



NSW Government submission on the proposed Murray Darling Basin Plan



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Executive summary

The NSW Government recognises the importance of creating a sustainable working Basin and of balancing the water requirements of the environment, industry and local communities. This is demonstrated through our ongoing commitment to the reform objectives of the 2004 National Water Initiative, and the 2008 Intergovernmental Agreement on Murray-Darling Basin Reform (2008 IGA).

NSW has been a leader in water reform over the past 25 years, working with communities, industry and environmental groups to ensure that businesses and communities are able to successfully adapt to change. NSW seeks to build on this record by actively participating in the preparation of the Murray Darling Basin Authority's (MDBA) Proposed Murray Darling Basin Plan (draft Plan) and ensuring that it provides a balanced consideration of the needs of both the environment and Basin communities.

This NSW Government Submission (NSW Submission) provides comment on the draft Plan to assist the MDBA in developing a final Basin Plan that will achieve optimal outcomes for the environment and NSW communities. Additionally, the NSW submission highlights the need to develop parallel processes with Commonwealth agencies to address essential NSW concerns regarding the implementation of the Basin Plan, including agreement on Commonwealth funding for State implementation costs and structural adjustment for affected communities.

The following outlines NSW key positions and how the draft Plan and associated Commonwealth programs meet those positions.

- **Best available science – the Basin Plan should be based on best available science.**

CSIRO has reported that the methodology for identifying environmental water requirements and the volume of water to meet those requirements is broadly valid, however MDBA's reports on environmental water requirements and multiple benefits were not provided in a timeframe to evaluate the basis and potential benefits of the draft Plan. The hydrological modelling includes a number of policy assumptions that have not yet been resolved, such as return flows and environmental water shepherding. These have implications for the estimates of meeting environmental objectives, diversions and irrigation reliability.

- **Triple bottom line – The draft Plan should balance the needs of the environment, communities and economy.**

Provided the Commonwealth provides adequate implementation funding to the Basin states, the recovery of water for the environment and creation of a framework for environmental water management should result in improved environmental outcomes. However, detailed information on the environmental needs and outcomes has either not been provided or provided too late to assess the appropriateness of the sustainable diversion limits (SDLs) in particular how all indicators including threatened native fish have been considered in the determination of the SDLs across the full flow regime. Based on information available during the consultation period, it is not clear what environmental outcomes will be achieved and how.

The environmental water recovery has divided the volume of water required to be recovered into 'in-valley' needs and a greater 'downstream' share. This creates unacceptable uncertainty for communities and a risk of substantial impacts in some locations in NSW, particularly in the southern NSW Basin.

- **Structural adjustment - Unavoidable social and economic costs should be identified and mitigated through a Commonwealth structural adjustment package.**

The MDBA's socio-economic studies have identified communities that are highly irrigation dependent and will be vulnerable to significant impacts from the SDL reductions. However the Commonwealth has not established a structural adjustment package to support these communities.

- **Equitable State Share - water recovery should be equitably shared between Basin States.**

There is no mechanism in the draft Plan for equitable distribution between States and catchments of the proposed large downstream shared water requirement. If this is recovered through licence purchase alone this will result in disproportionate distribution of impacts, particularly in southern NSW Basin.

- **Diversified strategic water recovery – Water should be recovered through a combination of infrastructure, environmental works and measures, rules review and strategic buyback.**

The draft Plan contains no mechanism to prioritise water recovery from infrastructure or environmental works, or to implement the Commonwealth commitment to bridge the gap. Rather, the draft Plan requires SDLs to be implemented through water resource plans by 2019. The short timeframe required for meeting the SDLs will drive a continued focus on

recovery of water through licence purchase. The Commonwealth's water recovery strategy has not been released, and thus NSW communities have had no opportunity to contribute.

The Commonwealth should also honour its commitment that there will be no compulsory acquisition of water entitlements to meet the SDLs. Similarly the acquisition of land or easements to enable the delivery of environmental flows should be voluntary or through negotiation.

- **State implementation requirements – State implementation requirements should be clearly defined.**
The draft Plan contains significant implementation requirements for Basin States, many of which have been phrased in broad language that allows considerable scope for interpretation. Information on many important implementation requirements has been deferred to guidelines which have not yet been developed. An implementation schedule to clarify requirements and the timeframe for their delivery has not been prepared.
- **State implementation costs - Any new or extended implementation costs to be met by the Commonwealth.**
The requirements of the draft Plan have significant resourcing implications for NSW Government agencies. However the MDBA has not prepared its regulation impact statement on the costs and impacts of the draft Plan and the Commonwealth has not progressed an agreement to cover new and extended State costs under the Basin Plan.
- **Improved water management – the Basin Plan should deliver improved water management without excessive intervention or reporting requirements.**
Provided that adequate resources are provided to Basin States by the Commonwealth, the environmental water management framework sets out a process which should result in improved coordination and management of environmental water. However, many of the other water management requirements, such as the water quality targets and interception requirements are too prescriptive, resource intensive and represent excessive and unnecessary intervention.

A proposed way forward

A key object of the Basin Plan under the Commonwealth *Water Act 2007* is to provide for the use and management of Basin water resources to *optimise* environmental, social and economic outcomes. NSW remains committed to water reform in the Basin, however, the draft Plan and associated Commonwealth programs are unacceptable in their current form.

In response NSW has developed the following key proposals which outline a practical way forward for the MDBA in developing the final Basin Plan, supported by Commonwealth programs, to meet the objects of the *Water Act 2007* and fulfil the intent of the 2008 IGA. Additional detailed recommendations are outlined in the Submission.

1. NSW environmental water recovery proposal

- a. **Recovery strategy** - NSW requires the environmental water recovery strategy to be specified in the Basin Plan. The strategy should focus on water recovery measures which provide positive or neutral social and economic outcomes.
- b. **Recovery volume** - The final Basin Plan should set a recovery figure, to enhance certainty for environmental interests and community stakeholders. The basis for current SDL figures should be demonstrated transparently through an MDBA-lead process of identifying environmental assets and aquatic ecosystem functions and their water requirements across the full range of flow regimes, with State and community input. In particular the final Basin Plan must clarify the intended outcomes of the downstream recovery volume.
- c. **Prioritise recovery through diverse measures** - The final Basin Plan must commit to no further licence buybacks:
 - i. until the States and communities have agreed that all appropriate infrastructure and environmental works and measures have been implemented.
 - ii. until the States have agreed that all appropriate SDL offsets have been achieved through a review of rules and operations undertaken with genuine State and community engagement.
- d. **Measured recovery through buybacks** - Once the States are satisfied that savings through other means have been exhausted, Commonwealth purchase of licensed entitlements can resume, capped to a maximum of 3 per cent of current extraction limits per decade per water resource plan area.
- e. **Strategic buybacks** – Additional purchased recovery may be undertaken if the purchase is a strategic acquisition of water entitlements conducted in consultation with local communities and agreed by the State.
- f. **Timeframe to meet SDL** - Consistent with c), d) and e) the Basin Plan should allow for a longer period for water recovery than the current 1 July 2019 date for compliance with SDLs. This proposal allows continued progress towards

meeting environment outcomes at a pace that allows regional industries to adjust and for Commonwealth to develop environmental water management structures and management capacity.

- g. **Equitable share of buybacks** – The Basin Plan must require that the proportion of water recovered through licence purchase be equitably apportioned between Basin States and catchments.

2. Community impacts and structural adjustment

- a. **Structural adjustment packages** - A whole of Commonwealth coordinated and funded structural adjustment package is required to accompany the Basin Plan including:
 - i. Re-direction of the majority of Commonwealth entitlement purchase funding to infrastructure and water efficiency projects.
 - ii. Cross-portfolio policy and program support to enhance the sustainability and competitiveness of existing industry in the Basin.
 - iii. Social support packages including health, education and other welfare and community development initiatives identified to support impacted communities to adjust to change.
 - iv. Economic stimulus activities, including regional development project funding.
 - v. Funding for projects to achieve environmental outcomes beyond water recovery such as improved land management practices or riverine rehabilitation initiatives.
- b. Social and economic impact monitoring program – The Commonwealth should fund and immediately commence a social and economic impact monitoring program based on well founded indicators to assess the impacts of the Basin Plan at the scale at which they occur and provide adjustment programs accordingly.

3. Efficient, streamlined, clear implementation requirements for Basin States

- a. The water management requirements of the draft Basin Plan need to be streamlined, reviewed for water management efficiency and cost of delivery.
- b. Implementation and accreditation requirements for States are to be clearly defined. The NSW submission identifies the areas in which the draft Plan is insufficiently clear about State implementation and accreditation requirements.
- c. Where guidelines are required to clarify key implementation areas, these should be developed with State input before the final draft Plan is provided to the Murray Darling Basin Ministerial Council (Ministerial Council) for comment.
- d. The MDBA and States must develop and agree to an implementation schedule for the ten year life of the Basin Plan.

4. Basin State implementation costs

- a. The MDBA must complete its Regulatory Impact Statement (RIS) identifying the costs to NSW of implementing the draft Plan's requirements, with NSW input. The RIS should be provided to the Ministerial Council with the final draft Plan.
- b. The Commonwealth and NSW need to have in place a workable agreement for upfront funding of new or extended costs for NSW for the life of the Basin Plan. This agreement needs to be complete when the final draft Plan is provided to Ministerial Council for comment.

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Introduction

Scope and structure of NSW Submission

This *NSW Government Submission on the proposed Murray Darling Basin Plan* (NSW Submission) is intended to guide the Murray Darling Basin Authority (MDBA) in preparing a final draft Basin Plan for delivery to the Murray Darling Basin Ministerial Council for comment as required under the *Commonwealth Water Act 2007* (the *Water Act*).

The NSW Submission provides comment on the proposals in the MDBA's draft Plan to ensure that it will achieve the best available outcomes for the environment and NSW communities. In addition, the NSW submission also highlights the need for parallel processes with Commonwealth agencies, including the establishment of a formal agreement to govern the provision of Commonwealth funding for State implementation costs and the provision of structural adjustment packages for affected communities. While these issues lie outside of the remit of the MDBA, they are critical to support the Basin Plan.

The MDBA is responsible for the content of the draft Plan and for considering submissions received during the public consultation period in finalising the draft Plan for submission to the Ministerial Council for comment. However given NSW's decades of leadership in water reform and aquatic ecosystem management, this Submission also presents a practical way forward that responds to community concerns and will allow the MDBA to finalise the Plan consistent with the object of the *Water Act* to optimise environmental, social and economic outcomes.

The structure of the NSW Submission is as follows:

- Water reform in the Murray Darling Basin – outlines NSW participation in Basin water reform, the MDBA's process to develop the draft Plan, and NSW objectives for the Murray Darling Basin and the Basin Plan
- Analysis of the draft Plan from the perspective of NSW key positions
- Detailed analysis of selected draft Plan chapters
- A proposed way forward.

This submission refers to the various versions of the Basin Plan in the following ways:

- *Draft Plan* – the proposed Basin Plan that was placed on public exhibition on 28 November 2011, which this submission comments on.
- *Final draft Plan* – the version of the Basin Plan that will be provided to Murray Darling Basin Ministerial Council for comment as required under the *Water Act*
- *The Basin Plan, the final Basin Plan* – the Basin Plan once endorsed by Commonwealth Parliament.

Development of the NSW Submission

This submission was prepared using:

- NSW community input through a series of roundtable discussions with peak stakeholders, regional stakeholders and the Land and Water Advisory Panel (over 200 stakeholders)
- Correspondence from NSW community and stakeholder groups (58 letters)
- Detailed policy and technical review by NSW government agency staff and specialists based on information available during the MDBA's public consultation period (16 working groups).

The list of NSW consultation activities is in Appendix A and a summary of issues raised by NSW stakeholders is in Appendix B. Issues raised by stakeholders have been considered in analysis of the various sections of the NSW Submission in particular in understanding the social and economic impacts and in the development of the proposed way forward.

Murray Darling Basin water reform context

Decades of water reform

The Basin Plan is one step in decades of water reform and coordinated water management in the Basin commencing in the early 1980s, when water managers in the Basin realised that water resources had been fully allocated and any further allocation of water rights would reduce the security of supply to existing users and lead to a decline in the health and productivity of our river systems. As a result, NSW embargoed further licences allocating new water for commercial purposes.

In 1994, the Council of Australian Governments (COAG) agreed to wide-ranging water reforms, focusing on the need to manage water more sympathetically with the needs of the Australian environment, to ensure that water rights could move by trade to where they would generate the highest value, and to identify and recover the costs of water supply and water management from beneficiaries.

The National Water Initiative was signed in 2004 to build on the raft of reforms already underway, including a focus on interstate water trade. More recently, NSW has participated in the Commonwealth Government's 2008 Intergovernmental Agreement on Murray-Darling Basin Reforms and has provided information and technical support to the MurrayDarling Basin Authority in the development of an overarching Basin Plan.

The NSW Government remains committed to the 2004 National Water Initiative, which sets out an agreed framework for water industry reform on a sustainable basis.

Consistent with the spirit of the 2008 Intergovernmental Agreement on Murray-Darling Basin Reform (the 2008 IGA), the NSW Government remains committed to a reform process that will ensure the long term future health and prosperity of the Murray-Darling Basin and safeguard the water needs of the communities that rely on its water resources.

2008 Intergovernmental Agreement

The 2008 Intergovernmental Agreement on Murray-Darling Basin Reform (2008 IGA) signed by the Commonwealth and all Basin States, acknowledged that action needed to be taken to ensure the long-term environmental health of the Murray-Darling Basin and to support regional communities that depend on water and a healthy river.

Under the 2008 IGA it was agreed the Basin States would transfer limited water management powers to the Commonwealth to allow the creation of the MDBA to prepare an overall Basin Plan, create the MDB Ministerial Council, the Basin Officials Committee and the Basin Community Committee. The 2008 IGA strengthened the role of the ACCC by extending the application of the water market rules and water charge rules for the Basin and enabled the Basin Plan to provide for critical human water needs in the Murray. Additionally the States agreed to maintain contributions to the MDBA for joint natural resource management programs in the Basin and for River Murray operations.

Importantly within the 2008 IGA, the Commonwealth made key pledges relating to the provision of funding, including the commitment that:

- the Basin states would not bear any additional net costs as a consequence of implementing the Basin Plan reforms and the requirements of the Commonwealth *Water Act 2007*; and
- funding would be provided for NSW water saving infrastructure projects. For NSW, the total amount of funding available for these projects was \$1.358 billion - \$650 million for Commonwealth led irrigation company modernisation programs and \$708 million for state led projects.

To date, the Commonwealth has invested in the NSW Private Irrigators Operator Program but has provided only in-principle approval for implementation of the following NSW Government led projects:

- Irrigated Farm Modernisation - \$92 million (reduced from the original \$300 million)
- Basin Pipe - \$137 million
- Metering - \$221 million
- Healthy Floodplains - \$50 million.

NSW participation in Basin water reform

The Murray-Darling Basin (the Basin) is home to 2 million people and is Australia's most important agricultural area, producing over one third of the nation's food supply. The Basin supports extensive irrigated and rain fed agricultural and pastoral industries, providing some 40% of the nation's income from this sector. Across the Basin, a large proportion of employment is agricultural related – directly on-farm, in associated processing industries and in agricultural support businesses.

NSW comprises the largest area with 56.5% of the Basin's land area and 40% of its population. NSW contributes 58.2% of inflows, yet is responsible for only 51.4% of average water diversions. In 2005/06, a year of low water allocations, the NSW Basin produced over \$2 billion in irrigated agriculture. NSW alone produces all of the Basin's rice crop, a significant export commodity, plus almost 70% of the cotton and 77% of the wheat produced in the Basin.

While the Basin is the largest food producing region in Australia, it is also home to wetlands and floodplains of national and international significance, and iconic river systems. Fish populations in these rivers are under stress, however, they still help support a recreational fishery in NSW valued at \$530 million per annum that employs over 4,300 people. The NSW Government recognises the importance of balancing the needs of the environment with sustaining agricultural production and regional communities in the Basin.

NSW has led the way in water reform and water recovery for the environment over the past 25 years, working with communities, industry and environmental groups over a timeframe that has allowed industries and communities to adapt to changes. Water reform and recovery to-date in NSW has resulted in:

- 860 GL per year of surface water returned to the environment through Water Sharing Plans, Riverbank and The Living Murray and Snowy Initiatives.
- 942 GL reduction in groundwater entitlements in 6 major alluvial aquifers during the course of the current Water Sharing Plans
- 67 GL recovered in the Great Artesian Basin, and
- 3,582 GL in cumulative credit under the Murray Darling Basin cap on surface water diversions.

NSW was the first state to provide specific flows for the environment, to separate land and water rights, and to provide for Aboriginal commercial and cultural licences. Significant NSW water reform actions include:

- *Privatisation of government owned irrigation areas and districts* - including funding to enable the new irrigation corporations to invest in upgrading water supply infrastructure to best practice.
- *Murray Darling Basin Cap on diversions* – management arrangements to limit extractions in each river valley to 1993/4 levels of development.
- *Full cost recovery* – Since 1997, water charges have been determined by the NSW Independent Pricing and Regulatory Tribunal (IPART) for bulk water delivery and water management in NSW.
- *NSW Water Management Act 2000* – The Act was the first legislation in Australia to specify the right of the environment to a share of the available water resources as a priority.
- *Water sharing plans* – between 2004 and 2012 water sharing plans have been progressively developed for rivers and groundwater systems across NSW.
- *Aboriginal Water Trust* – In 2000, the New South Wales Government established a \$5 million Water Trust for Aboriginal people in NSW to encourage and assist Aboriginal people to enter and participate in the commercial water market.
- *Achieving sustainable groundwater entitlements* – Entitlements in the six major inland alluvial aquifer systems are being progressively reduced by 942 gigalitres over the term of water sharing plans.
- *Water recovery for the environment* – Since the early 1990s NSW has initiated or been involved in programs to recover 860 GL per year surface water for the environment and around 67 GL per year of artesian water through the Cap and Pipe the Bores program. Most of the water recovered for the environment in NSW through these initiatives was completed pre-2009 and therefore the volumes are not counted in the water recovery targets of the Basin Plan.

Development of the draft Basin Plan by MDBA

In mid 2011 the MDBA established an inter-jurisdictional working group process to communicate with Basin States on the development of the draft Plan. This followed general community opposition to the Guide to the Basin Plan which was produced without consultation with the states or the community.

Where opportunities have been available, NSW has engaged in good faith in MDBA and Commonwealth processes to develop the draft Plan and supporting Commonwealth programs. Specifically, NSW has provided access to computer models, technical support data and information to the MDBA. Additionally NSW has been involved in reviewing early drafts of the Plan with other Basin States, has provided informal comment to MDBA and has raised concerns and proposed solutions for the consideration of MDBA and the Commonwealth.

Nonetheless, NSW's input has been advisory only. The MDBA is responsible for all decisions on the content of the draft Basin Plan.

NSW objectives for the Basin Plan

The NSW Government is committed to the advancement of Basin-wide water reforms and to the objectives outlined in the 2008 IGA. To this end, NSW will continue to work with the MDBA to assist in preparing the final draft Basin Plan and ensure that it reflects the interests of both the environment and the NSW community.

In the lead up to the release of the draft Plan and throughout the consultation period, the NSW Government adopted the position that the Plan and its supporting Commonwealth programs would need to achieve the following:

- be demonstrably based on the best available science
- balance the needs of the environment, communities and economy in a triple bottom line approach
- equitably apportion water recovery for shared downstream needs between Basin States
- identify and mitigate unavoidable social and economic costs through the provision of Commonwealth funded structural adjustment packages
- be supported through a diversified recovery of water through a combination of infrastructure, environmental works and measures, rules review and buybacks
- deliver improved water management without excessive intervention or reporting requirements, and
- define clear implementation requirements for Basin States.

In addition to the above, the NSW Government has stated that the Commonwealth must meet new and extended State costs in implementing the Basin Plan. While NSW acknowledges that the development of such an agreement is separate to the work of the MDBA in developing the Plan, without such an agreement in place, NSW cannot implement the Basin Plan.

These positions were communicated to the MDBA and the Commonwealth in the *NSW Government Response to the Guide to the Proposed Basin Plan* in 2010 (Appendix C) and in numerous documents and forums in the intervening period.

Analysis against NSW objectives

This section assesses the draft Basin Plan against the NSW Government's objectives.

