Submission to the Senate Standing Committee on Rural Affairs and Transport

Inquiry into the management of the Murray-Darling Basin

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MACQUARIE RIVER FOOD & FIBRE

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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 Senate Standing Committee on Rural Affairs and Transport's (the Committee) Inquiry into the management of the Murray-Darling Basin (the Inquiry). MRFF has reviewed the terms of reference for the Inquiry and wishes to provide comment in relation to:

- the foundations of the Basin Plan,
- the process undertaken by the Murray Darling Basin Authority (MDBA) in developing the Basin Plan,
- alternative approaches for achieving sought environmental outcomes, and
- the social and economic impacts of changes proposed for the Macquarie region.

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

It is important to note that while MRFF's submissions are 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.

Request to Address the Committee

MRFF requests the opportunity to address the Committee to support the evidence provided in this submission.

The Foundations of the Basin Plan

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 recently released 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 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.**

Secondly, 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. MRFF covers this issue in more detail under the heading 'alternative approaches for achieving sought environmental outcomes', however, submits:

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

[1] Intergovernmental Agreement on a National Water Initiative, para 23

Process undertaken by the MDBA in developing the Basin Plan

Consultation Process

MRFF echoes the concerns that have been raised by stakeholders right across the Basin in regards to the inadequacy of the community consultation process that the MDBA has undertaken to date. MRFF considers this to be another area where the development of the Basin Plan is in contravention of the principles and spirit of the National Water Initiative:

> "settling the trade-offs between competing outcomes for water systems will involve judgements informed by best available science, socio-economic analysis and community input..."[2]

Up until the release of the Guide there has been little if any opportunity for affected community members, other than those who may have representation through select 'peak groups', to be informed about the development of the Basin Plan, let alone have opportunity to provide input. The process employed by the MDBA so far seems to have been focused more on the communication of information rather than one of true community consultation and engagement in decision making. Given the enormity of the consequences of setting new Sustainable Diversion Limits across the Murray Darling Basin, this approach seems entirely inappropriate.

MRFF highlights the following examples of where the MDBA has not even met the most basic of communication protocols:

- Failure of the MDBA to meet its own timeframes for release of information – in fact there have been three delays in releasing the Guide, and even when the Overview to the Guide was released, the supporting technical information was not made available.
- Delay of the release of the Guide on a political basis, that is, the delay in releasing the Guide until after the Federal Election had no basis as claimed under the caretaker convention and was in our submission a deliberate subversion of the democratic process.
- No formal process for the incorporation of community feedback on the Guide. Considerable effort and resource is necessary for individuals and stakeholder groups to be able to review and provide feedback on information of this magnitude and it would seem appropriate that some assuredness be given that their comments have been heard. MRFF suggests that simply a log of issues is insufficient and that the MDBA must commit to providing clear reference where feedback has been incorporated in the drafting of the proposed Plan, and justification where it has not.
- Inadequate preparation for the public community information sessions as evidenced by the number of people unable to be accommodated in regional venues.
- Peak group information sessions and forums conducted by the MDBA have been so generalised and broad-brushed to be rendered almost useless. Take for example the recent technical forum held in Canberra where no prior agenda was provided and the timing of the release of

[2] Intergovernmental Agreement on a National Water Initiative, para 36

significant volumes of technical information, on which the forum was to be based, made it difficult for participants to be adequately prepared for this forum.

- Lack of provision of regionally specific information – it was understood that detailed technical volumes would be provided for the 19 catchments, however, these volumes are merely 5-6 page summary documents. Stakeholders are crying out for further information on the underlying models and assumptions that drive the proposals for individual catchments. In line with this, the MDBA has made a number of recent commitments to undertake further regionally based consultation, which MRFF suggest be honoured as a matter of priority.

MRFF appreciates that the MDBA was set a mammoth task to develop a Basin-wide plan in a period of 12-18 months, after all, the NSW Water Sharing Plan process for the Macquarie region alone involved a community engagement process that spanned 4-5 years. Having been so heavily involved in the state based water planning process has probably added to the resentment that our group feels at being essentially left out of key decisions in the basin planning process to date. There is significant local knowledge and experience gained through the NSW planning process as well as existing community consultative groups that were established to aid water resource management, such as State Water Corporation's Customer Service Committees and the Macquarie-Cudgegong Environmental Flows Reference Group, that should sensibly have been a starting point for the MDBA but rather have been largely ignored.

