastructure and technologies aimed at supporting water efficiency within the Murray-Darling Basin

As essentially a terminal system, the Macquarie Marshes have long been recognised as the key environmental asset in the Macquarie Valley. A combined community effort over a number of years has resulted in the recognition of this important environmental asset from the local through to international level.

More recently, environmental water purchases and infrastructure spending has seen the level of water that is available for environmental purposes in the Macquarie Valley increase to above 80% of long-term average annual flow.

The Macquarie Valley can now be considered an 80:20 system - with greater than 80% of long term average annual flows available for the environment, this leaves less than 20% available for productive purposes.

Water that is available for productive purposes includes town water supplies, stock and domestic use, high security industry, and seasonal food and fibre production. That is, water that plays a reasonable and vital role in the ongoing sustainability of local communities.

Total valley general security entitlement	632,000 ML
Less Federal and State water buyback	103,000 ML
Less delivery scheme infrastructure spending	48,000 ML
General security for productive purposes	481,000 ML
At 42% reliability	202,000 ML
Plus supplementary entitlement	32,000 ML

Plus high security and town water supplies	32,000 ML
Total available for productive use	266,000 ML
Average total annual flows	1,448,000 ML
Percentage available for productive use	18.37%

Having already come a long way toward balancing the environmental, social and economic needs of the system, food and fibre producers in the Macquarie Valley are now more interested in working toward a sustainable future within a secure regulatory framework.

Some of the initiatives of our members include:

- Working with local councils to consider what industry and community might do together to adapt to a future with less water (through the previously mentioned Strengthening Basin Communities socio-economic and adaptation study)
- Supporting the endeavours of the Macquarie RiverSmart program, which seeks to draw focus at the local level on the sustainability of the river resource
- Off-river irrigation schemes embarking on some of the largest modernisation programs in the country to ensure the efficient delivery and use of limited water supplies (through the Private Irrigation Infrastructure Operators program)
- Working with Macquarie Marshes Environmental Trust to test on-ground management techniques to improve the health and resilience of significant wetlands

MRFF stands by a position that our industry has already done the hard yards in terms of meeting future sustainable diversion limits, and now our members seek the assurance from both State and Commonwealth Government's that current and future investments in their water future will be supported through balanced and secure administrative and legislative arrangements.