Best available science

CSIRO has reported that the methodology for identifying environmental water requirements and the volume of water required to meet those needs is broadly valid, though a number of environmental indicators will not be met under the proposals in the draft Plan. However, reports on environmental water requirements and the CSIRO multiple benefits project have not yet been provided or provided too late to allow NSW to validate this position. The MDBA has not provided detailed analysis that describes how the reduction amounts were quantified based on environmental outcomes, in particular the environmental objectives of the significant downstream shared reduction amount have not been defined.

While NSW acknowledges the work done to date on wetland and floodplain assets, there is a need to further define and model ecological targets and hydrological indicators for riverine assets in each NSW valley that incorporate native fish recovery requirements (over all flow metrics) in each water resource plan area to inform the final SDLs and water recovery targets for the Basin.

From a hydrological perspective, the modelling is not sufficiently accurate to adequately understand the valley scale impacts and the actual real-time capacity of river operators to deliver proposed volumes of environmental water during periods of regulated flow. Third party impacts from changed flow patterns are not identified and have not been assessed. Modelling assumptions include water management elements such as environmental water shepherding and return flow arrangements which have not been agreed.

Much of the reported modelling to assess whether the SDLs produce the desired environmental objectives use a generic approach by separating out the reduced entitlements from existing users, placing time series of environmental demands at different parts of the river system to meet environmental targets and reducing maximum crop areas so as to match targeted cuts to diversion limits. The concept of time series demands is simplistic and implies perfect knowledge of long term flow regimes which is not possible. To be implemented this would have to be captured in a rules based approach, which is likely to produce quite different results on long term diversions and irrigation reliability.

The science behind the estimates for interception SDLs is a long way behind that for the regulated river SDLs. The regulated river diversions have been developed by matching models to interdependent water balance related data and the work has been subjected to multiple independent technical reviews and accredited. However, the interception estimates are not supported by observed water balance data and have not been independently technically reviewed nor accredited.

In this context, the NSW Government cannot confirm that the draft Plan is based on best available science.

Recommendation 1 - The MDBA should release all reports and information on which the draft Plan proposals are based and allow States and communities adequate time to analyse the information and comment on how the information has contributed to draft Plan proposals.

Triple Bottom Line

Under the *Water Act 2007* (Cth), a key purpose of the Basin Plan is to provide for the use and management of Basin water resources to optimise social, economic and environmental outcomes, a position which is supported by the NSW Government. This section comments on the impacts of the draft plan in these three areas.

Environmental outcomes

Overall NSW agrees with the MDBA's approach to determining the environmental watering requirements of the key wetland and floodplain environmental assets. However, the MDBA has provided limited information to support the hydrological indicators for key ecosystem functions, particularly for riverine ecosystem functions, and how the desired ecological outcomes for these functions have been defined.

NSW notes that the MDBA and CSIRO acknowledge the proposed reduction in consumptive use of 2,750 GL/y will not achieve all the ecological targets set out by the MDBA. Whether the proportion of targets achieved in the models (about 55% according to CSIRO Review) will provide adequate environmental water to give effect to the objects of the *Water Act* including

protecting and restoring Wetlands of International Importance (Ramsar wetlands), protecting and recovering threatened species listed under Commonwealth and State legislation and other key assets, is not clear from the information provided by the MDBA to date.

Nonetheless, based on NSW's recent experience in managing increased volumes of environmental water to assets such as in the Macquarie and Murrumbidgee valleys in particular, it is likely that there will be measurable ecological benefits from recovering and managing additional water for the environment. NSW considers that the ecological benefits of a reduction in water extractions of 2750 GL/y from the BDL are likely to be realised in wetland, floodplain and riparian communities that are most closely connected to the rivers. Improvements will also be possible in the frequency of breeding events in key waterbird breeding sites in the Macquarie Marshes, Lowbidgee and Narran systems, based on our existing approach and successes with managing environmental water. Likewise, in Yanga National Park, increased inundation extent will enhance conditions for the endangered southern bell frogs.

However, a key concern is the lack of consideration given to native fish, in particular threatened native fish species, populations and communities as assets with environmental water requirements. The 2008 Sustainable Rivers Audit confirmed the poor condition of fish populations across much of the Basin. The MDBA should define ecological targets and hydrological indicators and undertake hydrological modelling for aquatic ecosystem outcomes in each water resource plan area. The Environmental Water Requirements reports for several key wetland sites released by the MDBA late in the consultation period do not address primary fish related targets and outcomes.

To recover endangered communities of native fish, a greater focus will be required on recovering and managing water entitlements that contribute to maintenance of drought refugia, base and low flow management and restoration of natural spawning and movement cues to maintain aquatic ecosystem health. This will need to include consideration in water recovery strategies of a range of entitlement types, such as unregulated river flows, higher security entitlements and temporary trades, as well as examination of improved environmental flow rules and environmental water management during no and low flow periods.

NSW has achieved positive environmental outcomes in managing licence entitlements for the environment in combination with planned environmental water through our water sharing plans. However, NSW does not consider a purely market driven approach to recovery is effective to meet environmental water requirements within delivery and river system constraints and licence constraints. A broader approach to water management is required to be developed in consultation with States and local communities to examine how to best deliver environmental outcomes including how much water recovery is required.

Recommendation 2 - The basis for SDL and recovery figures should be demonstrated transparently through an MDBA-lead process of identifying environmental outcomes to be achieved across the full range of environmental indicators, with State and community input following provision of all key reports.

Social and economic outcomes

NSW is aware that a healthy Basin will offer economic benefits to Basin communities. For example native fisheries in the Basin support a recreational fishing industry and associated tourism worth an estimated \$1.3 billion and 10,950 jobs in the Basin and \$530 million in NSW¹.

NSW is also aware that poorly handled water recovery will result in adverse transitional impacts to certain community types as outlined below. It is essential that adverse socioeconomic impacts that may occur as a result of the implementation of the Basin Plan are acknowledged and addressed by both the MDBA and the Commonwealth.

Presently rural and regional communities in NSW are experiencing a number of socio-economic trends, including:

- migration of skilled and younger workers from smaller rural communities to larger regional centres;
- changes to employment as industry adapts to reduced water availability;
- slower rates of economic growth in smaller rural towns compared with regional hubs;
- greater concentrations of economic diversity within regional hubs; and
- greater socio-economic opportunities, including jobs, education and services, within more populous regional centres.

¹ Ernst and Young (2011) Economic contribution of recreational fishing in the Murray Darling Basin. Report prepared for the Victorian Department of Primary Industries, 16pp.

Socioeconomic studies have found that at both the Basin and regional scale and in the longer term, the impacts of the Basin Plan would be limited, and would reinforce existing patterns rather than introduce new trends to most Basin communities. However assessing impacts at this scale does not recognise the transitional impacts on particular community types and also does not recognise sub-regional impacts, for example where small towns lose population due to loss of employment opportunities.

The NSW Government understands that the impacts of the proposals in the draft Plan will vary in severity across the Basin. In the short-term (0-5 years), a number of community types within the NSW Basin, particularly those with smaller populations and undiversified economies that are dependent on irrigated agriculture, will be exposed to more immediate adverse impacts as reduced water for production cause changes to industry, employment and consequently local demographics. Small southern NSW irrigation-dependent towns are considered most likely to be vulnerable to the draft Plan's recovery proposals. These communities have an intrinsic human and historic value which needs to be recognised.

The MDBA reports that social and economic impacts were addressed by opting for the lower range of water recovery for environmental needs identified in the Guide to the Proposed Basin Plan. NSW is concerned that allocating a considerable volume of water recovery to the downstream share creates challenges in predicting where impacts from implementation of the Basin Plan will be felt. This in turn inhibits the development of effective adjustment or support programs. It generates an unacceptable level of uncertainty for regional communities as a disproportionately large volume may be recovered from any location.

Stakeholders reported the following concerns to the NSW Government during the MDBA's consultation period:

- Depressed asset values in particular property values in irrigation-dependent towns in southern NSW.
- Reduced business confidence due to potential Basin Plan impacts, including cancellation of an investment project in Deniliquin reportedly due to uncertainty of the Basin Plan;
- Banks and investors reportedly withholding finance for farm investment proposals.
- Demographic changes due to reduced employment opportunities, resulting in greater welfare dependency, lower spending power impacting shops and businesses.
- Smaller towns losing populations as people move to seek work, with flow on effects to schools as student numbers and community life for young people is reduced.
- Reduced diversity of community life affecting the ability of towns to recruit professionals such as teachers and doctors.

Further information on concerns raised by NSW stakeholders are outlined in Appendix B. The NSW Government will continue to work cooperatively with local communities and the MDBA to ensure that local issues and concerns are addressed.

The NSW Government may have to change the way that services are delivered to these communities, particularly to more vulnerable groups including the elderly, people with a disability and Aboriginal communities who remain in communities which experience economic and employment decline. Changes to service delivery models may include providing greater outreach services to regional communities and providing greater support to regional hubs which may experience a small increase in population as members of more remote communities move towards greater employment and service opportunities in regional centres.

In addition, while the social and economic work by the MDBA has progressed, the following gaps and concerns remain:

- The modelling assumptions for social and economic impacts are flawed. For example, assumptions regarding agricultural mobility underestimate the capacity and cost of change.
- A social and economic monitoring program has not been developed to allow impacts to be identified and addressed in the future.
- The baseline for all socio-economic studies needs to be specified and include impacts arising during the Plan development process.
- Impacts during dry and wet sequences beyond the 'average year' are not considered
- Benefits and impacts need to be recognised at water resource plan level scale
- Need to include analysis of impacts of including interception activities within the water entitlement system
- Need to assess the implications of potential water trading behaviour of Commonwealth Environmental Water Holder as the future dominant water market player

- Coordinated Commonwealth approach is required for structural adjustment to assist affected communities' transition to lower water availability
- A strategy for indigenous issues is required.

NSW notes, and is supportive of, the MDBA's commitment to continue to refine and improve its economic modelling as new knowledge becomes available.² Furthermore, NSW suggests that the outcomes of this monitoring program be used to direct the provision of Commonwealth structural adjustment support.

The MDBA has not developed its regulation impact statement (RIS) as required by the Commonwealth. The RIS should reflect the costs and impacts of the Basin Plan, including broader costs imposed on industry and communities at an appropriate scale to recognise local and transitional impacts.

Recommendation 3 - The MDBA needs to publish its RIS identifying costs of implementation of the Plan and broader costs to community and industry at an appropriate scale to recognise local and transitional impacts.

Recommendation 4 - The Commonwealth must confirm its mechanism to deliver its commitment to Basin communities to provide structural adjustment assistance.

Recommendation 5 - MDBA should continue to refine its socio-economic assessments and the Commonwealth should apply the findings from these refined studies to direct the provision of structural adjustment assistance.

Recommendation 6 - A Commonwealth funded socio-economic monitoring study be established to ensure the actual effects of the Plan can be measured across the life of the Plan.

Recommendation 7 - The MDBA should retain SDL volumes in the final Plan in order to enhance certainty for regional communities, but these need further justification and consultation with communities.

Structural adjustment for communities

The Commonwealth has yet to acknowledge potential impacts of the proposals in the draft Plan and has not developed a strategy to support communities to adjust to change.

Regional NSW stakeholders have expressed a preference for a range of support measures adapted to specific local requirements, including:

- Re-direction of the majority of Commonwealth purchase funding to infrastructure and water efficiency projects
- Cross-portfolio policy and program support to enhance the sustainability and competitiveness of existing industry in the Basin.
- Social support packages including health, education and other welfare and community development initiatives identified to support impacted communities to adjust to change.
- Broad economic stimulus activities including regional development project funding.
- Funding for projects to achieve environmental outcomes beyond water recovery such as improved land management practices or riverine rehabilitation initiatives.

Recommendation 8 - The Commonwealth must develop a cross-Departmental adjustment package to support Basin communities. The adjustment package can include economic diversification proposals and should also canvass measures to enhance the sustainability of existing industries, provide social support and provide funding for projects across the Basin which achieve environmental outcomes through measures beyond water recovery.

Equitable State share of water recovery

The MDBA has stated that specifying the shared downstream reduction as a volume allows market forces to determine where water is recovered from.

NSW is concerned at the lack of information on what the downstream requirements are designed to achieve and why the proportion of reductions now attributed to the downstream component has substantially increased since the numbers provided in the Guide. In particular NSW is concerned that there is not a free market for water trade in the Basin and with the downstream recovery set as a shared volume, NSW will bear the major proportion of the downstream recovery under licence buybacks.

² MDBA Socioeconomic analysis and the draft Plan, page 55, paragraph 3.7

NSW irrigation entitlements are predominantly general security entitlements for annual cropping, where allocations are matched with water availability. If allocations are low, general security users reduce their plantings accordingly. In contrast irrigated agriculture in South Australia and Victoria is predominantly high security permanent plantings to support fruit and vines and the dairy industry which involve expensive establishment costs, long lead times and require consistent volumes of water every year or the trees and vines can become irreparably stressed.

In addition while NSW water delivery and management charges are based on cost recovery consistent with the National Water Initiative, other States do not impose the same level of charges. This distorts the market leading to a situation where NSW general security water, which is best suited to climate variability, is easier and cheaper to purchase. There have already been instances where irrigators in more efficient modernised irrigation systems in NSW have sold water entitlements while irrigators in less efficient systems have retained their entitlements.

Prior to NSW imposing an embargo on Commonwealth purchases in 2009 which was replaced by annual limits on Commonwealth purchases, 97% of the Commonwealth's licence purchases for the Basin were from NSW. In this context, it is likely that the Commonwealth will seek to recover water entitlements through buybacks from NSW if the final Basin Plan does not require an equitable State share.

However if the Commonwealth commits to other means to meet the downstream shared reduction then the recovery can be achieved where best meets environmental needs, with neutral or positive impact on industries and the community.

Recommendation 9 - The Basin Plan must clarify the intent of the downstream shared reduction and must equitably distribute the downstream share between Basin States and catchments, if this is to be achieved through water licence purchase.

Diversified water recovery

Prioritise recovery via infrastructure and other measures

The NSW Government and communities require a focus on water recovery through infrastructure projects such as the NSW State Priority Projects, other industry water efficiency projects and environmental works and measures projects which could potentially achieve environmental outcomes with less water. The benefit of recovering water through these means is that productivity is maintained, water is recovered for the environment and there is regional economic stimulus through the construction process. There is also a legitimate possibility that river operations and water management rules in some instances may be an impediment to achieving environmental outcomes. NSW supports a review of river operations and water management rules to achieve improved efficiency at least cost to communities and industry.

While buybacks and infrastructure investment are acknowledged through the management objectives and the draft Plan does allow for the specification of environmental water recovery recommendations, it contains no mechanism to prioritise water recovery from infrastructure or environmental works, or to implement the Commonwealth commitment to bridge the gap. Should the Commonwealth fail to bridge the gap, the draft Plan requires the SDLs to be met through State water resource plans.

The short timeframe required for meeting the SDLs at present in the draft Plan is driving a continued focus on recovery of water through licence purchase. The Commonwealth has not developed a water recovery strategy despite this being a commitment following the *Windsor Inquiry into the impacts of the Guide to the Basin Plan*.

NSW requires that priority be given to infrastructure, environmental works and measures, system and operations rules reviews and strategic purchase recovery which should be defined in the final Basin Plan to include: the retirement of less efficient systems, purchased recovery that works in conjunction with infrastructure improvements in other areas, and focuses on water delivery efficiency. Considerations about the delivery of environmental water should allow for input from Basin States and communities.

Recommendation 10 - The Basin Plan should require priority on recovery of water to meet the SDLs via infrastructure and environmental works and measures and SDL offsets that could be achieved through a review of rules and operations undertaken with genuine State and community engagement.

Water recovery by purchase

Concerns about the Commonwealth's open water licence purchase process were reported in the Commonwealth's Windsor Inquiry, which in June 2011 recommended a halt to all non-strategic water licence purchases by the Commonwealth. The Inquiry recommended that the Commonwealth target purchases where the highest environmental outcomes and lowest possible impact on communities will be achieved.

While the Commonwealth in its response to the Windsor Inquiry at the end of last year agreed to halt any further non-strategic purchases in the southern basin until 2013, it is of concern to NSW that the Commonwealth announced a further broad scale tender in the southern basin in February 2012 and the Commonwealth's water recovery strategy through investment in infrastructure in NSW has not progressed.

NSW considers that environmental water should be obtained at locations and in quantities that would allow it to be used most effectively to support specific environmental assets. The impacts of market-driven open tenders for water licence acquisition by the Commonwealth are well documented. These include infrastructure assets being stranded as surrounding licences are bought out, flow on effects to downstream industries, recovery of entitlements which do not address environmental water requirements or that may be undeliverable through system constraints.

NSW proposes that the Commonwealth commit to no further licence buybacks until other means of meeting the SDLs such as infrastructure works, efficiencies and a review of rules and operations have been exhausted. Once all other appropriate measures have been implemented, the Commonwealth water recovery through licence purchase should then be capped at 3% cap of the baseline diversion limit per ten year period per valley to allow communities to adjust. The 3% cap per ten years is consistent with the underlying basis of the risk assignment framework in the National Water Initiative which acknowledges that 3% reduction in water availability over 10 years was a reasonable level of adjustment that the irrigation industry and associated businesses could bear.

However strategic purchases conducted in consultation with local communities and with the agreement of the NSW Government may occur at any time. Genuinely strategic licence buybacks designed to meet specific environmental outcomes, can be undertaken in a manner which meets environmental needs with reduced impacts on communities and industry and improved water delivery outcomes. For example, retirement of a branch of an irrigation area or supply system.

In terms of timing to meet the SDLs, the NSW proposal should still allow the northern NSW Basin SDLs to be met within the ten years of a Basin Plan. However in the southern NSW Basin, a significantly greater volume of water is still to be recovered and so the NSW proposal will require a longer period before the SDLs should be implemented.

The Commonwealth should also honour its commitment that there will be no compulsory acquisition of water entitlements to meet the SDLs. Similarly the acquisition of land or easements to enable the delivery of environmental flows should be voluntary or through negotiation.

Recommendation 11 – The Basin Plan should include no further Commonwealth licence buybacks until the States are satisfied that the Commonwealth has implemented and exhausted all infrastructure works, efficiencies and other means to deliver water for the environment.

Recommendation 12 - The Basin Plan should state that, once States have agreed that water savings through other means outlined above have been exhausted, purchase of licensed entitlements by the Commonwealth can resume, capped at a maximum of 3% of current extraction limits per decade per water resource plan area, except where a State agrees that purchase in excess of 3% will provide significant environmental benefits with minimal social and economic impacts.

Recommendation 13 – The Basin Plan should allow strategic buyback for specific environmental outcomes, where proposals have been developed in consultation with the community and agreed by the State.

Recommendation 14 – The Commonwealth should reiterate its commitment that there will be no compulsory acquisition of water entitlements to meet the SDLs and any acquisition of land or easements to enable the delivery of environmental flows will be voluntary or through negotiation with landholders.

State implementation requirements and costs

The draft Plan will require changes to the way in which water management decisions are made in NSW. The draft Plan requires NSW to regulate a large number of new and extended activities. It also contains some very prescriptive requirements, particularly in relation to water resource plans, but without the necessary guidelines to clarify what will be required.

Some of the new obligations that will apply to NSW decision-makers are expressed in broad terms and the draft Plan provides little guidance about how they are to be implemented. The next section outlines the key areas of concern.

If NSW agencies fail to comply with these new requirements, they will be at risk of enforcement action under the Commonwealth *Water Act 2007*. The Act requires an agency of a Basin State must not act inconsistently with the Basin Plan or a Water Resource Plan accredited under the Basin Plan.

It is important that NSW be appropriately resourced so that it is in a position to meet the new obligations arising from the Basin Plan and accredited water resource plans. The MDBA has not prepared its Regulation Impact Statement (RIS) required to identify the costs and impacts of the draft Plan including State implementation costs. This needs to be developed with State input as a matter of urgency.

The 2008 IGA sets in place a no net costs arrangement between the Commonwealth and Basin States. This expires in 2015 and States have not been successful in recouping their costs to date. Without the development of a new Agreement to put in place a more responsive process for Basin States to recover costs, NSW will not be able to implement the Basin Plan. A new funding Agreement needs to be in place prior to the final draft Plan being provided to Ministerial Council for comment.

NSW is concerned that there is currently no process to link the MDBA's RIS, when developed, with the required new agreement for the Commonwealth to fund State's implementation costs.

As such the Plan presents an unacceptable cost risk to the NSW government and a consequent risk that cost of delivery will be passed on to NSW water users.