MRFF hopes that the community response to the release of this Guide will cause the MDBA, and government more broadly, to reconsider the approach that it has taken to developing the Basin plan and seek to move forward with a respectful process of true engagement with the Basin communities that will be so affected by the planning outcomes.

In this light, MRFF submits to the Committee:

> **That the timeframes set for delivery of the Basin Plan are unrealistic and that as a result the goodwill of stakeholders across the Basin has been compromised – as evidenced by public outcry to release of the Guide.**
>
> **That regional communities be re-engaged in the planning process and that local knowledge and experience is incorporated to ensure the development of a Basin Plan that is appropriate and acceptable to affected communities.**
>
> **Further, that as part of this process, the MDBA and the Federal Government demonstrate a constructive working relationship with the relevant State Government agencies in order to deliver the necessary whole-of-government approach to meeting the objectives of a Basin-wide plan. In NSW this should give consideration to the progress of the Water Sharing Plan process.**

The Guide to the proposed Basin Plan

Given the issues with the basis (i.e. the *Water Act 2007*) and the consultation process the MDBA has employed to date in developing a Basin Plan, it is little wonder that the Guide itself 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 that was made 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"[3]
>
> "The independent review... reinforces the Authority's view that there is much scope for further work and additional data capture"[4]
>
> "Most of the evidence base falls into the medium confidence category… which have not undergone any significant peer-review scrutiny"[5]
>
> "the current level of understanding of ecological responses to environmental water is relatively poor"[6]

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 such low confidence in the public arena, particularly for those stakeholders whose very livelihoods could

[3] P. xvi, Overview, Volume 1, Guide to the proposed Basin Plan
[4] P. 37, Overview, Volume 1, Guide to the proposed Basin Plan
[5] P. 38, Overview, Volume 1, Guide to the proposed Basin Plan
[6] P. 69, Overview, Volume 1, Guide to the proposed Basin Plan

be in jeopardy if such severe reductions were to go ahead. MRFF submits to this Committee that more honesty and transparency is required in the planning process given:

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

From the review that MRFF has been able to undertake of the information presented in the Guide, it is clear that the underlying hydrological models used in the MDBAs analyses for both surface water and groundwater are key to understanding and reconciling proposals at the regional level. It is therefore disappointing that despite 21 volumes and many hundreds of pages, detailed information on the models, underlying assumptions and outputs such as flow duration curves for key hydrological indicator sites have not been made available in the Guide. Without this information the ability of stakeholders to challenge their robustness and provide a meaningful critique of the MDBA's approach is severely limited.

MRFF appreciates the complexity of such information but highlight that stakeholders with a vested interest in water management, in particular, water users as represented by groups such as our own, are familiar with actual and modelled (i.e. IQQM) water information as an imperative to their business operations.

In terms of the social and economic assessment, there are also obvious gaps. At an estimate of a Basin-wide loss in irrigated agriculture productivity of $800 million and 800 jobs, the socio-economic assessment grossly underestimates the impact of the proposed reduction to the irrigated agricultural industry and the economy at large. Further, the assessment does little to add to the knowledge around the more difficult to measure social and environmental costs and benefits of the proposed Sustainable Diversion Limits.

With such obvious gaps in the information available to develop a Plan of such magnitude and consequence, the MDBA has resorted to a number of key "judgements" that drive the Basin-wide results presented in the Guide – judgements that in the absence of detailed explanation appear arbitrary and subjective.

It is our submission:

> **That sufficiently robust information does not exist on which to base an independent assessment of the environmental requirements of the Basin for the purposes of setting a "sustainable level of take". Rather, it is obvious that trade-off decisions and "judgements" around social, economic and environmental imperatives must be made and this being the case, the communities that will be so affected by these decisions, must be allowed to engage in the decision-making process.**

Alternative approaches for achieving sought environmental outcomes

As mentioned previously, MRFF is of the strong opinion that an Act focused solely on flow, that is, the "just add water" approach, is a fundamental flaw in a Basin-wide planning process that aims to either maintain or improve the condition of key environmental assets. Such an approach flies in the face of an otherwise national move toward integrated catchment management. It is our submission that an approach focused only on one of a number of key inputs or drivers will be neither an environmentally effective nor economically efficient way of achieving the 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 cropping [7]. 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

[7] Macquarie Marshes Adaptive Environmental Management Plan 2010

Macquarie River system [8]. 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, as proposed by the MDBA, will be neither environmentally effective nor economically efficient in achieving its 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"[9]. 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 by the MDBA on p. 603, Volume 2, Part II, Appendix B, of the Guide sufficient to meeting this requirement.