Recommendation 15 - All obligations on Basin States should be clearly articulated in the Basin Plan.

Recommendation 16 - The MDBA's must complete its RIS to identify the costs to NSW of implementing the final draft Plan's requirements. The RIS must to be provided to Ministerial Council with the final draft Plan.

Recommendation 17 - The Commonwealth and NSW must have in place a workable agreement for Commonwealth upfront funding of new or extended costs for NSW for the life of the Plan. This agreement needs to be complete when the final draft Plan is provided to Ministerial Council for comment.

Additional detailed analysis

This section provides specific comment on technical aspects of the draft Plan's chapters.

Risk management

Chapter 4 requires the MDBA to 'have regard to' risk management strategies in its functions and requires the States to prepare its water resource plans having regard to these strategies.

The key concern is the clause allowing the MDBA publish, review and update at any time, guidelines setting out actions that may be taken in relation to the implementation of risk management strategies.

While the MDBA has stated that the Commonwealth's rules regarding guidelines may result in many of these guidelines being non-mandatory, the draft Plan requires States to 'have regard to' any guidelines and in many cases will review how States have done so in assessing compliance. It is not clear how the requirement to 'have regard to' guidelines will be considered to have been met.

Recommendation 18 - Risk management strategies need to be clearly defined.

Water that can be taken

Chapter 6 in the draft Plan outlines water that may be taken for extractive purposes:

- Surface Water SDL Resource Units that generally align with major NSW river valleys
- Baseline Diversion Limits (BDLs) that are defined as the allowable long-term average diversions as at June 2009 for each Unit (with some exceptions)
- Sustainable diversion limits (SDLs) that are defined as the BDLs less a fixed volume (local reduction amount) and in most areas also less an unspecified portion of a "shared reduction amount", and
- Two "shared reduction amounts", one for the northern Basin and one for the southern Basin, and the valleys from which each of these reductions could be sourced.

Surface water sustainable diversion limits

Concerns over the lack of a transparent basis to justify the SDLs are outlined in *Environmental outcomes* above. This section describes more specific implementation issues associated with the SDLs.

Water entitlements purchased by the Commonwealth or saved through infrastructure projects will be converted to long-term equivalent volumes for the purpose of determining how much of the reduction amounts have been achieved. These factors are not described in the draft Basin Plan, and can only be calculated from the Commonwealth's website.

Modelling of the SDLs may indicate water recovery that differs from that used to calculate "bridging the gap" (multiplying the recovered entitlements by factors). The MDBA has informally stated that this would not constitute SDL non-compliance. This inconsistency needs to be rectified in the final Basin Plan.

Having a large shared downstream component may be too uncertain to meet the requirements of the *Water Act*. For NSW to support the final Basin Plan it must clarify that this proposal does not require NSW to determine the volume of downstream contribution through the State water resource plan process if the Commonwealth fails to "bridge the gap".

Annual accounting of compliance with SDLs is also a concern. The proposed limit of 20% on debits for the annual accounting of the long-term average diversion limit may be too low. This is the current threshold for the Cap process, where modelling is based on 1993/94 levels of development. However, modelling of the BDL (and hence the SDL reductions) under the Basin Plan will be complicated by the purchase of entitlements and the difficulty in representing both the actual reduction in consumptive water use, and the new environmental uses that these entitlements will be used for.

Current water sharing plans for regulated river systems test compliance with diversion limits by updating modelled long-term diversions each year and comparing them to the relevant long-term diversion limit. Instead, the draft Plan requires the "annual expression of the long-term annual diversion limit" to be used. The MDBA has disputed the value of the long-term modelling approach, and the draft Plan does not specify or give guidance on what would constitute a "reasonable excuse" for exceeding

the 20% threshold for debits. Similarly, the Basin Plan does not prescribe the actions that would be taken by the Authority in the event of a finding of non-compliance, other than it may use its powers under the *Water Act*.

The MDBA has not provided modelling and environmental water needs reports in adequate time for NSW to undertake a comprehensive review of these. However concerns have been noted in a number of areas which highlight the need for a thorough review of the basis of the SDLs before finalising the Basin Plan.

Basis for environmental water requirements - NSW notes that the environmental water requirements specified in the Environmentally Sustainable Level of Take report do not appear to have addressed the water needs of native fish based on information provided to date.

Condamine-Balonne - NSW is concerned that there has been no independent review of the proposed changes to the Condamine–Balonne SDL which was increased by 50 GLs just before the draft Plan was released in November 2011. Analysis by NSW shows that the change in the modelled SDL reduction from 2800 GL/y to 2750 GL/y may present a risk to the Narran Lakes Ramsar site at low flows by impacting the maintenance of drought refugia and the recovery of threatened native fish including the Murray cod (listed under Commonwealth legislation), and the lowland Darling River endangered aquatic ecological community.

Murray River – MDBA has confirmed that the draft Plan's stated in-valley reduction for in the NSW Murray Valley is not actually required for the local environmental water requirements in the NSW Murray River reach to which the reduction is applied. Rather the reduction is a pro-rata share of in-valley needs of the Murray River as a whole. NSW position is that reductions to meet local needs should be for local requirements.

Recommendation 19 - The MDBA must provide guidance for what will be considered a 'reasonable excuse' to exceed the SDL by more than the 20% tolerance and confirm its dispute resolution procedure.

Recommendation 20 - The Basin Plan modelling of SDL must align with Commonwealth methodology to calculate 'bridging the gap'.

Recommendation 21 - The MDBA in validating its SDLs needs to ensure that local reduction volumes reflect the reductions required to meet the needs of environmental assets and values in the specific water resource plan area that the reduction applies.

Groundwater SDLs

NSW recognises that the draft Plan has adopted most, but not all, of the NSW groundwater source boundaries and definitions. The remaining differences in management units between the draft Plan and NSW water sharing plans have implications for NSW management of data and reporting, in particular in accounting for take from buried water sources in areas not recognised by the Murray Darling Basin Plan, and for trading of groundwater rights between systems.

Additional growth in use allowed in groundwater systems from the Guide has attracted some public perceptions that this will impact on water available in linked surface water systems. In NSW the increased groundwater SDLs applied only to these predominantly brackish to saline groundwater systems that are not closely connected to surface water resources. Variation between the groundwater SDLs in the Guide and those in the draft Plan can be categorised as follows.

- **Groundwater Management Units (GMUs) that have had entitlements reduced under the Achieving Sustainable Groundwater Entitlements (ASGE) program.**
The extraction limits agreed to by the Commonwealth under the NSW water sharing plans and the ASGE program have been recognised by the MDBA (i.e. a combined increase of 149 GL from the Guide SDLs to the draft Plan SDLs across 7 SDL areas).
- **GMUs that form part of large regional fold belts.**
The Guide initially set the SDL at 60% of entitlements even though the MDBA's recharge assessment method indicated that significantly higher volumes could be extracted sustainably. The draft plan has revised these limits to include all entitlement and estimated stock and domestic requirements and 50% of the unassigned water under the MDBA's sustainability assessment. This is a combined increase of 546 GL across 10 SDL units. Published work referenced in the Guide to the proposed Basin Plan and rules in the NSW water sharing plans indicate that the additional pumping will have minimal impact on stream flow and duration.
- **GMUs that are part of large sedimentary basins.**
The Guide did not include the buried water sources of the Gunnedah-Oxley Basin (i.e.>200m) and the Oaklands Basin. Incorporating these 2 SDL units into the draft plan increases groundwater SDLs by 302 GL. An increase of 155 GL for the Western Porous Rock SDL unit reflects the recognition of unassigned water in this SDL unit and the saline nature of the groundwater.

For further information on the Long Term Average Annual Extraction Limit for the Lachlan Fold Belt MDB and the Western Murray Porous Rock Water Sources, see Appendix D.

Variations in other groundwater SDL units are generally minor and reflect variations in usage estimates. This includes the Lower Murray (Shallow) that has an SDL of 42 GL that reflects the pumping for water table control that had not previously been quantified.

Recommendation 22 - Groundwater management areas in the Basin Plan should be consistent with NSW water sharing plans.

Baseline diversion limits

The Baseline Diversion Limit (BDL) figures and formula in the draft Plan are not accurate. The modelling to calculate the BDL uses data from 2002 and does not include all water uses in some areas. The BDL figures also draw interception volumes derived from data sources that have a very low level of confidence.

In unregulated river systems the following have been excluded from the BDL:

- Town water supply extractions
- Special area licences
- Use under consideration by the Anomalies Committee (water use that is the process of being converted from area based licences to volumetric entitlements)
- Dual frontage licences (applies to approx 200 licences, generally large industrial users)
- Other purposes such as industrial, mining, recreational, stock and domestic and farming

In some valleys the results of including these uses will be small but in the northern valleys these may be significant.

An additional concern is that the formula for establishing BDLs in Schedule 3 is drafted in a way that will lead to unintended outcomes. The formula appears to require that historical infrastructure and cropping patterns are to be considered. The outcome of such a calculation will be a long-term annual average limit that is far less than what would have been taken in 2009 under the range of historical climate conditions. The subclause should be redrafted to assume 2009 State water management law and 2009 levels of development.

Recommendation 23 - The BDL methodology must be revised and be agreed with Basin States.

Interception

The SDL estimates of interception take have not been substantiated and the inclusion of these estimates within the SDLs requires jurisdictions to incorporate and manage farm dams and plantations within the formal water accounting-entitlement framework. This requires a more accurate account of interception activities in NSW which will result in changes to the BDL and will require the development of sophisticated models, monitoring and evaluation protocols, field validation activities, enhanced hydrometric services, staff and resources.

Estimates of take for basic rights, runoff dams and commercial plantations are highly uncertain in the draft Basin Plan. There is no acknowledgement of interception take from groundwater sources and a double counting of interception with licensed forms of take from unregulated rivers. Uncertainties such as these could impact significantly on licence holders due to the offsetting requirements within the Basin Plan to manage to a SDL.

The CSIRO Murray Darling Basin Sustained Yields project determined interception growth to be about 1% over 25 years, 0.7% volumetrically from farm dams. Further analysis undertaken in NSW have concluded that the projected volumetric growth is half that reported by CSIRO. On this basis NSW is looking at 0.1-0.3% over 25 years or 0.05% to 0.1% over a decade.

The 2008 NSW Assessment of Risk to NSW MDB Water Resources (reviewed by the MDB Independent Audit Group) concluded the level of risk from farm dams, plantation forests and groundwater usage are individually each less than 1% of water availability and thus do not present a compelling case to change policy on their management. Despite these findings, the draft Plan requires the State to increase its management of these impacts without demonstrating that they present a significant risk to Basin and valley hydrology.

Further the current Murray-Darling Basin 'Sustainable Rivers Audit' of the hydrologic stress index for unregulated rivers indicates that the clearing of native vegetation (which has increased surface flows) has all but negated the impacts of farm dams (which reduce flows) on basin hydrology, and that all the unregulated headwater streams are in good condition hydrologically.

The draft Basin Plan also seeks to impose separate limits for forms of interception take within a water resource plan area. This has no clear natural resource management objective and unnecessarily increases regulatory oversight.

Landscape management practices such as soil conservation farming systems and environmental plantings may have a cumulatively greater interception impact on surface hydrology than the identified activities within the draft Plan however no recognition has been given to this. Nor has there been an assessment at Valley scale of interception activities to substantiate the requirement to regulate some activities over others.

The draft Plan does not:

- define a methodology for assessing and defining a significant level of interception, nor has it defined the monitoring and accounting methodology. This lack of guidance within the Basin Plan will increase costs on NSW to determine an agreed approach.
- undertake an accurate assessment of water interception activities and assessed growth trends and risk quantification.
- provide clarity as to what would be required to be in compliance with many of the rules.
- take into account the transaction costs of managing interception which may exceed the value of formally including interception activities in water resources plans.
- clarify the inter-play between other Basin Plan requirements (e.g. water quality measures) and how they should be managed.
- address the conflict between allowing for growth in interception activities and the planning framework which is concerned with managing all forms of take to an overall limit.
- clarify the benefits of managing interception by class or family .

Recommendation 24 - The interception requirements of the Basin Plan need to be reviewed in consideration of extent of the issue and cost of implementation. Estimates for interception SDLs should not be provided until there are credible estimates available.

Climate change

The *Water Act* requires the Basin Plan to identify the risks to the availability of Basin water resources that arise from the effects of climate change. A number of sections in the draft Plan express future intention to adapt to climate change impacts, including improving knowledge; ensuring water dependent ecosystems are resilient to climate change and considering changes to water resource plans if scientific information suggest a change in likelihood of extreme dry events.

The MDBA Research Program is not currently focused on achieving water resource management changes from potential climate change. NSW is concerned that MDBA's research program has not yet been able to inform the Basin Plan.

Climate change has not been explicitly included as a matter to consider in the Basin Plan's 2015 review. NSW asks that the MDBA clarify how climate change will be accounted for in future reviews.

It is also unclear whether the impacts of changes to SDLs in response to climate change information will be shared between extractive users and the environment. Further, any future SDL reductions attributed to climate change may be judged non-compensable.

Recommendation 25 - The process for considering climate change needs to be clearly defined in the Basin Plan.

Proposed review of SDLs in 2015

The draft Plan requires the MDBA to undertake a review of SDLs in 2015, to inform any amendments to the Basin Plan to be made by June 2017. The draft Plan requires the review to take into account all relevant information and be undertaken in consultation with Basin States and the community.

As the MDBA intends to finalise the Plan in late 2012, it is unlikely that sufficient new information will be available by 2015, less than three years later, to justify revision of the long term average SDLs. The inclusion of the 2015 review implies that the MDBA has not adequately considered all information or adequately consulted with States and communities in developing the SDLs in the draft Plan. It also introduces an added layer of uncertainty for communities. As noted above, the MDBA should verify the SDL based on best available information before the final draft Plan is provided to Ministerial Council.

The *Water Act* outlines a regular review process which can be applied.

Recommendation 26- The 2015 SDL review should be removed from the Basin Plan.

Recommendation 27 - The MDBA should outline the scope for future reviews which will be undertaken through the review timeframes outlined in the Water Act, including adaptive management options if monitoring shows that changes to the Basin Plan are needed over the life of the Plan.

Timeframe to meet SDLs

The Basin Plan was conceived during the worst drought on record and in the context of growing recognition of climate change. Since the making of the *Water Act*, which outlines the basis and content of the Basin Plan, the drought has been broken by three years of floods. The recent wet years do not change the NSW Government position that continued progress needs to be made towards developing a more sustainable Basin in the long-term. However, the presence of large volumes of water in the system through natural floods gives the Commonwealth and Basin States more time to better determine the right SDLs, to define the balance and put in place processes to explore options to achieve environmental outcomes at reduced social and economic cost.

Regional communities in the NSW Basin are currently in a phase of recovery following the drought. The process of recovery has also been impacted upon by widespread flooding throughout the NSW Murray-Darling Basin, in many instances the highest levels since major flooding in 1974. In this recovery phase, farmers and irrigation dependent industries have sought to invest to rebuild infrastructure and stock levels, and require a period of relative stability in order to repay debt built up during the drought and the additional investment period following the drought.

The draft Plan requires water resource plans to implement the SDLs by 1 July 2019. The MDBA has recognised water recovery undertaken since 2009, and consider that an additional 1468 GL per year reduction will still need to be achieved. If the MDBA meets its proposed timeframe and the Basin Plan is made at the end of 2012, this leaves a maximum of six and a half years to achieve the balance of recovery.

Southern NSW catchments such as the NSW Murray and Murrumbidgee still face significant reductions in water availability to meet the SDLs. A longer timeframe than 2019 is required to allow communities to prepare and adjust, allow infrastructure projects to realise savings, and water users to invest in water efficiency and recover the cost of this investment.

There is also a legitimate concern that the Commonwealth needs more time to develop its environmental watering management framework. This will ensure the Commonwealth is able to manage the substantial volumes of water it has already acquired and to better understand delivery constraints before acquiring additional licences. Management plans need to be developed to ensure delivery of Commonwealth held environmental water addresses environmental outcomes and does not have unintended third party impacts.

Recommendation 28 - The MDBA must amend the draft Plan to allow a more flexible schedule to achieve SDLs in accordance with the NSW water recovery proposal.

Recommendation 29 - The Commonwealth should recover water in a measured schedule that is in keeping with its capacity to manage the water for environmental outcomes and deliver it without third party impacts.

Environmental watering plan

Chapter 7 of the draft Basin Plan proposes an environmental management framework that will promote improved cooperation between the managers of environmental water and the owners of environmental assets. The framework is generally consistent with existing approaches to managing environmental water, but will require additional resources to ensure that it can be implemented in a reasonable timeframe.

NSW concerns about particular details of the framework are as follows:

- The criteria for identifying priority environmental assets and ecosystem functions are generally reasonable, but guidelines are needed to ensure consistency in their application.
- The methods for identifying priority environmental assets and ecosystem functions are too rigid. The methods should be more flexible to, for example, allow a State to carry out the steps in a different order or be able to take account of work that has already been done to identify environmental assets and their water requirements.
- Guidelines for the implementation of Chapter 7 should elaborate on the range of methods that can be applied to environmental watering plans and annual watering priorities
- A process is needed for resolving inter-jurisdictional issues with long-term watering plans either, within the Basin Plan or otherwise agreed with jurisdictions, including inter-jurisdictional representation on relevant planning committees.
- Apart from outlining general principles, Chapter 7 gives no guidance as to how decisions on the Basin annual environmental watering priorities will be made. All Basin jurisdictions should be involved in determining how the Basin annual priorities are determined, especially how the Basin-wide and local annual priorities will interact.

- If a person undertakes environmental watering other than in accordance with Basin annual environmental watering priorities, or acquires a water access right for the purposes of environmental watering otherwise than in accordance with the MDBA's environmental water recovery recommendations, that person must give a statement of reasons to the MDBA. These obligations are very broadly cast, go beyond what is required by the *Water Act* and may compromise State and local environmental watering decisions.

Recommendation 30 - Any Guidelines which will influence the development of long-term environmental watering plans and annual priorities should be prepared in consultation with Basin States before those processes are required to be implemented.

Recommendation 31 - Chapter 7 should be amended to provide more flexibility to Basin States in their approaches to preparation of long-term watering plans.

Recommendation 32 - The MDBA should explain the mechanisms for resolving inter-jurisdictional issues concerning long-term watering plans and Basin annual watering priorities.

Recommendation 33 - The reporting requirements where Basin annual environmental watering priorities are not followed and where acquisition of a water access right is not consistent with the environmental water recovery recommendations should be removed.

Water quality and salinity management

Chapter 8 of the draft Plan covers the main elements supporting the requirement for Water Quality Management Plans as part of jurisdictional water resource plans. It describes the key causes of water quality degradation in the Basin and outlines water quality objectives and targets for Basin water resources.

The draft Plan includes a note referencing the National Water Quality Management Strategy. However it fails to adopt consistent terminology in relation to the meaning of targets / objectives and ecosystem types, and environmental values for the Basin are not identified. There is no reference here to the Basin Salinity Management Strategy (Schedule B of the *Water Act*). NSW believes that the Basin Salinity Management Strategy has fundamentally driven the management of salinity in the Basin, and should be prominently recognised in the Basin Plan.

While some of the key causes of water quality degradation relate to water management concerns, many water quality issues are driven by landscape management practices which are beyond the scope of the *Water Act* and the Basin Plan. In addition some water quality issues occur coincidentally with periods of very low water availability during droughts. In these circumstances, serious tradeoffs between the level of water quality risk, and the threats posed to very limited water supply need to be considered. In these circumstances, it may not be possible to address water quality targets. The Basin Plan should acknowledge that water quality is one of a range of issues to be considered when making flow management decisions, and that a cost-benefit assessment can help to guide water management decisions, which may involve tradeoffs or decisions not to attempt to influence water quality outcomes.

In terms of the key causes of water quality degradation, the draft Plan identifies "failure to prevent" sediments, pathogens and nutrients from a range of sources entering Basin water resources as a key cause of water quality degradation. This is a value judgement about a range of natural processes over which there is limited control. The Plan should simply acknowledge the causes without reference to 'failure to prevent'.

The draft Plan sets a salt-load target of 2 million tonnes per year of salt from the Murray system into the ocean. There is no information on how this target was derived. Principles embodied in the Basin Salinity Management Strategy around "Living with salt" provide the opportunity to dispose of salt from the Basin at various times when Basin assets and values are not under threat. Exceedances and seasonal variances must be part of any operational targets specification, to enable a pragmatic approach to managing salinity. NSW regards the salt load "target" is no more than a performance indicator for salinity management in the Basin, and not a target. NSW queries whether this salinity "target" is a vehicle to require increasing flows through to the Lower Lakes in South Australia.

The draft Plan identifies water quality targets to inform the development of measures in water resource plans. However, targets cannot inform operational decisions easily without a large knowledge and information base underpinning a predictive capacity to evaluate the implications of operational alternatives. In many circumstances (particularly with unregulated systems) there are no 'operational' levers which can be applied to activate flow management decisions for water quality outcomes. NSW advocates trials of Water Quality Management Plans (looking retrospectively) in real river systems to identify the potential for operational decisions to be informed by water quality concerns.

The water quality objectives and targets raise the following concerns:

- The raw drinking water quality objectives are said to minimise the risk to the quality and palatability of water taken for treatment for human consumption. NSW considers that the risks around water for human consumption be primarily addressed through detection, notification and treatment strategies.
- The irrigation water quality target does not allow for salt tolerant crops or areas where salt intolerant crops should be discouraged.
- The objective for recreational water quality should be primarily addressed through detection and notification strategies, as well as storage management protocols.
- NSW is very concerned at the potential misuse of the requirement that the more stringent rule applies. There will always be 'special' cases where generic targets are not appropriate.
- A dissolved oxygen target of 50% saturation is set as an operational target. Schedule 9 already provides dissolved oxygen targets (which provide a better water quality than 50% saturation). It is confusing having two targets for the same indicator, which differ in value.

Due to the highly variable nature of wetlands it is not possible to undertake routine measurement of wetland water quality against target values. Water quality targets for wetlands should be removed and replaced with the ability to include site specific water quality targets for wetlands in the water resource scale water quality management plan, where appropriate. Additional detailed analysis is provided in Appendix E.

As the majority of key causes of water quality concerns cannot be easily addressed through the Basin Plan, NSW would like to see a more explicit recognition of the non-mandatory nature of water quality targets, particularly where these are aspirational (long term objectives), are heavily influenced by climatic sequences, there is inadequate understanding of biophysical processes in setting of targets, or the scale of investment required to achieve change makes them unfeasible. NSW is concerned that the term target has multiple meanings within Chapter 8 of the draft Basin Plan, and that there is confusion applying this terminology, particularly where the intent is really about objectives, performance goals or guidelines.

The Basin Plan should, where appropriate in Chapter 8, explain that some 'targets' trigger a decision process, rather than representing a pass/fail performance indicator (this is consistent with the NWQMS approach).

Recommendation 34 - Regarding water quality the Basin Plan should:

- a. Reference the Basin Salinity Management Strategy as a key cornerstone of salinity management in the Basin.**
- b. More clearly recognise the non-mandatory nature of some of the water quality targets, that are aspirational in nature, have long term potential at best, and which require extensive monitoring, and investment commitments.**
- c. Remove the operational salinity targets, particularly where these have been demonstrated to be either impractical or unnecessary. Instead, Lower Murray salinity mitigation strategies should be incorporated within river operating protocols.**
- d. Acknowledge that water quality is one of a range of issues to be considered when making water management decisions, including flow releases.**
- e. Remove water quality targets for wetlands and replace them with the ability to include site-specific water quality targets for wetlands in the water resource scale water quality management plan, where appropriate.**

Water resource plan requirements

Water resource plans are the key instruments through which the Basin Plan provisions will be implemented in jurisdictions. These plans are required to give effect to the SDLs from 1 July 2019. NSW comprises 56% of the Basin and will be required to develop water resource plans to cover 10 surface water areas and 14 groundwater areas. The process under the draft Plan involving MDBA review and accreditation is a new process that is yet to be tested. Much of the information required to implement the process has been deferred to Guidelines which have not yet been developed even in draft form.

In order to test and refine the accreditation process, NSW intends to review the NSW Water sharing plans for the Gwydir and Lachlan valleys by 2016 and remake them for accreditation by the MDBA in line with the 2012 Basin Plan. These two areas have been selected to be undertaken first as the draft Plan identifies that they require no further change to SDLs. However given the number of water resource plans in NSW, even assuming full resourcing by the Commonwealth, it will be challenging for NSW to complete all plans by 2019.

If the Commonwealth fails to “bridge the gap” through its water recovery program, the Basin Plan requires that water resource plans deliver the necessary reductions in SDLs without any direction on how this is to be achieved. In particular the MDBA needs to clarify if NSW water resource plans will be required to define how water reductions are distributed between:

- States (downstream share component)
- valleys within a plan area
- regulated systems, unregulated systems and groundwater within a plan area, and
- categories of licences in regulated river systems.

The draft Plan requires water resource plans to address a number of matters that are beyond the scope of current NSW water sharing plans such as interception activities, water quality targets, risks to water resources, additional measuring and monitoring requirements, and planning for extreme events. These will add to the resourcing and timing implications for NSW.

The proposed Basin Plan includes many highly specific requirements that will be costly to implement yet have questionable natural resource management value. For example, setting separate limits within a water resource plan area for different forms of take, while allowing these limits to be continually adjusted as long as growth in one category is offset against another. This proposal has no additional public or environmental benefit than managing all forms of take to a single SDL.

NSW has a major concern with the requirement that water resource plans be prepared having regard to rules which ensure that the environmental watering requirements of priority environmental assets and ecosystem functions are not compromised. The bulk of licences for environmental purposes will be held by the Commonwealth. If the Commonwealth does not operate according to the rules then NSW will not be in compliance of the SDL. In the draft Plan States have no levers to require the Commonwealth to use its licences in accordance with the water resource and environmental water plans. The Basin Plan needs to clarify the relationship between the Commonwealth and States.

Recommendation 35 - NSW requires that the MDBA clarify the requirements for water resource plans.

Recommendation 36 - Water resource plan requirements should be streamlined by removing prescriptive clauses which do not enhance water management or environmental outcomes.

Water trading rules

NSW has a wide range of concerns with the trade rules in Chapter 11, the majority of which have been raised on several occasions with the MDBA. Key NSW concerns include:

- The draft Plan allows trade of a water access right, free of any separate location-related right. NSW has restrictions on trade which will need to continue under the Basin Plan with respect to the licences that are inherently tied to the location at which the licence has been issued (floodplain harvesting, domestic and stock, mining and special additional licences)
- A mechanism needs to be included which will ensure the issue and trade of NSW Aboriginal cultural licences will not impact on the SDL.
- Trade between unconnected groundwater systems is prohibited. This rule eliminates the possibility of re-distribution of groundwater stress in otherwise non connected ground water sources. Trade from a highly used SDL unit to a lower used SDL unit may be desirable as a means of addressing any overuse in the original GW source.
- The restrictions on barriers to trade do not sit easily with the NSW framework for specific purpose access licences.

Further analysis of NSW concerns with trade rules is outlined in Appendix E. NSW is also recommending that a cap on non-strategic licence buybacks be included in the Basin Plan as part of a commitment to greater focus on infrastructure and to ensure a more measured pace of adjustment to the SDLs.

Recommendation 37 - The MDBA needs to address NSW concerns with the trade rules.

Monitoring and evaluating the effectiveness of the Basin Plan

The draft Plan's Chapter 12 requires NSW, along with other State and Commonwealth departments, to report information on water accounting, trading, ecological responses and water quality information, to allow the MDBA to evaluate the effectiveness of the Plan. The monitoring program will start when the Basin Plan is made and will require significant ongoing resourcing as well as that required for the 2015 review.

The draft Plan provides little detail on monitoring formats or indicator sites required for reporting purposes. The Plan requires reporting by 31 October for all outcomes listed in schedule 10 for each year. This may be difficult to meet for items where reporting information is required to be collated up to 30 June of that year. This would leave only four months for collation, verification and reporting for broadly scoped items.

The MDBA has not provided information on how it will evaluate the effectiveness of the Basin Plan in achieving the outcomes listed in Schedule 10. The MDBA should publish its evaluation guidelines similar to the reporting guidelines. Similarly guidelines should be prepared for the required reviews of water quality targets and environmental watering plans. Further the MDBA should hold to its own requirement to "have regard to" any NSW evaluation studies, and also consider NSW comments before any evaluation is released.

Recommendation 38 - Guidelines on monitoring and evaluation requirements must be developed and agreed with the Basin states.

Commonwealth, State and community input

The MDBA has improved in its communications with States and regional communities since the development of the Guide and has established processes where States and communities have been able to meet with the MDBA to discuss proposals in the draft Plan. However, the content of the draft Plan and all key policy positions expressed within it are MDBA decisions.

The slow delivery of key reports by the MDBA has hampered the ability of NSW government and communities to engage on an equal footing with the MDBA in reviewing the draft Plan. This is a side effect of the rushed timeframes which the MDBA is continuing to maintain.

The MDBA and the Commonwealth should continue to progress with meaningfully engaging State agencies and local communities in improving and implementing the Basin Plan and associated programs, using existing structures where available. NSW will require resources where new engagement structures are required to be established that would not otherwise be necessary.

NSW stakeholders have consistently expressed a willingness to engage in processes to identify environmental assets and their water needs, examine a range of measures to address environmental needs that would minimise impacts on regional communities.

As discussed in NSW's response to the report of the *Inquiry into the Impacts of the Guide to the Murray Darling Basin Plan* (the Windsor Inquiry), the NSW Government's willingness to endorse the final Basin Plan, and its ability to deliver its various requirements, will to a large extent be dependent upon MDBA and the Commonwealth's development of a detailed implementation plan and agreement on this with NSW and the other Basin states.

This implementation plan should address not only future opportunities for State and community feedback to the Basin Plan as it develops, but should also identify a clear path forward for the Basin States, including the identification of implementation goals and the development of a framework for continued inter-jurisdictional communication and cooperation for the life of the Plan. Without the provision of such an implementation plan, or a comparative clear way forward, NSW will not be able to implement the Basin Plan.

Recommendation 39: The MDBA should prepare and agree with Basin States an implementation plan for the Basin Plan which outlines opportunities for State and community engagement and clearly articulates to the Basin States how the Plan should be implemented.

Recommendation 40 – The MDBA should review and address additional concerns on specific Chapter clauses outlined in Appendix E.

Conclusion

A key object of the Basin Plan under the Commonwealth *Water Act 2007* is to provide for the use and management of Basin water resources to *optimise* environmental, social and economic outcomes. The NSW Government position is that the Basin Plan should meet a triple bottom line outcome, balancing the needs and interests of the environment, communities and the economy.

The NSW review of the draft Plan and supporting documents provided during the consultation period has found that the MDBA has not clarified the environmental outcomes sought to be achieved, validated the proposed SDLs or the mechanism for their recovery through the large downstream share mechanism.

The proposed water recovery structure in the draft Plan has created significant uncertainty in regional communities. Communities have reported that this uncertainty, following on from the impacts of the most severe drought on record, is having negative impacts on investor confidence, depressed asset values and increased levels of community stress.

A continued licence buyback approach to water recovery stands to significantly impact some communities in NSW, in particular small irrigation dependent towns in the southern NSW Basin. As yet, there has been no commitment or action on the part of the Commonwealth to recognise and develop adequate support programs to mitigate these impacts.

NSW is not confident that the Commonwealth can adequately manage the water licences it currently holds within system constraints and without third party impacts, let alone manage the significant additional volume proposed in the draft plan to be recovered by 2019. At the very least the recovery of water through purchase should be slowed to a rate that allows knowledge of river system constraints and development of environmental water management plans to keep pace and alternative measures to be implemented.

For these reasons and to ensure a focus on alternative measures to buyback, NSW requires that water entitlement purchases be halted to allow water recovery by diverse means to be thoroughly explored and exhausted as a priority. Following NSW agreement that other means have been exhausted, NSW then requires a 3% limit per plan area over a 10 year period be applied to Commonwealth purchases of water entitlements. This proposal would allow SDLs to be met in the northern NSW Basin within the life of the first Basin Plan. In the southern NSW Basin further effort would be required to recover water through a full range of measures in order for SDLs to be met within 15 years.

Genuinely strategic licence purchases are still supported by NSW, for example the retirement of less efficient systems, purchased recovery that works in conjunction with infrastructure improvements and are focused water delivery efficiencies. The NSW water recovery strategy allows the Commonwealth to seek exemptions to the halt on buybacks and the cap for any strategic purchases that are agreed with the State and developed in consultation with local communities.

NSW remains committed to the ongoing process of water reform in the Basin, however the draft Plan is unacceptable in its current form. The Basin Plan and associated Commonwealth programs must:

- Demonstrate the environmental outcomes that will be achieved
- Apportion the downstream reduction between States and plan areas where licence buyback is to be the mechanism for recovery
- Allow a longer period to meet SDLs than 2019
- Provide a commitment to water recovery through infrastructure, environmental works and measures and operational rules review
- Provide structural adjustment assistance for vulnerable communities
- Clarify and streamline the implementation requirements
- Meet the upfront implementation costs of the Basin Plan.

The Basin Plan must fulfil a triple bottom line outcome.

Detailed NSW recommendations

- **Recommendation 1** – The MDBA should release all reports and information on which the draft Plan proposals are based and allow States and communities adequate time to analyse the information and comment on how the information has contributed to draft Plan proposals.
- **Recommendation 2** – The basis for SDL and recovery figures should be demonstrated transparently through an MDBA-lead process of identifying environmental outcomes to be achieved across the full range of environmental indicators, with State and community input following provision of all key reports.
- **Recommendation 3** – The MDBA needs to publish its RIS identifying costs of implementation of the Plan and broader costs to community and industry at an appropriate scale to recognise local and transitional impacts.
- **Recommendation 4** – The Commonwealth must confirm its mechanism to deliver its commitment to Basin communities to provide structural adjustment assistance.
- **Recommendation 5** – MDBA should continue to refine its socio-economic assessments and the Commonwealth should apply the findings from these refined studies to direct the provision of structural adjustment assistance.
- **Recommendation 6** – A Commonwealth funded socio-economic monitoring study be established to ensure the actual effects of the Plan can be measured across the life of the Plan.
- **Recommendation 7** – The MDBA should retain SDL volumes in the final Plan in order to enhance certainty for regional communities, but these need further justification and consultation with communities.
- **Recommendation 8** – The Commonwealth must develop a cross-Departmental adjustment package to support Basin communities. The adjustment package can include economic diversification proposals and should also canvass measures to enhance the sustainability of existing industries, provide social support and provide funding for projects across the Basin which achieve environmental outcomes through measures beyond water recovery.
- **Recommendation 9** – The Basin Plan must clarify the intent of the downstream shared reduction and must equitably distribute the downstream share between Basin States and catchments, if this is to be achieved through water licence purchase.
- **Recommendation 10** – The Basin Plan should require priority on recovery of water to meet the SDLs via infrastructure, environmental works and measures and SDL offsets that could be achieved through a review of rules and operations undertaken with genuine State and community engagement.
- **Recommendation 11** – The Basin Plan should include no further Commonwealth licence buybacks until the States are satisfied that the Commonwealth has implemented and exhausted all infrastructure works, efficiencies and other means to deliver water for the environment.
- **Recommendation 12** – The Basin Plan should state that, once States have agreed that water savings through other means outlined above have been exhausted, purchase of licensed entitlements by the Commonwealth can resume, capped at a maximum of 3% of current extraction limits per decade per water resource plan area, except where a State agrees that purchase in excess of 3% will provide significant environmental benefits with minimal social and economic impacts.
- **Recommendation 13** – The Basin Plan should allow strategic buyback for specific environmental outcomes, where proposals have been developed in consultation with the community and agreed by the State.
- **Recommendation 14** – The Commonwealth should reiterate its commitment that there will be no compulsory acquisition of water entitlements to meet the SDLs and any acquisition of land or easements to enable the delivery of environmental flows will be voluntary or through negotiation with landholders.
- **Recommendation 15** – All obligations on Basin States should be clearly articulated in the Basin Plan.
- **Recommendation 16** – The MDBA's must complete its RIS to identify the costs to NSW of implementing the final draft Plan's requirements. The RIS must to be provided to Ministerial Council with the final draft Plan.
- **Recommendation 17** – The Commonwealth and NSW must have in place a workable agreement for Commonwealth upfront funding of new or extended costs for NSW for the life of the Plan. This agreement needs to be complete when the final draft Plan is provided to Ministerial Council for comment.
- **Recommendation 18** – Risk management strategies need to be clearly defined.
- **Recommendation 19** – The MDBA must provide guidance for what will be considered a 'reasonable excuse' to exceed the SDL by more than the 20% tolerance and confirm its dispute resolution procedure.
- **Recommendation 20** – The Basin Plan modelling of SDL must align with Commonwealth methodology to calculate 'bridging the gap'.

- **Recommendation 21** – The MDBA in validating its SDLs needs to ensure that local reduction volumes reflect the reductions required to meet the needs of environmental assets and values in the specific water resource plan area that the reduction applies.
- **Recommendation 22** – Groundwater management areas in the Basin Plan should be consistent with NSW water sharing plans.
- **Recommendation 23** – The BDL methodology must be revised and be agreed with Basin States.
- **Recommendation 24** – The interception requirements of the Basin Plan need to be reviewed in consideration of extent of the issue and cost of implementation. Estimates for interception SDLs should not be provided until there are credible estimates available.
- **Recommendation 25** – The process for considering climate change needs to be clearly defined in the Basin Plan.
- **Recommendation 26** – The 2015 SDL review should be removed from the Basin Plan.
- **Recommendation 27** – The MDBA should outline the scope for future reviews which will be undertaken through the review timeframes outlined in the *Water Act*, including adaptive management options if monitoring shows that changes to the Basin Plan are needed over the life of the Plan.
- **Recommendation 28** – The MDBA must amend the draft Plan to allow a more flexible schedule to achieve SDLs in accordance with the NSW water recovery proposal.
- **Recommendation 29** – The Commonwealth should recover water in a measured schedule that is in keeping with its capacity to manage the water for environmental outcomes and deliver it without third party impacts.
- **Recommendation 30** – Any Guidelines which will influence the development of long-term environmental watering plans and annual priorities should be prepared in consultation with Basin States before those processes are required to be implemented.
- **Recommendation 31** – Chapter 7 should be amended to provide more flexibility to Basin States in their approaches to preparation of long-term watering plans.
- **Recommendation 32** – The MDBA should explain the mechanisms for resolving inter-jurisdictional issues concerning long-term watering plans and Basin annual watering priorities.
- **Recommendation 33** – The reporting requirements where Basin annual environmental watering priorities are not followed and where acquisition of a water access right is not consistent with the environmental water recovery recommendations should be removed.
- **Recommendation 34** – Regarding water quality the Basin Plan should:
 - f. Reference the Basin Salinity Management Strategy as a key cornerstone of salinity management in the Basin.
 - g. More clearly recognise the non-mandatory nature of some of the water quality targets, that are aspirational in nature, have long term potential at best, and which require extensive monitoring, and investment commitments.
 - h. Remove the operational salinity targets, particularly where these have been demonstrated to be either impractical or unnecessary. Instead, Lower Murray salinity mitigation strategies should be incorporated within river operating protocols.
 - i. Acknowledge that water quality is one of a range of issues to be considered when making water management decisions, including flow releases.
 - j. Remove water quality targets for wetlands and replace them with the ability to include site-specific water quality targets for wetlands in the water resource scale water quality management plan, where appropriate.
- **Recommendation 35** – NSW requires that the MDBA clarify the requirements for water resource plans.
- **Recommendation 36** – Water resource plan requirements should be streamlined by removing prescriptive clauses which do not enhance water management or environmental outcomes.
- **Recommendation 37** – The MDBA needs to address NSW concerns with the trade rules.
- **Recommendation 38** – Guidelines on monitoring and evaluation requirements must be developed and agreed with the Basin states.
- **Recommendation 39** – The MDBA should prepare and agree with Basin States an implementation plan for the Basin Plan which outlines opportunities for State and community engagement and clearly articulates to the Basin States how the Plan should be implemented.
- **Recommendation 40** – The MDBA should review and address additional concerns on specific Chapter clauses outlined in Appendix E.