It is our assertion that the MDBA, an independent government authority funded by the Australian tax payer, has an obligation to make explicit recommendations where risks are such that environmental outcomes are jeopardised and significant tax payer investment and precious resource is wasted.

Based on these issues, MRFF submits to this Committee that:

> **That a planning approach focused solely on flow as a means of achieving environmental objectives is likely to be both economically inefficient and environmentally ineffective.**
>
> **That there is a need to amend the *Water Act 2007* to allow non-flow related approaches to be considered to meet environmental objectives.**
>
> **That regional communities and Federal and State Government agencies (and authorities) work together to better understand and explore opportunities and implications of non-flow considerations such as infrastructure works and other policy and management measures**.
>
> **That the application of the Macquarie Marsh case-study (provided as an attachment) be considered as one of such options.**

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

[9] *Water Act 2007*, Section 22(10)

The social and economic impacts of changes proposed for the Macquarie

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, seriously questions the information on which to base such decisions.

The range proposed for the Macquarie-Castlereagh surface water system is to bring current diversions, which are estimated to be at 735 GL/yr, back to 600-635 GL/year. That is, a recovery of 104 GL/yr under the 3,000 GL/yr scenario and 135 GL/yr under the 4,000 GL/yr scenario. While this proposal suggests a reduction in the order of 14% to 18%, the impact is in fact far more severe. Given it is most likely that the water will be recovered from General Security entitlement holders on the regulated Macquarie system, the reduction is more in the order of 31% to 41% when applied to this class of entitlement holder.

Similarly, the reduction proposed for the Lower Macquarie Groundwater Sources is significant with the proposal to bring current entitlement of 69 GL/yr back to 42 GL/yr resulting in a 40% reduction.

Overall, we expect the likely impact, if this proposal were to go ahead, to be a contraction in Macquarie Valley industries relying on general security river entitlement and groundwater entitlement to nearly half the average annual level of production.

In the Guide, the MDBA lists the Macquarie-Castlereagh region as at high risk of "substantial social impacts". The report further states: "*at-risk regional and rural towns and communities may have long-term consequences. In particular, a decline in the rateable base for local government authorities and reduced levels of demand for major community services such as health and education may mean that the level of service provision is likely to decline over time. As a consequence, there is a greater likelihood that:*

- *access to health services and education will become more difficult*
- *there will be fewer funds available to local government authorities to invest in and maintain community infrastructure*
- *social and community networks will come under increasing pressure".*

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).

While there is evidence to suggest that the changes proposed in the Guide to the proposed Basin Plan will lead to substantial social and economic impacts in the region, what is less clear, is the marginal benefit hoped to be achieved through the provision of additional water to the environment.

The information in the Guide shows the Macquarie-Castlereagh region as currently having the lowest rate of extraction for productive purposes of all the developed regions in the Basin. That is, the Current Diversion Limit as a percentage of Total Inflows is at a level around 13%, which leaves 87% for environmental purposes and losses.

This current rate is no accident. Rather, a position that has been reached after years of water reform, which began in the valley in the 1980s. 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 local through to international level, including development of a Water Sharing Plan that provides for the current rate of extraction and environmental allowance. More recently, the extraction rate has been reduced even further following State and Commonwealth environmental water purchases and infrastructure spending.

Yet under the 3,000 GL/yr 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% and provide an additional 3% of total inflows for environmental purposes. In the absence of an environmental watering plan and further detail in the Guide, it is impossible to quantify the marginal benefit to the environment of this additional 3% of flow (i.e. the benefit of taking it from 87% to 90% of the available water resource). However, given the direct impact on industry is in the order of 31% one would have to suggest that the suggested change would not pass a simple cost-benefit test. MRFF believes this to be a clear example of a process that has tipped too far in favour of the environment at the expense of social and economic imperatives.

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/yr (under the 3,000GL/yr scenario), 20 GL/yr is additional water said to be required for the regions key environmental asset, i.e. the Macquarie Marshes, while 84 GL/yr is to provide an additional contribution to the downstream needs of the Barwon-Darling system.

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. Furthermore, MRFF has serious questions around whether such volumes targeted from the Macquarie, a semi-terminal system, can even be delivered to the Barwon-Darling system.

As a final point in our submission, MRFF would like to highlight that the 13% of the total water resource in the Macquarie-Castlereagh system that is available for human use supports an area of approximately 84,842 square-kilometers and 183,302 people (ABS Census 2006). Water made available for human 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 regional Australia.

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 Strenghening 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.

MRFF seeks the assistance of this Committee in achieving this outcome.