Appendix A – NSW consultation activities

Date	Location	Stakeholders
9/11/2011	Jerilderie	RAMRoC
11/11/2011	Sydney	NSW Farmers
11/11/2011	Sydney	Individual stakeholder
27/11/2011	Sydney	Land and Water Advisory Panel
30/11/2011	Hay	Local citizens
02/12/2011	Sydney	Individual stakeholder
2/12/2011	Sydney	Land and Water Advisory Panel
7/12/11	Sydney	Regional Development Advisory Council
12/12/2011	Sydney	CMA chairs
15/12/2011	Griffith	Key regional stakeholders
16/12/2011	Deniliquin	Key regional stakeholders
19/12/11	Deniliquin	West Corugan PIA
20/12/11	Sydney	NSW MPs and MLAs Teleconference
30/01/12	Albury	Murrumbidgee Irrigation - Chair
31/1/12	Sydney	Land and Water Advisory Panel
2/2/2012	Finley	Key regional stakeholders
3/2/2012	Leeton	Key regional stakeholders
6/2/2012	Dubbo	Key regional stakeholders
7/2/2012	Narrabri	Key regional stakeholders
8/2/2012	Moree	Key regional stakeholders
9/2/2012	Forbes	Key regional stakeholders
13/02/2012	Echuca	Key irrigators Groups
22/2/2012	Sydney	CMA Chairs
22/2/2012	Sydney	Peak Stakeholders
23/2/2012	Sydney	Peak environmental stakeholders
24/2/2012	Corowa	Key regional stakeholders
5/3/2012	Sydney	Northern NSW irrigators
23/3/2012	Teleconference	Lower Murray-Darling regional stakeholders
26/3/2012	Sydney	Land and Water Advisory Panel

Appendix B – Issues raised by Stakeholders

1. Summary of feedback from written correspondence

In total 58 individual letters and emails were formally registered with NSW Government agencies during the MDBA's public exhibition period. Issues raised were recorded in an issues register, while responses encouraged the stakeholders to make a submission directly to the MDBA.

A single piece of written correspondence generally raises several issues. A summary of the issues raised is outlined in the following table.

Topic	Issue
Consultation	<ul style="list-style-type: none"> ■ Numerous stakeholders requested to be involved in NSW and MDBA processes ■ Seek involvement of fish experts in development of environmental watering plans
Environmental flows / management	<ul style="list-style-type: none"> ■ Concern that there is no capacity to store and deliver the proposed volumes of environmental water ■ Seek better consideration of fish in the Plan including for flow requirements, fish outcomes. More security for low flows. ■ Droughts help control feral species. Increased water may increase them. ■ Impacts on landholders from delivering environmental flows ■ Want details of environmental indicators and outcomes to be achieved ■ Healthy basin needs more than just water. Eg. Carp eradication. ■ Disagreement with setting an SDL without the environmental watering plan
Food security	<ul style="list-style-type: none"> ■ Risk to food security from removing water from NSW food bowl ■ Need to support the Basin as a food bowl. ■ Concern at future rise in food and fibre prices
Impacts – community	<ul style="list-style-type: none"> ■ Several stakeholders raised concern at loss of multigenerational farming communities and impacts on historic communities ■ Community stress particularly following drought ■ Value of irrigation communities, wish for ongoing support for vibrant communities
Impacts - economy	<ul style="list-style-type: none"> ■ Concern the Plan will be like a permanent drought ■ Impacts on irrigators if their neighbouring business sells their licence ■ Need monitoring and evaluation of impacts and outcomes ■ Loss of value of irrigated agriculture, loss of jobs ■ Current impacts in Griffith and Deniliquin from water buybacks and uncertainty – sale of farms and businesses, lack of confidence. ■ No restitution for reduced asset values. ■ Need to consider the economic benefits of the fishing industry and adjust the Plan to better consider needs of freshwater fish
Lower Lakes	<ul style="list-style-type: none"> ■ Numerous stakeholders were concerned that water recovery in NSW is designed to keep the Lower Lakes artificially fresh. ■ Proposals to return the Lakes to a natural estuary to save water, reduce carp. ■ Oppose taking productive water from NSW industries to keep Lower Lakes artificially fresh ■ Seek water savings through Lower Lakes management. Water lost to evaporation and out to sea.
Policy	<ul style="list-style-type: none"> ■ Goes against Federal and State government decentralisation policies ■ Need economic activity to make towns attractive and to encourage tourism

Topic	Issue
Sustainable diversion limits	<ul style="list-style-type: none"> ■ One stakeholder stated that the Plan does not recover enough water, has not considered salt export and climate change. ■ One stakeholder stated that there was no scientific basis for salt flushing as a driver of SDLs. ■ Majority that referenced the volume of water to be recovered were concerned about impacts on NSW towns from loss of industry, or justification of the volume proposed to be recovered. ■ Concern that SDL does not take into account constraints which would mean the proposed recovery volume cannot be delivered. ■ SDLs to be set following environmental watering plans which should consider constraints, cost effectiveness. ■ One stakeholder group sought a separate SDL for its valley rather than inclusion in a larger water resource plan area ■ Several stakeholders preferred a focus on environmental outcomes rather than a recovery volume.
Triple bottom line	<ul style="list-style-type: none"> ■ Draft Plan does not meet triple bottom line outcomes ■ Seeks NSW to promote triple bottom line outcomes, balance between environmental and other factors.
Uncertainty	<ul style="list-style-type: none"> ■ Uncertainty is having current impacts on assets, community stress, business confidence. ■ Uncertainty re 1) timing and scale of environmental benefits 2) current and future costs 3) appropriate discount rate for CBA ■ Concern at lack of certainty as to where water will be recovered from and when. ■ Downstream share means uncertainty if some communities would see greater impacts than the 29% outlined in the Guide. ■ Uncertainty regarding environmental outcomes and impacts.
Water recovery	<ul style="list-style-type: none"> ■ Numerous stakeholders stated a preference for water recovery through infrastructure, environmental works and measures and improved management ■ One stakeholders requested ceasing recovery from infrastructure in favour of buybacks. ■ Several stakeholders requested a moratorium on buybacks. ■ Considerable concern at the impacts of buybacks that have occurred to date ■ People leaving regional areas following buyback program ■ Commonwealth has broken its promise re cease water purchase. Should only be able to undertake strategic purchase with State and community input
Withdraw /engage	<ul style="list-style-type: none"> ■ Several submissions sought NSW to withdraw from the Basin Plan process ■ Majority were due to concern at impacts on irrigation ■ One due to concern that the Plan does not propose to recover enough water for the environment ■ One sought to encourage the NSW government to continue to engage in a positive manner

2. Summary of feedback from regional tour February 2012

Between 2 February and 9 February 2012, the NSW Office of Water facilitated a series of public meetings to listen to the concerns of communities in relation to the proposed Basin Plan.

Meetings were held in Finley, Leeton, Forbes, Dubbo, Narrabri, Moree and Corowa.

The NSW Minister for Primary Industries, Katrina Hodgkinson and NSW Parliamentary Secretary for Natural Resources, Troy Grant, attended meetings to hear first hand how the proposed Basin Plan would affect NSW socially, economically and if it would deliver improved environmental outcomes.

Social implications

Rural and regional communities are concerned that social and economic impacts caused by reduced water availability during drought will be mirrored and compounded by a reduction in water availability due to water recovery from production under the Basin Plan.

- It is difficult to attract professional and technically skilled people to regional areas, as many areas are seen as being in decline or have an uncertain future due to the Basin Plan.
- There is a corresponding change in the social structure of many towns. As industries decline there is a move of professional and skilled workers and businesses to regional or metropolitan centres. This is causing an increase in the proportion of remaining people in towns reliant on welfare.
- Young people will relocate from most regional areas to seek more stable jobs elsewhere, there is a reduction in apprenticeships and traineeships in water use related industries and regions. Orderly family farm succession is undermined as many are uncertain about transition to the next generation.
- School and TAFE enrolments drop as students go elsewhere for opportunity. This results in less subject choices available for remaining students and even school closures. Sports clubs and community networks also suffer from lower attendance.
- Threatened communities are seeing higher levels of mental health problems and stress related conditions.

Economic implications

- Property values in towns potentially impacted by the plan are already significantly reduced.
- The level of uncertainty caused by the proposed Basin Plan is eroding and preventing investment.
- Reduction in participants in an area reduces the viability of secondary and tertiary service industries. For example, reduced number of dairy farms reduces the viability of the local refrigeration mechanic services and equipment suppliers.
- Banks are not funding farm investment proposals due to uncertainty. In some cases banks have pressured farmers to sell water entitlements to reduce drought-related debt.
- Longer, stable adjustment periods are required to recoup post-drought investment and farm efficiency investment.
- Loss of irrigation industry jobs have impacts on service industries and on the businesses and families that depend on those jobs and the income spent.
- Directing investment into irrigation infrastructure and efficiency measures would deliver savings without undermining the critical mass of communities

Cultural issues

The Basin Plan needs to provide a mechanism for indigenous people to become involved in water management. Also:

- Typically indigenous people will remain in 'country'.
- Indigenous people want economic, social and cultural opportunities, and should not be characterised as simply just supporting recovery of water for environmental flows.
- Training and education support will also be needed to support the Aboriginal community in a changed economic and industry environment.

Environmental issues

It is recognised that river regulation and water management practices have had a significant impact on the environment, and that work should continue to recover water for the environment and to undertake works and measures including strategic land purchases, that provide positive environmental outcomes.

- The community as a whole benefits from a healthy river system.
- The more vibrant a community is, the better the environment is protected. Farmers with stable disposable incomes do environmental work.
- The recent extended drought has created an incorrect perception in metropolitan areas in particular, that the environment has suffered irreversible environmental degradation due to over-allocation of water entitlements and poor water management.
- In many areas, the recent wet conditions and floods have demonstrated the resilience of the natural environment and that it is adapted to climate variability.
- The recent wet years allow more time to get the Basin Plan right, rather than rush into a plan without up to date data or best available science.
- Many of the issues facing the natural environment, such as cold water pollution, invasive species and river regulation cannot be resolved by increased flows alone.
- Many stakeholders question the need to recover more water in such a rapid, un-proven manner and question the point of delivering more fresh water to SA estuaries

A collaborative approach to environmental water management is preferred, with communities able to meaningfully input to the identification of environmental assets and propose means to deliver environmental outcomes minimising impact to communities.

Water reform and recovery

NSW has been an active participant in water reform and water recovery over the past 25 years.

This has been achieved by working with communities, industry and environmental groups, and over a time frame that has allowed industries and communities to adapt to changes.

- Water reform and recovery to-date in NSW
 - ◆ 860 gigalitres (GL) per year of surface water returned to the environment
 - ◆ 942 GL reduction in groundwater entitlements in 6 major alluvial aquifers during the course of the current water sharing plans
 - ◆ 67 GL recovered in the Great Artesian Basin
- NSW collectively 3,582 GL in cumulative credit under the MDB cap on diversions

Technical assessments

It is generally considered that it is not worth prosecuting the inefficiencies of data, information and assumptions in the proposed plan, as being seen to focus on discrediting the plan will portray NSW as being negative.

It is more appropriate to provide a sensible and balanced way forward that truly addresses environmental, economic and social outcomes sought by NSW.

That notwithstanding, there is a need to challenge inaccuracies:

- Modelling reports and valley water need reports have not yet been provided and so it is difficult to determine justification of in-valley SDLs or the shared downstream resources.
- The MDBA assessment of baseline diversion limits is not consistent with existing diversions, such as is reported in MDBA Cap audits.

Justification of environmental asset needs and sustainable diversion limits

Assets and their water needs have not been defined or demonstrated.

- Without the water needs for assets identified, the in-valley SDL cannot be determined.
- Without the outcomes for downstream shared needs defined, the 'shared reductions' of 972 GL (southern basin) and 143 GL (northern basin) cannot be justified.
- The flow regimes required for assets in the lower reaches of the southern basin may not be deliverable from regulated flow because of physical and natural constraints.
- More time is needed to demonstrate the outcomes of water recovered for the environment to date under NSW water sharing plans and other recovery programs.

Water recovery

There is no strategy for water recovery

- Recovery should be from where the water can be delivered and will most efficiently contribute to the environmental asset needs.
- If water is recovered from large scale purchase and taken out of production over a short period of time, this will have significant social and economic impacts on communities.
 - ◆ loss of service industries (e.g. dairy loses refrigeration mechanics because there is not the numbers remaining to support these).
 - ◆ reduction in apprenticeships and trainees.
 - ◆ loss of professional people in regional centres.
- Without an indication of what volume, and how, water will be recovered from a particular valley, social and economic impacts cannot be determined. Lack of certainty is already generating impacts in those areas known to be targeted for recovery.
- Infrastructure works that improve water management and generate water efficiency savings provide a regional economic stimulus, particularly during the construction phase, and can provide a continuing social outcome. For example, Aboriginal training and employment.
- Water should also be recovered through 'operating rules changes' where current operating rules (for example Menindee Lakes 640:480 or additional dilution flow) can be amended to provide environmental outcomes using the same volume.
- Institutional rules changes, for example changes to carry-over arrangements that potentially increase spills from dams, should be evaluated to assess how much volume this could contribute to meeting environmental outcomes and reduce the gap between baseline diversion limits and SDLs.

Structural adjustment

There is no structural adjustment program although the Commonwealth, through regional development authorities, has been identifying potential projects for funding.

- If there were alternative viable industries, these would have been developed through private investment already.
- Short term structural adjustment projects do not necessarily benefit the local community (e.g. anecdotally it is understood that the beneficiaries of structural adjustment for the red gum industry have moved away).
- Cross portfolio programs to enhance the sustainability and efficiency of existing industry would be more effective than just project funding.

Volume to be recovered

Without a 'number', there will not be any certainty that recovery of water from production will not continue indefinitely.

The 'number' should be low until the water needs of environmental assets have been determined (in consideration of social and economic issues) and that the volume recovered can be delivered within physical and natural constraints.

Mid-term review

The 2015 review of the SDLs means that the current 2,750 GL recovery of water is a temporary target subject to review. The perception is that this will increase and this continues the uncertainty.

A review by 2015 provides limited time to evaluate the environmental needs of in-valley assets or of the requirements of yet to be identified shared downstream needs.

If there is to be a review, then this should focus on the environmental requirements and whether these can these be met through the release of regulated flows only and within existing natural and operational constraints.

The review should also evaluate the delivery and effectiveness of environmental releases to 2016.

The review should account for the water that NSW has recovered prior to 2009.

Way forward

Water recovery for the environment should be through infrastructure works that deliver water supply and use efficiencies or through rule changes that provide environment outcomes without reducing water availability to third parties

Water recovery through purchase of entitlements should be strategic:

- where all users on a channel or system are bought out, enabling the channel to be decommissioned and transmission losses to be saved, rather than having to supply a reduced number of users
- where purchase is part of an integrated program including structural works that delivers improved environmental outcomes in addition to water savings from productive use, Eg. Nimmie-Caira project
- water should be recovered from where it can best meet environmental objectives for nominated environmental assets.

Water recovered through open tender purchase of existing entitlements should be limited to minimise social and economic impacts. For example purchase of entitlements for environmental purposes in any water source should be limited to 5% of total entitlements over any 10 year period.

Water recovery through purchase should be shared equitably between jurisdictions.

In this way, irrigation communities can use investment to position themselves into the future with less gross water requirements yet increased efficiency of production to support valued regional communities and contribute to the State's food security and prosperity.

3. Detailed feedback from stakeholders

This table outlines the full range of issues raised by stakeholders in NSW Government forums

Topic	Issue
2015 review	<ul style="list-style-type: none"> Concern at risk of further impacts e.g. Higher SDLs following 2015 review
Aboriginal interests	<ul style="list-style-type: none"> Need to better recognise and take into account Aboriginal interests Aboriginal people won't leave areas due to water cuts, but will suffer from demographic changes and social impacts Need training and work opportunities to ensure success of Aboriginal communities through this process
Adaptive management	<ul style="list-style-type: none"> Need better definition of adaptive management and localism. There are many opportunities to use local knowledge to achieve or improve environmental outcomes.
Adjustment	<ul style="list-style-type: none"> Adjustment should seek to make existing industries sustainable through a range of processes including funded projects, policy changes and other forms of assistance to enhance efficiency and international competitiveness Disconnect between Commonwealth programs for Basin Plan, regional development adjustment, food security. Planning for community adjustment has been left too late, and is an add on. Seeking funding for short term projects at short notice won't replace irrigation industry. Opportunities for alternative industries have already been explored. Clarify where adjustment funding will go. Do not ask for proposals from ineligible areas.
Basis	<ul style="list-style-type: none"> The underlying basis of the Basin Plan was challenged including: No local environmental objectives to justify the SDL or the recovery targets Recognition of prior contributions to water recovery in NSW including the selection of the baseline year to include drought period but not subsequent years of floods and economic recovery post drought Historical climate sequence concludes in 2009. Need to include all available inflow data on an ongoing basis through the life of the plan. This is required to take into account the effect of climate change BDL methodology is to be reviewed including the level of development in some areas Basis of the <i>Water Act 2007</i> to focus on water flows only and its inability to guide integrated catchment management is flawed Focus on the volume of water to be recovered, not on management Flaws in the modelling The environmental outcomes have not been defined, and NSW water sharing plans have not been given time to show if they meet the environmental outcomes without needing more water recovery Assumptions underlying calculation of the SDLs should be challenged. They include operating assumptions that do not exist, such as water shepherding and return flows. In southern system there is a volume based solution. In regulated systems we need much smarter solutions and interventions. <p>The objectives and principles in the draft Basin Plan are inadequate:</p> <ul style="list-style-type: none"> management objectives in relation to environmental outcomes address ecosystems but not species the Plan should aim to protect and restore a 'comprehensive, adequate and representative' set of water-dependent ecosystems, not just a 'subset' of these ecosystems the approach to objectives of 'protecting processes' is not consistent with the <i>Water Act</i>, which requires protection of 'environmental outcomes' use of 'knowledge' instead of 'best available science' in Chapter 7 principles could give undue weight to anecdotal knowledge

Topic	Issue
Basis – socioeconomic	<p>Challenge assumptions underlying MDBA’s socioeconomic studies are not accurate, for example:</p> <ul style="list-style-type: none"> ■ Social transition theories don’t appear to be accurate ■ Farmers ability to move from irrigated to dryland farming is not supported ■ Money from the sale of water entitlements stays in the region is not broadly accurate ■ Value judgement that small towns are not valuable and are not a loss if they are sacrificed through this process
Best practice, best available science	<p>Given the value and impacts of the Basin Plan, the MDBA should be expected to demonstrate best practice methods. This is not the case, in particular:</p> <ul style="list-style-type: none"> ■ lack of transparency regarding science underpinning the draft Plan ■ need to publish MDBA’s board meeting minutes ■ Lack of a detailed feasibility study for such a significant activity ■ Lack of adequate program logic in particular for the monitoring program ■ Need for greater investment in scrutiny of the process ■ We should be guided by science as to what is required to achieve environmental health. The Guide sought more water, draft Plan is a compromise. ■ Need to get the science to achieve triple bottom line and restore at least moderate health to the Basin.
Cap credit	<ul style="list-style-type: none"> ■ Don’t want to see NSW cap credits wiped out ■ As NSW is in cap credit does this mean that we have already achieved SDL?
Collaboration	<ul style="list-style-type: none"> ■ There has already been demonstrated successful collaboration with other States. ■ Collaboration creates the case for change
Communities	<p>General comment</p> <ul style="list-style-type: none"> ■ Irrigation based communities have a lot to offer in terms of vibrant productive communities. The more vibrant a community is, the better the environment is protected. ■ Farmers with disposable incomes do environmental work. ■ Real estate is recovering in some towns following drought. ■ It was recognised that some towns and industries are thriving still. <p>Concerns</p> <ul style="list-style-type: none"> ■ There was extensive stakeholder commentary impacts on communities of further water reductions including: ■ Uncertainty was a common concern – what cuts can be expected, and if they will be recovered by purchase or infrastructure ■ MDBA is not concerned about the loss of towns, gross regional product, impacts on recruiting for schools. ■ The draft Plan does not outline the environmental benefits that will be achieved to justify the impacts. ■ Concern at community stress. Community in Hay has lost 6th person in 12 months from suicide. ■ Griffith is a purpose built irrigation area. We have not done anything wrong. Feel persecuted by certain aspects of society who say we have not done the right thing for the environment. ■ How will people be compensated for devaluation of assets in Deniliquin and Griffith? People are in the environment. Need to consider their health as well ■ Demoralised by the perceived attitude that the MDBA and ‘the city’ don’t value country towns. ■ NSW is as sensitive about losing country towns as SA is about changes to Lower Lakes ■ Loss of succession in farming, due to uncertainty for the younger generation of farmers, with impacts to be felt in 10-20 years. ■ Smaller communities are impacted more as loss of populations (people leaving to seek jobs, security)

Topic	Issue
Communities <i>cont.</i>	<ul style="list-style-type: none"> ■ Already seeing loss of business confidence, community morale, housing prices falling, increase in tenanted rather than bought homes, reduced residential building activity. ■ Skills and commitment can be permanently lost if they are forced away for a period of time. ■ Irrigation industry provides full time jobs and security allowing families to stay including through drought. ■ Loss of one job or business means whole families may leave not just the employed person. ■ Small towns lose government services, can't recruit doctors, police. Coleambally police station has been unmanned for 5 months ■ Concerned that there will be change to more welfare dependent, lower income, more transient renters, less disposable income ■ Agricultural community can handle shocks and fluctuations from climate and commodity prices, but have lower ability to handle impacts of government policy change. ■ Reductions in available water will reduce businesses resilience in future droughts. ■ Community impacts following purchased recovery are demonstrated by the impact on Collarenebri following purchase of a major water holding ■ People left in the drought for jobs elsewhere, were returning but now hesitate due to Basin Plan
Community – health	<ul style="list-style-type: none"> ■ Detrimental health issues are well documented as arising from drought or policy driven stress. ■ Increase in farm debt related stress, requirements for debt mediation. ■ Difficult to gather data on suicide statistics, but generally regional Australia does not compare well internationally. ■ Drought followed by threat of Basin Plan driven water reductions has shown a toll on mental health in southern NSW in particular. ■ Difficulty in recruiting doctors to towns which are not vibrant and do not have services. ■ Deniliquin has no doctor for 8000 people.
Consultation	<ul style="list-style-type: none"> ■ Aboriginal community has been properly engaged in the MDBA's consultation process ■ Environmental representatives have been disadvantaged by the consultation process due to the form & location of consultation meetings, as it is difficult for locals to raise environmental concerns in regional towns without fear of being ostracised. ■ MDBA intent to produce a final draft in one month following close of consultation shows they will not consider our comments ■ Local knowledge is not being given credit ■ The MDBA's current consultation process should have started from the beginning ■ Localism is important, including local decision making on environmental water planning, purchase and management ■ CMAs are a good vehicle for planning environmental water ■ Environmental groups should be explicitly included in the consultation requirements for the development of environmental watering plans and annual priorities.
Cost benefit of proposals	<ul style="list-style-type: none"> ■ MDBA needs to do cost benefit analysis of the outcomes achieved, against cost to community and industry. Purchase program is so random as to be useless. Commonwealth is not using its environmental water bought already.
Costs	<ul style="list-style-type: none"> ■ Need to recognise the costs of poor health in the river system ■ Concerned that MDBA will expect communities to pick up monitoring costs
Dams	<ul style="list-style-type: none"> ■ Consider storing more water with more dams
Deliverability	<ul style="list-style-type: none"> ■ MDBA cannot answer questions regarding the deliverability of water to be recovered ■ In some places channel capacity is so large, water will never get over bank

Topic	Issue
Demographics	<ul style="list-style-type: none"> ■ Fear of demographic change, including a shift to more welfare dependent communities as irrigation industry contracts ■ A long term strategy for the Basin needs to look at a 50-100 year plan, which also tracks and takes into account demographic change and human needs ■ Where housing prices drop, people come for cheap houses, but if no jobs, then welfare dependent and little money to spend ■ Longer term social impacts and demographic change from Basin Plan proposals will see older generation leaving farming but community not able to support young generation coming onto farms
Drought	<ul style="list-style-type: none"> ■ Studies on impacts of the drought are available and should be used to demonstrate the impacts of reduced productive water under the Basin Plan ■ Communities are still recovering from the effects of the drought, have less resilience to cope with Government policy impacts ■ Reduced water availability will reduce their ability and resilience to cope with future droughts
Economy	<p>Benefits</p> <ul style="list-style-type: none"> ■ Recognise the economic benefits of recovery of water for the environment, such as grazing industry which will benefit ■ Increased water may help to recover fish stocks. Recreational fishing is a major economic driver in the region and is of significance to Aboriginal people ■ Agricultural industry is resilient and is getting back on its feet following the drought <p>Investment</p> <ul style="list-style-type: none"> ■ Banks want to support infrastructure initiatives. Sometimes difficult to identify but Banks can also come in to support these if identified. ■ Communities already impacted by lack of business confidence due to potential Basin Plan impacts ■ Disbelief in MDBA assertion that taking away one third of water will have a positive economic outcome ■ \$6M project for Deniliquin was cancelled due to uncertainty of the Basin Plan. ■ Solar power project for Moree cancelled by Commonwealth, worth \$900M and 350 jobs. Cancellation announcement during floods. ■ Investment uncertainty exacerbated by demographic change, brain drain. <p>Concerns</p> <ul style="list-style-type: none"> ■ The Plan needs to come out with adjustment starting now, that recognises loss of asset value ■ Economic modelling has assumed that buyback money will go to communities. Sale of water comes from stressed farmers and money goes to repay debt. ■ Employment modelling is not the straight line modelling assumed by MDBA. ■ Need to look at loss of asset values – the house and the person cannot be separated. ■ Banks are used to working with farmers through cycles. Banks’ main concern is impacts on towns and businesses in towns. ■ Banks can’t endorse this Plan. Need to be able to follow the logic and the modelling. Bank feedback sought has not been included. ■ The southern NSW Basin in particular has had cumulative impacts of drought, Commonwealth policy intervention, NSW water sharing plans. Communities are willing to deal with natural circumstances but find government policy impacts harder to bear. Prefer to know when and where cuts will be made, and whether they will be purchased. ■ Australia relies on farmers and agricultural industries, this should not be threatened ■ Farmers are currently in a period of investment debt to recover from the drought. Need a reasonable period of stability to recover investment and recover from drought debt without government policy impacting the business environment.

Topic	Issue
Economy <i>cont.</i>	<p>Concerns <i>cont.</i></p> <ul style="list-style-type: none"> ■ Strained relationships with banks. Banks are pushing for sale of water licences to reduce debt. ■ Difficult to recruit staff due to insecurity for future employment. Fewer farmers in operation mean it is harder to sustain a business for mechanics and other support trades across remaining farms. ■ Impacts on value of assets are putting pressure on businesses via banks. ■ Irrigation infrastructure collapsed in some places in the drought, but doubt due to Basin Plan is inhibiting investment to rebuild ■ Areas that do secondary agricultural processing will be impacted, whether near production areas or elsewhere ■ Moving water from production to the environment will increase the cost of food for all Australians ■ Vibrant communities attract tourists. Tourism is dropping in stressed communities such as Eugowra ■ Basin Plan uncertainty is inhibiting investment, has already resulted in cancelled investment projects. ■ Social spending power of communities is diminishing and will be exacerbated with reduced irrigation industry ■ Suggest running a scenario with agriculture offline or reduced to see the impacts ■ It takes years to understand the impacts of changed policy, such as farmers or their families seeking off farm income, which then results in being cut off from some Commonwealth support programs. ■ It takes 60,000 tons of rice to keep one shift on at the rice mill. Farmers need enough ability to cope with future droughts and keep industry going.
Education	<ul style="list-style-type: none"> ■ Aboriginal communities will stay even if water is removed, but will need training and education to ensure communities thrive ■ As jobs in irrigation industry go, communities lose children and schools close down ■ Drop in school numbers is not consistent. Some schools have growing numbers. ■ TAFEs and schools losing students, can't offer as many courses. More night courses put students at risk driving home at night ■ Reduced industry and populations in small towns mean smaller schools start closing down. ■ Education impacts include smaller schools closing, larger schools with reduced students have fewer subjects to offer. Harder to recruit teachers. ■ Losing young people seeking careers in agriculture. They need to see there is a future and job security. Irrigated areas coped better with drought than dryland areas.
Environmental water	<p>Benefits</p> <ul style="list-style-type: none"> ■ The community depends on the health of the river systems and on the wetlands. ■ Environmental flows also have benefits through flows into other rivers. ■ Good coordination of environmental water will have beneficial outcomes. Environmental water is held as many parcels of water and delivery is complex. ■ Studies are being undertaken on cost-benefits of the Basin Plan. Much emphasis on short term costs but what about the benefits to environment and the economic benefits of environmental protection. Asked NSW government to look at long as well as short term benefits and environmental benefits. <p>Concerns and impacts</p> <ul style="list-style-type: none"> ■ Environmental watering plans have not yet been developed. Is money available to develop and implement them? ■ Water alone will not achieve environmental benefits. Need to link to land management

Topic	Issue
<p>Environmental water <i>cont.</i></p>	<p>Concerns and impacts <i>cont.</i></p> <ul style="list-style-type: none"> ■ Environmental flows are focussed on flooding wetlands and Red Gums with little or no regard to the fish and other aquatic species. ■ More water is not necessarily good for fish stocks, migration and breeding. Native fish also require low flows, drought refuges and low to moderate flow events to trigger spawning and migration. ■ Need to ensure that the indicators for key environmental assets will be met under Basin Plan proposals. ■ Doubts about the Commonwealth’s ability to achieve environmental outcomes with the current purchase strategy. ■ Lack of evidence of the outcomes of water recovery to date. ■ Commonwealth cannot manage current water holdings. There are no documented management plans or outcomes. ■ Concern that environmental outcomes are not adequately defined to justify the water recovery ■ Demonstrate more clearly what will be achieved with environmental water, as agriculture demonstrates outputs per ML. Require efficiency for environmental needs same as for agriculture. ■ Environmental water has been recovered but is not being used. Demonstrate outcomes from recovery to date before buying more. ■ Environmental flows need to be well managed so as not to damage the key environmental assets. Wet dry cycles are important. ■ Concern that the spread of feral species will not be managed with increased flows – water hyacinth, lippia. ■ Third party impacts from delivering environmental flows - High environmental flows block access to farm properties (e.g. given loss of a \$250K crop and \$75K sheep due to property cut in half by a flow in 2011). Downturn in tourism when environmental flows block bridges and access to rivers. ■ Concern that environmental water recovery delivered by NSW is being used for water supply in SA ■ Commonwealth is just buying water cheaply with no plans for how to manage it, no targets for how to use the water ■ Not comfortable with managed, unnatural flows or engineering solutions to environmental problems ■ The proposed Northern Basin Consultative Committee may regard the Macquarie as having significantly more environmental water than is needed within the valley, in which case they may favour using this water for the Barwon-Darling rather than reducing extractive use in other northern valleys such as the Namoi ■ If too a high proportion of the ‘downstream’ requirements for the Barwon-Darling are sourced from environmental water holdings or planned environmental water in the Macquarie valley, this would jeopardise the ability to meet the watering needs of the Macquarie Marshes, ■ The risks chapter does not address the risk that there will not be enough environmental water to sustain ecosystems and species. ■ Private persons and organisations should not have to comply with the MDBA’s Basin annual watering priorities and water recovery recommendations or provide an explanation of why they did not do so. <p>Proposals</p> <ul style="list-style-type: none"> ■ Better use of environmental water and investment in infrastructure by the Commonwealth will mitigate social and economic impacts.

Topic	Issue
Environmental water <i>cont.</i>	Proposals <i>cont.</i> <ul style="list-style-type: none"> ■ Prefer a collaborative approach to sourcing and delivering environmental water. Local input to environmental water plans will be important. CMAs can have a useful role. ■ Need to clarify what work is being done on environmental sites and what can be saved ■ Watering regimes should produce natural flow patterns, water temperatures and volumes that reflect the needs of native fish. ■ Many recreational fishers consider the Lower Lakes should be returned to estuarine conditions. A healthy river needs a healthy Estuary and this has not been the norm for the Murray River for some 70 years.
Equity	<ul style="list-style-type: none"> ■ NSW is not being impacted equitably, in particular southern NSW will be impacted to benefit SA and the Lower Lakes ■ Landholders and farmers are bearing a disproportionate share of government burdens compared to the rest of the community ■ Water will be bought from the location it is cheapest, which will not result in equitable impacts ■ Seek equity between States, and also between valleys. The Darling contributes 14% of flows to the Murray Mouth and should retain this share
Food security	<ul style="list-style-type: none"> ■ Basin Plan is being developed in isolation from the Commonwealth food security plan, which has been quoted to require a doubling of food production in 50 years. ■ Need investment in agriculture R&D to make productivity gains over time ■ Concern that Australia will become dependent on imported food.
Funding	<ul style="list-style-type: none"> ■ Commonwealth government asks communities to use resources to prepare grants, which are knocked back. Announce twice the funds than they have to deliver. ■ Community being burnt out by wasting time on proposals that are never going to be funded. ■ Transfer funds from the buyback program to other measures to achieve outcomes. Eg. Funding for the dairy industry to become more efficient and adjust to a lower water future while maintaining productivity.
Future	<ul style="list-style-type: none"> ■ Communities don't want to survive, they want to flourish ■ No allowance for predicted growth in population and industry. Plan is based on static socioeconomic situation. ■ Narrabri was a ghost town in drought with 2-3 years with no cotton crop. Can't bring in the next generation without water and businesses ■ Young people are going away to jobs and are not coming back. Average age of farmers is around 60 y/o. Don't want generational farming to end. MDBA proposals for a shift to new employment is not supported.
Groundwater	<ul style="list-style-type: none"> ■ Concern about linkages between surface and groundwater with increased growth allowed in NSW groundwater ■ What is the impact of the increase in groundwater allocations? Risk of over allocation and pollution. ■ Release the scientific information to support the groundwater claim. ■ Concerned at the increase in groundwater allocation in the draft Plan. NSW government should consider this in its submission. Need scientific basis, study of connectivity. Worried it will wipe out the 2750GL gain. ■ ASGE program - govt bought un-extracted entitlement in most areas, and some extracted entitlement. Since then, extraction is 20% of what it was, because other water is available. GW in Lower Murrumbidgee was cut back to 270GL. Last year 60GL were extracted. Things can right themselves without human intervention.

Topic	Issue
Implementation timeframe	<ul style="list-style-type: none"> ■ Farming communities are in an investment cycle following drought that requires 10 to 15 years to recoup investment. People are drained following the drought period. ■ Cultural change and succession planning take time. ■ Allow time for current NSW Water sharing plans to be implemented and deliver environmental outcomes ■ Current wet years allow more time to prepare the Basin Plan properly based on the best science. This draft Plan should be scrapped and the MDBA start again using up to date information and by defining clear environmental targets and needs. ■ On farm projects will take three years to get going. Need time to achieve projects and outcomes. ■ A better water tracking system for regulated and unregulated systems will allow better meeting of targets, but need MDBA's targets plus 7-10 years to roll out the system.
Information	<ul style="list-style-type: none"> ■ Lack of detail on how MDBA came to its conclusions re SDL. ■ MDBA has not used up to date data or best available science. Should update baseline to include recent wet years. ■ Environmental goals and needs have not been outlined in the Plan ■ Regulatory impact statement should have been exhibited with the draft Plan
Infrastructure, environmental works and measures (EWM)	<ul style="list-style-type: none"> ■ Concerns about EWM funding processes - will be complex, and limit access to people skilled in filling forms; will only go to certain impacted areas, but all are allowed to put applications. Commonwealth needs to support project development, as regional skills base may not meet the task. ■ Menindee – some supported a project in Menindee to recover water, some did not. Northern Basin irrigators concerned about evaporation losses in Menindee. ■ Northern Basin stakeholders have EWM projects for consideration. Prefer EWM to recover water without industry impacts. Concern that MDBA's environmental targets are not clear enough to design EWM projects to meet them. ■ Propose requiring all downstream shares to be sourced from EWM, and purchased recovery for local share.
Integration	<ul style="list-style-type: none"> ■ Can't achieve Basin Plan outcomes with only water management ■ Too little cross-portfolio considerations – Basin Plan contradicts policies for food security, decentralisation, water pollution, invasive species. ■ Disconnect between land/catchments and water management. ■ Environmental water requirements do not consider the needs of native fish. Concern that native fish species will be harmed by excess water in the system, managed in a way that is targeted to wetlands and trees which may not align with fish needs.
Local government	<ul style="list-style-type: none"> ■ Local governments at the frontline of complaints re government service delivery. ■ Local governments need sustainable water industry in order to provide services. ■ Licence buyback ignores the impact on council rates where land is retired from farming or loses value.
Monitoring, evaluation and reporting (MER)	<ul style="list-style-type: none"> ■ The plan needs a better MER framework, properly funded, to understand impacts and environmental values being achieved. ■ Should be monitoring the outcomes of the past three years of natural over bank flows ■ Community wants the opportunity to input statistics on wetlands, extent and what we are trying to provide. There are small but important wetlands with low water needs that we value.

Topic	Issue
MER – socioeconomic	<ul style="list-style-type: none"> ■ To be genuine about triple bottom line and the 2015 review requires socioeconomic monitoring to be prioritised ■ Having one large SDL number with hazy objectives means that there will be no possibility to do cost benefit analysis and apply reasonable management ■ Not enough social and economic information available to substantiate a review in 2015. Burden of proof then goes to the community. ■ Some statistics and studies are available on 1) impacts of drought 2) median household income, youth and unemployment, 3) Stubbs and Deloittes studies. ■ MDBA has relied on out of date statistics. Need to establish a socioeconomic baseline that takes into account the drought and post drought recovery. ■ Concern that it takes time to gather statistics. Responses without data are reactive and unsubstantiated. ■ Any socioeconomic impact assessment in the northern basin needs to take into account the boom-bust system due to sporadic water supply naturally. ■ Concern that recovery will be slowed by purchase of licences.
Mining	<ul style="list-style-type: none"> ■ Mining companies that own properties also intend to farm the properties and are able to be more experimental ■ A particular mining operation employs 900 people and supports sustainable extraction
Modelling	<ul style="list-style-type: none"> ■ MDBA admits a high degree of uncertainty in modelling and that some assumptions in the modelling do not exist and if they did, could achieve environmental outcomes with less water. ■ Can't assess the modelling without environmental watering plans outlining what is to be achieved. ■ MDBA has stated that the in valley requirements for Murrumbidgee are actually designed to meet downstream needs. ■ ESLT report shows different methodology used in Macquarie, Lachlan, Gwydir re 'water recovered at a particular period of time'. Want equity with other areas. ■ The MDBA has not been transparent about how system constraints have been used in its modelling, and how this has affected the volumes of water required to meet ecological targets. They should release earlier modelling that did not incorporate these constraints. ■ Modelling should include watering targets for vegetation types, such as blackbox woodland, that are only inundated in larger flood events.
NSW position	<ul style="list-style-type: none"> ■ Requests to confirm the NSW Government position on the 2015 review ■ Request that NSW not accept the draft Plan ■ Request that all water be recovered through savings shared 50:50 with the environment and water users to maintain incentive.
Outcomes	<ul style="list-style-type: none"> ■ The draft Plan does not say what environmental outcomes will be achieved ■ Should focus on environmental outcomes for Basin as a whole and valleys, not a volume of water. It is not best practice. ■ The volume number is not seasonal like the system. Need to sit with stakeholders in each valley to see how to achieve the outcomes. Some will require water recovery, others will not. ■ Serious concerns about what the SDLs and valley targets will achieve. Overall will achieve better results in more cases with more water. The less water the harder to achieve the outcomes. ■ Agree with the need for environmental outcomes to be achieved from the Plan. MDBA needs to release information on valley environmental assets and needs. We have lists of key tests for a healthy river that we would like to see in the Plan. Problem needs to be resolved at local and Basin scales. ■ Perceived need to flush out average 2M tons of salt per year. This is the key to the large volumes of water required in the Plan. ■ The argument about pushing salt out of lower lakes is due to salt build up due to barrages. Not natural salinity coming down the river system

Topic	Issue
Recovery of water	<ul style="list-style-type: none"> ■ Concern about stranded assets. ■ No strategic approach to buybacks. ■ Not willing sellers – banks are forcing sale of water licences to reduce debt. Not in a position to refuse. ■ Concern that smaller farmers have less say than larger water owners and corporations.
Regulation impact statement	<ul style="list-style-type: none"> ■ Concern that RIS will only be released mid this year. Normally a RIS would be available during the consultation period not after.
Rules review	<ul style="list-style-type: none"> ■ Wish to ensure that licences held by the Commonwealth don't change characteristics or have higher priority than irrigation licences ■ Carryover rules need to stay the same for environment as for irrigation licences. ■ Can the Commonwealth recover 200 GL from rules review? ■ Need information on when the rules review will be undertaken, by whom. All numbers and proposals will need to be scrutinised including the use of cap equivalents.
Sustainable diversion limits - general	<ul style="list-style-type: none"> ■ Statements that there is insufficient environmental information in the draft Plan to support SDL reductions ignore the scientific information and modelling work that went into the development of the Guide. ■ Current SDL is meaningless until MDBA demonstrates how water will be used. ■ NSW Farmers wishes to drop the SDL completely until environmental watering plans and infrastructure have been put into place. ■ Do not support 2015 review – too soon for any new information ■ Request that Peel valley have a separate SDL from the Namoi WRP area ■ Concern about MDBA statements re recovery to date – recovery of remaining amount will not be as easy as first half. ■ Will the Basin Plan require the States to use available water determinations to achieve SDLs? ■ The 20% margin for compliance seems too high. ■ The 20% 'buffer' (based on long term averages) for SDL compliance is not supported. It would be better to go back to a 3-year rolling average ■ The Plan does not reflect the hydrology of the Basin through its use of averages. SDLs should better reflect the variability of the Plan. ■ There should be an allowance for the effect of climate change on water availability for the life of the plan. The effects should be apparent by the time the Plan expires in 2029. There should be at least a 3% reduction in the SDLs, in line with the CSIRO modelling of the most likely scenario of a drying climate up to 2030. Otherwise the environment bears all of the risk if the CSIRO predictions are correct.
Sustainable diversion limits – downstream share	<ul style="list-style-type: none"> ■ Concern that the NSW Murray in-valley requirement is actually additional downstream share – MDBA staff stated to Murray Valley stakeholders that 80% of the 320 GL is actually intended to go downstream ■ Concerns raised about reduced water availability in many regions, particularly Murray, Murrumbidgee, Namoi. ■ Concerns raised about the size of the downstream share and lack of information as to what outcome this is intended to achieve. ■ The large increases in groundwater SDLs do not comply with the NWI Agreement principle that connectivity with surface water resources should be assumed unless proven otherwise. ■ There is a high risk that the increased SDLs for groundwater will result in future unsustainable allocation of access rights. It is understood that the SDLs are based on current Water sharing plans, but it is considered that the recharge estimates in these plans is too high. ■ Question if Queensland will contribute equitably to downstream share.

Topic	Issue
Sustainable diversion limits – downstream share <i>cont.</i>	<p>Lower Lakes</p> <ul style="list-style-type: none"> ■ Many recreational fishers consider that the Lower Lakes should be returned to estuarine conditions. A healthy river needs a healthy Estuary and this has not been the norm for the Murray River for some 70 years ■ Many stakeholder submissions raised concerns that the NSW downstream share is largely designed to keep the Lower Lakes fresh. NSW stakeholders largely did not support the 'freshwater solution' to the Lower Lakes at significant socio economic risk to NSW communities ■ Inequitable to seek upstream states to reconfigure irrigation systems at great cost, without looking at management of the Lower Lakes ■ Seek close examination of the management of the Lower Lakes including infrastructure, return to natural estuarine environment and removal of the barrages to reduce the volume of water required to be removed from NSW irrigation. ■ Lower Lakes are part of an estuary. Seeking flow 9/10 years, which is not supported historically. Lower lakes are artificially created. Need to ask the question if it was to create natural environment. Barrages to be reviewed. ■ Concern that significant evaporation losses in Lower Lakes are not being managed. Equity required between management of all environmental assets in the system not just some assets with others exempt ■ Concern that the barrages take away tidal influence and lead to sedimentation of the Murray Mouth. Management proposals should look at removal of barrages to return to the natural environment. ■ CSIRO report on Murray Mouth opening without structures says it would be open 3 out of 7 years not 9 out of 10 years in draft Plan. The 9/10 years target should be thrown out. ■ Something wrong with Lower Lakes management. With all the recent floods still have salinity problems. "Just add water" is not the solution <p>Menindee</p> <ul style="list-style-type: none"> ■ Concern that northern contributions to downstream flows will evaporate at Menindee ■ Seeking opportunities and timeframes to discuss infrastructure and better management of Menindee to reduce evaporation losses ■ Question if savings at Menindee will be credited to the northern or southern shared zone
System constraints	<ul style="list-style-type: none"> ■ Concern that the MDBA has said that no more water can be recovered due to system constraints. ■ Concern that system constraints will not allow delivery of the volume of water aimed to be recovered under the draft Plan ■ Commonwealth should only recover what they can use and deliver ■ MDBA says 2750 GL is achievable within system constraints. Suggest an independent assessment of constraints and how they can be dealt with. ■ Largest constraint in the system - Barmah Choke - does not feature on MDBA's constraints map
Third party impacts	<ul style="list-style-type: none"> ■ The Plan does not address third party impacts. These need to be considered and addressed with local input ■ Environmental flows in 2011 reported to have caused economic losses due to blocking access to properties (\$250K crop and \$75K stock on one property) and reducing tourism due to reduced access to rivers. ■ Concern that environmental flows will impact farmers' ability to flexibly manage farming practices

Topic	Issue
Timeframe	<ul style="list-style-type: none"> ■ Some stakeholders questioned if the environment has the ability to cope with a longer time frame for recovery of water ■ Other stakeholders considered that the rains of the past few years have taken the pressure off the environmental water requirements from the drought and allow more time to better plan and manage environmental flows. ■ Concern that a Plan developed too fast will not cover all that it is required to. ■ A faster decision on the amount of water to be removed from productive use will give certainty and allow identification of what improvements can be made to achieve the outcomes. ■ Concern that the longer the Basin Plan development process is dragged out, the more likely that the Commonwealth will use buybacks to recover the water. ■ Concern at any call to delay the Plan. This has been years in the making. Reductions won't meet the majority of environmental needs. ■ Want the NSW government to play a constructive role in progressing the Plan, not delay
Trade	<ul style="list-style-type: none"> ■ Concern that the characteristics of environmental water licences will be changed and be different to other water licences, which may impact reliability for other water users. ■ Questions around the pros and cons of limiting trade to the Commonwealth for environmental water and the nature of property rights in water licences.
Triple bottom line	<ul style="list-style-type: none"> ■ NWI is about balance and triple bottom line, but there is nothing in the draft Plan gives effect to triple bottom line. ■ MDBA's own research confirms the impacts on specific regional communities however there is a strong community sense that the MDBA does not value their existence or contribution, and this information is being buried. ■ Triple bottom line approach is needed to ensure that communities have the ability to expand and contract operations and have resilience to get through the full range of commercial and climatic scenarios
Urban water	<ul style="list-style-type: none"> ■ Concern that provision of conveyance water for downstream urban water needs has resulted in unanticipated reductions to available water determinations. ■ Water allocated for critical human needs does not allow for population growth in towns ■ Towns need economic water as well as human water ■ Councils concerned about impacts on town water supplies. 100 utilities supply drinking and industrial water. Want priority and guarantee for town water supply in the Basin Plan including growth.
Water quality salinity management	<ul style="list-style-type: none"> ■ Concern about the use of water for water quality and salinity management ■ Concern at gaps in the Plan relating to water quality enforcement ■ Request that the Plan include a salinity number rather than a flow number

Appendix C – Key NSW concerns on the 2010 Guide

The following concerns were highlighted with the MDBA in the NSW response to the Guide to the Proposed Basin Plan. These concerns were the first point of reference in reviewing the draft Plan and associated Commonwealth programs.

- **Balancing environmental, social and economic outcomes** – the NSW Government and NSW communities understand the need for change to maintain a healthy and productive Basin. However, the Basin Plan needs to find an appropriate balance between environmental, economic and social interests of the Basin. It also needs to be supported by a Commonwealth Government structural adjustment package to assist affected communities' transition to lower water availability.
- **Transitional arrangements** – the Basin Plan needs to recognise the significant NSW Government and National Water Initiative reforms which are already in place and allow time for these changes to take effect. Implementation timeframes should also allow the opportunity for communities to adjust and the underlying science to be improved.
- **Efficiency through infrastructure improvements** – the MDBA should recognise the capacity for investment in water-related infrastructure, as well as environmental works and measures, to achieve environmental outcomes without necessarily resorting to reducing current diversion limits and affecting rural communities.
- **Interstate equity** – the Guide indicates that NSW, South Australia and Queensland will be expected to comply with the Basin Plan and its Sustainable Diversion Limits (SDLs) by 2014, whilst Victoria is not expected to comply until 2019, which raises issues regarding the equitable treatment of a wide range of stakeholders in the Basin. In addition, reductions in current diversion limits should be shared equitably by all States where the water sources are shared.
- **Basin State implementation and costs** – the NSW Government is concerned that delays by the MDBA in completing the final Basin Plan may compromise the time available to prepare compliant Water Resource Plans. Furthermore, the Guide suggests increased responsibilities for States with regard to the development of WRPs (including Strategic and Annual Environmental Water Plans), compliance, enforcement, monitoring and evaluation. This will place additional burdens on existing State resources unless funding support from the Commonwealth Government is forthcoming.
- **Access to modelling and other information** – lack of access to modelling and other information has prevented the NSW Government from undertaking a robust analysis of the adequacy and efficacy of the Guide's proposals. For example:
 - ◆ the Guide does not adequately explain the basis or rationale for the proposed SDLs or the environmental watering requirements, nor does it provide transparency to the MDBA's decision making rationale on, for instance, the proposed range of SDLs;
 - ◆ the Guide does not contain a clear explanation of the methodology used to translate National Water Initiative requirements into Basin planning, and in particular to the assessment and management of interception;
 - ◆ the uniform three per cent reduction in diversion due to climate change adopted in the Guide is not supported by evidence and the MDBA should consider a more targeted approach; and
 - ◆ the MDBA should produce data which provides clarity to stakeholders on the quantity of water that has been recovered for the environment to date, and how much remains to be recovered to achieve the proposed SDLs.
- **Consultation strategy** – in developing the proposed Basin Plan, the NSW Government believes that the MDBA should:
 - ◆ work with the Basin Community Committee to resolve the various stakeholder concerns with the methodology used in the Guide;
 - ◆ design an engagement strategy for each catchment community which is tailored to meet their individual circumstances; and
 - ◆ develop a mutually agreed and structured engagement strategy with each of the Basin States.

Appendix D – Additional groundwater information

Lachlan Fold Belt MDB: The Lachlan Fold Belt is one of the 4 regional fold belts that form the geological basement of NSW. The Lachlan Fold Belt MDB groundwater source corresponds to that portion of the Lachlan Fold Belt within the Murray Darling Basin with the exception of two localities where separate water sources have been defined to manage extraction on a more local scale, i.e. Yass Catchment and the Young Granite. Both these smaller areas are fully allocated and embargoes on further entitlements have been in place for a number of years.

The Lachlan Fold Belt MDB is present across 52% of the State although much of it (59%) occurs at depth underlying shallower groundwater sources. In some instances such as areas underlying the Great Artesian Basin it may be 100s to 1000s m below ground level. The outcrop of this water source covers some 167,200km².

Bores in this fractured rock groundwater source typically yield less than 1 L/s being sufficient for stock and domestic supplies only. There has been limited success in obtaining higher yields by targeted drilling into prospective geological units and structures.

Given the variation in rainfall, topography and rock types across the groundwater source the water quality is also variable. Salinity ranges from less than 1,000 mg/L total dissolved solids (TDS) in the eastern highlands through to 30,000 mg/L TDS in the lower rainfall and more subdued topography in the western area.

There is currently 68.5GL of entitlements in the water source which includes 5GL of town water supply. Approximately 6GL of entitlement is currently held by the mining industry. Extraction for the mining industry includes dewatering volumes as well as water supplies. Much of the mining extraction is in the higher salinity areas in the west.

Western Murray Porous Rock: The majority of this water source outcrops at the lands surface with only the alluvium associated with the Lower Darling River overlying it. It extends across some 73,000 km² and includes riverine, marine and aeolian sediments of the Murray geological basin.

Bores into this water source are able to yield large supplies due to the high permeability of the sediments. The water quality of this water source is highly variable and ranges upward from 1,000 mg/L TDS although it is more typically greater than 10,000mg/L TDS. There is currently 36.3GL of entitlement with the majority of entitlement, 21.4GL, being held by mining and industry and 14.6GL for salt interception schemes.

Setting the Extraction Limit

The long term average annual extraction limit (LTAAEL) for these water sources has been set at a proportion of the estimated diffuse rainfall recharge.

A risk-based approach was used to determine the proportion of the recharge volume that would be available for extraction and that which would be retained to meet environmental needs and the long term sustainability of the resource.

This assessment considered the risk that groundwater extraction placed on the groundwater source and its high priority groundwater dependent ecosystems and identified risks to ecological, water quality and aquifer integrity assets. The socio-economic risk assessment looked at the dependence of local communities on groundwater extraction in terms of the risk to financial and sociological assets. An overall risk valuation was attained for the groundwater source.

As a result, a sustainability index was determined which set the proportion of recharge to be available for extraction, while the remaining proportion of the estimated recharge volume and the volume of groundwater held in storage were reserved in the plan under the planned environmental water provisions. All rainfall recharge in areas of high conservation areas, e.g. National Parks, was also reserved as planned environmental water.

Recharge across the entire outcrop area of the water source was considered. Given the large area covered by these two water sources the total rainfall volume and consequent potential rainfall recharge volume is also very large.

For the Lachlan Fold Belt MDB 25% of the volume of the estimated average annual rainfall recharge in non high conservation areas is being made available for extraction, this equates to an LTAAEL of 821 GL/yr. The remaining 2,653 GL/yr of rainfall recharge and the estimated 1,707,257 GL of water held in storage are reserved as planned environmental water and is not available for extraction.

The recharge rates in the Western Murray Porous Rock are relatively well known and are based on the joint CSIRO / NSW government field trial sites that relate long term recharge rates to soil type and land use. The LTAAEL in the Western Murray

Porous Rock water source is set at 50% of the estimated rainfall recharge in non high conservation areas. This is a LTAAEL of 530 GL/yr. The remaining 573GL/yr of rainfall recharge and the estimated 10,952,643GL of water held in storage are reserved as planned environmental water and not available for extraction.

Comments

The Guide to the MDB plan set the SDL of these water sources at an estimate of current levels of usage which were based on 60% of current entitlement. This was even though the MDBA technical assessment indicated that extraction of water in excess of these levels were acceptable under their recharge risk assessment method.

Subsequent discussions with the MDBA and NOW on the characteristics of these systems including potential risks to environmental assets, surface water flows and the groundwater salinity of these areas resulted in the MDB re-evaluating their SDL estimates. This was also done in recognition that access to these resources should not be limited in areas where groundwater extraction posed no threat to the sustainability of the Basin.

The NSW water sharing plans that cover these water sources have already been gazetted and will commence in January 2012. The LTAAELs in these plans are greater than the MDB draft plan SDL values for these systems. NSW will align the LTAAEL for these water sources with the MDB SDL when these plans are required to comply with the MDB plan. A summary of the NSW and draft MDB Plan numbers is in the following table.

Comparison of NSW water sharing plan and the draft MDB plan for the Lachlan Fold Belt MDB and Western Murray Porous Rock water sources.

Water Source	NSW water sharing plans			Draft MDB Plan	
	Entitlement GL	Basic Landholder Rights GL/yr	Long Term Average Annual Extraction Limit GL/yr	BDL GL/yr	SDL GL/yr
Western Murray Porous Rock / <i>Western Porous Rock</i>	36.362	26.747	530.486	48.7	225.9
Lachlan Fold Belt MDB / <i>Lachlan Fold Belt Macquarie Castlereagh</i>	74.835	74.311	821.25	51.2	89.3
<i>Lachlan Fold Belt Lachlan</i>				36.9	123.6
<i>Lachlan Fold Belt Murrumbidgee</i>				26.3	133.4
<i>Lachlan Fold Belt Murray</i>				14.3	31.9
<i>Lachlan Fold Belt Western</i>				13.7	230.6
Total for Lachlan Fold Belt SDL Units				142.4	608.8

The draft MDB Plan divides the Lachlan Fold Belt MDB water source outcrop area into five separate SDL resource units based on major catchment boundaries. The buried portion of the Lachlan Fold Belt is not included under these SDLs but is incorporated into the overlying SDL resource units. In the NSW water sharing plans both the buried and outcrop areas of the Lachlan Fold Belt MDB are managed together under the one LTAAEL.

Appendix E - Additional analysis of selected chapters

Chapter 7 – Environmental watering plan

Clause	NSW concern
Part 2 Objectives	<p>The overall environmental objectives for the water-dependent ecosystems need to be manageable, practical and feasible in an adaptive management environment. On this basis, the following comments are provided.</p> <p>All references to “ensure” or “ensuring” should be removed. In the context of reduced water availability and climate change, it is not practical/feasible for environmental water holders and managers to ensure that any of the objectives are met, or for managers to be able to demonstrate that certain actions will categorically deliver an objective.</p> <p>Use of the term “ensure” is also inconsistent with the framework in Part 3 which sets up the targets as something by which to measure <i>progress towards</i> meeting the objectives rather than their absolute achievement.</p>
Baseline	<p>Identification of the baseline, while difficult, must be addressed by the MDBA (in guidance material if not in the instrument). The overall environmental objectives need clear definitions or interpretations to make them measurable and meaningful. For example what constitutes the baseline condition against which “restore” is measured and what is meant by ‘protect’? Is it pre European condition or x% over current etc? Such a baseline condition should also be limited to that which is achievable by controlling the water regime alone.</p>
7.03 (c)	<p>The use of “ensure” is inappropriate (see above comment on Part 2)</p> <p>Change the objective to: “to enhance the resilience of water-dependent ecosystems to risks and threats”</p>
7.04 (2) (b)	<p>Includes objective of protecting and restoring water dependent ecosystems that support the lifecycles of species listed under JAMBA, CAMBA and ROKAMBA. This relates to a large number of wetlands (including many that are artificial or highly degraded and/or environmental water managers may not have the ability to water) and would be impractical to demonstrate/ measure compliance with. NSW suggests narrowing the definition or guidance be provided on how to practically interpret this objective.</p>
7.04 (3) (a)	<p>Measuring species is hard enough, but including all life history stages as well would be beyond any reasonable monitoring effort.</p> <p>MDBA to clarify the meaning of “lifecycles” in the context of this objective.</p>
7.05 (3) (b)	<p>Refers to lateral and longitudinal connectivity along and between “rivers” respectively. This needs to apply to all waterways, not just rivers.</p> <p>Suggest rewording and including more inclusive term such as “watercourse” or “rivers and their tributaries” or defining “rivers” for the purpose of the plan.</p>
7.05(3) (e), (4)	<p>These matters largely outside the scope of EWPs and relate to the activities of CMAs and other agencies (i.e. land management and infrastructure). Suggest deleting.</p>
7.05 (5), (6), (8)	<p>While these are worthwhile objectives, Schedule 10 requires monitoring and reporting against these objectives, which would be a very complex and costly exercise. Suggest deleting.</p>
7.06	<p>The use of “ensure” is inappropriate (see above comment on Part 2).</p> <p>Redraft to “To enhance the resilience of water-dependent ecosystems to risks and threats.”</p>

Clause	NSW concern
7.06(2)	The CSIRO review of the ESLT notes that climate change risks have not been factored into the calculation of the SDLs. It also notes that planned environmental water is the least secure water share under a drying climate. Therefore it is unclear how the objective outlined in this section of the Basin Plan can be achieved when climate change is not factored into the ESLT.
Parts 4, 5 and 6	The CSIRO review notes that there are deficiencies in the MDBA method for estimating the environmentally sustainable level of take. In particular, it identified weaknesses in the identification of ecosystem functions and the science used to justify hydrologic targets to support the functions. The Basin Plan should allow flexibility in the methods, to allow adoption of improvements in knowledge over the life of the Basin Plan
7.12(d), 7.25(3)(f) (ii), 7.33(b)(ii)	Refers to “persons materially affected by the management of environmental water in the WRP area” in the consultation requirements. Section 7.12 and 7.33 fail to recognise the need to involve and consult those State agencies responsible for technical advice and assistance on aquatic ecosystem biodiversity (e.g. OEH and DPI (Fisheries) in NSW), beyond the role of OEH as manager of environmental water. Suggest these sections are changed to state ‘persons or organisations affected...’. This will cover off on the need to consult relevant agencies beyond just environmental water holders.
Part 5 headings	Methods for identifying environmental assets etc - The heading is misleading as watering requirements are not identified for all the assets, only the priority assets. Insert ‘priority environmental assets...’
7.21	Annual environmental watering priorities (AEWP) must be consistent with the long-term watering plans (LTWP) and use the principles and method set out in Part 6 of Chapter 7 to identify those priorities. Change “must be consistent with” to “have regard to”. This would better reflect the tactical nature of AEWPs compared with the longer term strategic nature of LTWPs which are reviewed every 5 years. While NSW intends that AEWPs and LTWPs will be consistent it is overly prescriptive to require this given the different timescales and objectives of AEWPs and LTWPs.
7.23	Identification of possible co-operative arrangements alone cannot <i>ensure</i> that environmental water meets the needs identified in 7.22. Change wording to “that support the environmental water priorities identified in section 7.22”.
7.26	Given the potential significance of the Environmental Assets and Ecosystems Functions Database to State planning efforts, NSW wishes to be involved in specification of the database. The MBDA should outline in any guidance material the MDBA’s expectation of how this database is to be used by States in developing Long Term Water Plans (7.27, 7.28). There also needs to be clarity on what kinds of information States should provide, when it should be provided and any data quality standards.
7.27 heading	Same comment as for Part 5 headings above.
7.28 heading	Includes ‘that require environmental watering’ Should be deleted. The phrase should also removed where it is used elsewhere, as the method does not discriminate between assets and functions that require environmental watering and those that do not.
7.44 (b) (iv)	Inconsistent with Part 14, Chapter 9 – NSW does not and will not restrict consultation to traditional groups only. Reword consistent with Part 14, Chapter 9 – i.e. “relevant Indigenous organisations.”
7.46 – Principle 5 –	This principle - Cost of environmental watering - is beyond the reasonable scope of the EWP as it involves considerations of broader resource allocation.
Schedule 7	Targets 1c and 2c should be expanded to include protecting and restoring the condition of rivers (or river types) as well as floodplains and wetlands. Eg “Rivers, floodplain and wetland types,...”

Chapter 8 - Water quality and salinity management

Clause	NSW concern
8.01	<p>Simplified outline</p> <p>While there is a note relating to 'having regard to' the National Water Quality Management Strategy, there is no reference here to the Basin Salinity Management Strategy (Schedule B of the <i>Water Act</i>). The BSMS has fundamentally driven the management of salinity in the Basin, and should be accorded the same recognition and prominence in formulation of the Plan.</p>
8.02	<p>Types of water quality degradation and their key causes</p> <p>Schedule 8 of the BP lists key causes of water quality degradation</p> <p>Item 1 (3) is about soil structure degradation, not about water quality per se</p> <p>Item 2 – describes "failure to prevent" sediments from entering basin water resources. NSW has previously indicated that "failure to prevent" is a subjective judgement about the degree of control associated with preventing natural mobilisation processes, which occur for a range of reasons. A rainfall runoff event of only modest proportions would exceed the notion of "failure to prevent". This phrase should be removed from the Schedule 8 table.</p> <p>Item 3 – similar comments apply, particularly given that nutrients are often mobilised bound up with sediments. This may not apply to point sources to the same extent, although this may still be an unreasonable expectation with extreme rainfall events, particularly following drought sequences.</p> <p>Item 9 – "failure to prevent"</p>
8.05	<p>8.05(a), 8.05(c) the objective is to minimise the risk that the quality of water taken "for treatment" for human consumption.....</p> <p>The risk minimisation strategy is overwhelmingly associated with treatment rather than with the raw water source, given the potential costs and the feasibility of realistically impacting on the quality of raw water to the extent of "minimising risk".</p> <p>8.05(b) The palatability rating would predominately be dealt with through the water treatment process, rather than by addressing a raw water objective.</p> <p>NSW advocates that the risks around water for human consumption be primarily addressed through detection, notification and treatment strategies. The objectives really should be simpler such as a) to minimise the cost of water treatment for potable use & b) to minimise the risk that current treatment technologies employed in the Basin will not be able to provide potable water to ADWG standards.</p> <p>Section 8.05 Objectives for raw water contains 3 objectives that are difficult to really understand (generally they relate to salinity, algal toxins and odours)</p> <p>Section 8.16 Salinity Targets</p> <p>In general the targets that need to be achieved are the most stringent of the use guidelines (that is the principle) i.e.: the basin wide salinity target of 500mg/L TDS is sought after due to issues with respect to drinking water quality (taste issues). Irrigation targets are about the impact on soil structure and farming ventures / crops / agronomy. There are discrepancies between the two in the plan depending upon the location. For example an irrigation target (at the extraction site) in the northern basin needs to be 670 mg/L... but 200m upstream at the WTP offtake it should be 500mg/L for palatability. The 500 mg/L target 95% of the time at the Murray River at Morgan is a basin wide target. The ANZECC guidelines set water quality guideline values based on the use of the water. These are set as targets in the basin plan based on use as well, when ultimately these are performance goals that we aspire to achieve through water and land management. The guideline value is what is acceptable for use. As such it would be more appropriate to establish WQ Targets.</p>
8.06	<p>Objective – irrigation water – no problem for this as an objective, however meeting this objective in many instances is either impractical or impossible. It should also allow for crops which are salt tolerant (e.g. cotton,) to avoid unnecessary focus on this objective. It should also be noted that salt intolerant plantings might be better discouraged in some circumstances.</p>
8.07	<p>Objective for recreational water quality – should be primarily addressed through detection and notification strategies, as well as storage management protocols.</p>

Clause	NSW concern
8.08	<p>Objective – No deterioration of water quality.</p> <p>While the objective in itself has some merit, there are a range of practical issues associated with management to achieve this objective. These include:</p> <ul style="list-style-type: none"> ■ A potentially extensive monitoring regime, ■ Climate variability masking the ability to detect change ■ The “value” of a water quality characteristic is a very limited metric in this context. The water quality regime (probability distribution) much better describes the basis for the objective. However, with climate variability and limited “sampling” of the climate, it is difficult to define this in a monitoring sense. A water quality modelling framework may be a way to better capture variability and to assess the benefits of change in water quality from land based or water management strategies. However, this imposes very significant technical and predictive challenges and costs, as well as extensive data requirements, without any guarantee that these will work.
8.09	<p>Water quality targets</p> <p>There are a range of “targets” in chapter 7, with multiple drivers, including some which have associated accountability arrangements, and others which are “aspirational” in nature as indicated in the Plain English summary. NSW is concerned that there is inadequate differentiation between the different roles of targets.</p> <p>NSW would strongly request that the text of Chapter 8 more clearly reflect the basis for aspirational targets and the significant technical challenges, investments and timeframes that would be involved. Using the language of the NWQMS, e.g. water quality guideline values, performance goals, etc could reduce confusion around the use of the word target for multiple purposes in Chapter 8..</p>
8.09(2)	<p>8.09(2)(a), Certain measures to help achieve targets: This section reads: <i>The targets inform the development of certain measures which are required to be included in water resources plans</i> (Part 7 of Chapter 9). Part 7 of Chapter 9 is not restricted to ‘certain’ measures. NSW suggests removing the word ‘certain’ from this section and also from the plain English summary document.</p> <p>8.09(2)(b) – The targets cannot inform operational decisions easily without a large knowledge (and information) base underpinning a predictive capacity to evaluate the implications of operational alternatives. In many circumstances (particularly with unregulated systems) there are no ‘operational’ levers and hence no flow management decisions to be made. In complex long river systems the knowledge base and predictive capacity will never be adequate to ‘inform’ operational decisions. NSW advocates trials of Water Quality Management Plans (looking retrospectively) in real river systems to identify the potential for operational decisions to ‘inform’.</p> <p>8.09 (2)c – NSW is concerned that the context of ‘aspirational’ as expressed with respect to some targets (which NSW supports) is already being misunderstood – the ‘disclaimer at the end 2(c) does not reflect how unrealistic these targets may be in some circumstances, and that we may never meet some targets, with the best will.</p> <p>“however, if a target is not achieved...” is the only place where NSW could interpret the non-mandatory nature of certain targets. NSW would like to see a more explicit recognition of the non-mandatory nature of targets, particularly where these are aspirational (long term objectives), are heavily influenced by climatic sequences, inadequate understanding of biophysical processes in setting of targets, or the scale of investments required to achieve change or alternately capturing the language of the NWQMS re guideline values, performance goals, etc that would better reflect the nature and intent of the QWSMP.</p> <p>The note at the end of this section needs to reflect appropriate reporting arrangements, that match the level of management that is feasible with measures to be included in water resource plans, and making some of these ‘operational’ decisions.</p>

Clause	NSW concern								
8.10	<p>More stringent target applies</p> <p>NSW is very concerned at the potential application of this requirement. The push for a generic specification of targets means that there will always be 'special' cases where the generic ones are not appropriate.</p> <ul style="list-style-type: none"> ■ The WQMPs will to a certain extent mimic the WQSMP, but they will potentially contain the details in terms of water quality targets, objectives and management actions for that resource area - i.e. these will be the main water quality management vehicles and have much more weight than the WQSMP within the Basin Plan. ■ The BP should unambiguously allow each WQMP to have locally specific water quality targets that will be allowed to differ from the generic targets provided in Schedule 9 of the WQSMP. Specific water quality targets can be set for particular resource areas, and will take precedence over the generic targets in Schedule 9. If the locally derived targets are less stringent than the generic targets in Schedule 9, this must still be acceptable under the Basin Plan (see Section 9.36, in particular paragraph (4) (f) parts (i) to (iii), provided an adequate rationale for having less stringent targets is provided within the WQMP. <p>NSW is concerned that the introduction of operational salinity targets, (that may or may not have some relativity to each other) must not imply that targets cannot be 'transported' downstream under the 8.10 principle. This could have the perceived effect of moving the Morgan target some 250km downstream to Murray Bridge. While these operational targets are not mandatory, criticism is likely if targets are not met even for legitimate reasons.</p>								
8.11	<p>Certain target values to inform operational decisions</p> <p>This draft Plan identifies the following parties that must "have regard to" certain target values (8.11.(5))</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 50%; padding: 5px;">The MDBA</td> <td style="width: 50%; padding: 5px;">When making operating decisions in relation to the Agreement</td> </tr> <tr> <td style="padding: 5px;">BOC</td> <td style="padding: 5px;">when carrying out its functions under the Agreement relating to the management of water flows</td> </tr> <tr> <td style="padding: 5px;">Agency of a Basin state (e.g. NOW)</td> <td style="padding: 5px;">when making decisions in relation to the licences and operating rights and obligations of operating authorities and infrastructure operators</td> </tr> <tr> <td style="padding: 5px;">CEWH, other holders of environmental water or managers of planned environmental water</td> <td style="padding: 5px;">when making decisions about the use of environmental water.</td> </tr> </tbody> </table> <p>The Basin Plan should explain the intent of the phrase "have regard to", acknowledging that water quality is one of a range of issues to be considered when determining the most appropriate use of the water.</p> <p>NSW is concerned to ensure that CEWH's accountability for salinity impacts in making environmental watering decisions is incorporated in salinity accountability arrangements as per Schedule B (BSMS), and that this be clearly addressed in any consistency review recommendations (Basin Plan vs MDB Agreement Schedule reviews) .</p> <ul style="list-style-type: none"> ■ NSW is already accountable for a number of salinity targets as a signatory to the Basin Salinity Management Strategy (BSMS). NSW compliance with this Strategy is reflected in the MDBA Salinity Registers, and is audited annually by an independent group. ■ The Plan sets out water quality targets for declared Ramsar wetlands and other ecosystems, raw water for treatment for human consumption, water for irrigation and recreational uses, as well as targets for Basin-wide salinity management. These water quality targets are not mandatory but are intended to inform water resource plans, operational decisions and to measure progress against achieving water quality objectives. 	The MDBA	When making operating decisions in relation to the Agreement	BOC	when carrying out its functions under the Agreement relating to the management of water flows	Agency of a Basin state (e.g. NOW)	when making decisions in relation to the licences and operating rights and obligations of operating authorities and infrastructure operators	CEWH, other holders of environmental water or managers of planned environmental water	when making decisions about the use of environmental water.
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Clause	NSW concern
8.11 <i>cont.</i>	<ul style="list-style-type: none"> ■ The aspirational status of the non-salinity water quality targets recognises that the majority of causes of water quality problems are land based, such as soil erosion or outputs from towns and industry. ■ These causes can be addressed over time through investments in landscape change, but the investments required are significant and change is slow. ■ Additionally it is not feasible in some locations to achieve the water quality targets in the draft Basin Plan through water management actions, as many occur in unregulated catchments, where there are no water management levers to use. ■ In dealing with this as a risk management issue, for example with algal events, it is usually ineffective to allocate water to deal with these occurrences, but rather detection and notification strategies are used to mitigate the risk to humans and stock. <p>Some water quality issues occur coincidentally with periods of very low water availability during droughts. In these circumstances, serious tradeoffs between the level of water quality risk, and the threats posed to very limited water supply need to be considered. In these circumstances, it will not be possible to meet water quality targets.</p>
8.12	<p>Water dependent ecosystems include the rivers and wetlands etc.. 8.12(1) establishes target values in zones for turbidity, TP, TN, DO, pH, Temp & Pesticides in Schedule 9 for water dependent ecosystems. NSW will be unable to report on pesticides and other contaminants as we do not monitor for these apart from some sites within the Murray River Operations area (funded through joint NRM programs by the MDBA). The other parameters are sampled monthly or fortnightly for riverine sites.</p> <p>NSW Office of Water is leading development of regional WQ targets through an IAG process of consultation for some parameters and these can replace some of the WQ targets here.</p> <p>Schedule 9 is unduly long and complicated. For example, it provides target values for Ramsar wetlands in target application zones where there are no Ramsar wetlands.</p> <p>Checking a list of web links to information on NSW Ramsar declared wetlands within the Basin suggest that the two "Ecosystem types" provided for the Ramsar declared wetlands within Schedule 9 (1). Riverine and (2) Non riverine with permanent water) may not really be appropriate, and difficult to apply. The information on the web sites suggest that the Ramsar declared wetlands are in fact very heterogeneous systems composed of a mix of different water body types, both fluvial and lacustrine, and most are ephemeral. Even the water bodies in the NSW Central Murray State Forests Ramsar declared wetlands are describe as "seasonal/intermittent/irregular rivers and lakes".</p> <p>Such wetland descriptions, and especially ephemeral wetlands, are not really covered by the descriptions provided in Schedule 9.</p> <p>Targets for other water-dependant ecosystems are basically those developed by Karoo consultants (BPKID reports). Generally they are less stringent than the ARMCANZ/ANZECC (2000) water quality trigger values for south-east Australia. NSW has no issues with these, especially as they will ultimately be replaced by our own locally derived target values once the project of Dave Ryan has been completed. Schedule 9 does however appear to roll up both "rivers" and "freshwater lakes and reservoirs" into a single target category, whereas these are separate in the ARMCANZ/ANZECC guidelines. This needs clarification from MDBA. NOW provided Karoo with water quality data so that they could devise their targets, but these data were only for riverine sites. NSW has raised this issue with MDBA previously.</p> <p>NSW notes due to the highly variable nature of wetlands (including Ramsar wetlands) that it is not possible to set meaningful target values for wetland water quality. NSW therefore requests that water quality targets for wetlands are removed from Schedule 9 and 8.12(2) and replaced through an amendment to Section 9.36 with the ability to include site specific water quality targets for wetlands in the water resource scale water quality management plan, where appropriate.</p>

Clause	NSW concern
8.13 (4)	<p>This is rather vague. Numerical targets for other water uses (except recreation) are actually provided in the WQSMP, but not for cyanobacteria in raw water sourced for potable supply. It simply says "values that will ensure that there will be a low risk" that the treated water will not meet the ADWG. No information on what these values are. It could recommend an Alert Level from the Alert Levels Framework in the WQRA document that should not be exceeded if at all possible. NSW can make up some arbitrary target for BGA or ensure that all WTPs have adequate treatment (carbon etc) to prevent odour and toxin breakthrough. It is suggested that an objective (rather than a target) should be not to exceed Alert Level 1, although this still relates to detection and notification principally.</p>
8.14	<p>WQ targets for irrigation water</p> <p>There will be many instances where irrigation salinity targets will not be met, for a range of reasons, particularly in unregulated systems. In these systems, high stream salinities will usually be due to salinity predisposition of catchment geology, creating episodic salinity driven by high water tables. During wet sequences, the salinity regime may be elevated for prolonged periods in some catchments. There are no water management levers to address irrigation salinity targets, and catchment interventions will be the only mechanisms to mitigate high stream salinities. Investments for this purpose will need to be very significant and will only be effective in achieving long term improvements.</p> <p>The 95% of the time criterion appears to be drawn from the exceedance probability associated with the Morgan target. In this context, the exceedance is related to the 25 year benchmark climatic period that is used to model salinity accountability arrangements under the BSMS. There appears to be no rationale for the selection of 95% (18 days a year) as an annual exceedance metric, particularly given that high salinity exceedances may persist for longer periods through a climatic sequence. NSW experience of high salinity irrigation water impacting on crop yields or soil structure in the NSW MDB is somewhat limited. In high salinity catchments, irrigators may well make choices about suitable crop types to avoid these issues, where high stream salinities are prevalent.</p> <p>While the 95% criterion may be more relevant to salt sensitive permanent plantings in the Lower Basin, it does not make much sense where seasonal cropping (summer or winter) dominates, and the exceedance probability has limited context.</p>
8.15	<p>This section is also vague, referring to the NHMRC recreational WQ guidelines, but does not state which of the guideline values (Green, Amber or Red) should be met (This NSW assumes means "not exceeded" - but the way the section is written is vague and ambiguous). ...Additionally they do not specifically state that they mean Ch 6 of the NHMRC guidelines This needs to be clarified and specified in 8.15 as people not that accustomed with the guidelines will think they mean Ch 6 of the basin plan.). Perhaps for recreation it should not exceed the Red Alert Level.</p>
8.16	<p>Salinity targets – This section effectively describes the BSMS targets. NSW has flagged several times to the MDBA that the NSW EOY targets are out of date, but there is a process for updating EOY targets under BSMS protocols. NSW requires clarification from the MDBA on the adequacy of the current position on EOY targets.</p>
8.17	<p>Salt load target – There is no information on how the 2M tonnes per year for salt exported from the Basin was derived.</p> <p>NSW has concerns that principles embodied in the BSMS around "Living with salt" provide the opportunity to dispose of salt from the Basin at various times when Basin assets and values are not under threat. This is why the currency for accountability under the salinity registers is salinity cost. NSW objects to the suggestion that the salt load target might be used "as an excuse to put salt into the river", hindering meeting operational salinity targets. This is why exceedences and seasonal variances must be part of any operational targets specification (this does not mean that NSW supports the inclusion of these in the BP), to enable a pragmatic approach to managing salinity. NSW regards the salt load "target" as no more than a performance indicator for salinity management in the Basin, and not a target at all. There is already a debate about the 2750 GL scenario not including enough water to meet the salt load target. Hence it would appear that this salinity "target" could be used as a vehicle to promote increasing flows through to the Lower Lakes. Victoria has calculated that the salt load target if met would take 40,000 years to remove only 5% of the salt in the Basin.</p>

Clause	NSW concern
8.18	<p>Salinity operating targets – NSW has consistently indicated its preparedness to investigate Operational Salinity targets, but does believe that these targets should be mandated in the Legislative Instrument before there is a clear basis for these. NSW is concerned at the potential for misunderstanding the non mandatory nature of the operational salinity targets.</p> <p>NSW does not hold the view that there is any precision in operational decisions emanating from distant upstream locations where maintenance of a salinity target cannot be predicted with any certainty. NSW is concerned at the potential for ad-hoc decisions in this area. We have said that River Murray operations in respect of Menindee Lakes and Lake Victoria should mandate actions to minimise lower river salinity, particularly during periods of irrigation activity.</p> <p>NSW has consistently requested the capacity to evaluate the performance of the Basin Plan through a plausible scenario (or a number of these). NSW recognises the complexity of this request, but we cannot make decisions about what to include in the Basin Plan without adequate evaluation of its complexity and the interactions between the many BP elements.</p> <p>There needs to be adequate discussion about the frequency with which operational salinity targets may be at issue (post Basin Plan), the prevailing conditions across the Basin, which would determine consideration of any flow management decisions (beyond those that have already been documented through discussion with RMW). Only from this analysis can any clarity around “ have regard to” and the potential impacts on Basin water resources be provided.</p> <p>Recent salinity modelling work undertaken by MDBA on the operational salinity targets indicates that some targets are met under both baseline and 2750 GL scenarios, suggesting that operational targets are unnecessary. The analysis also suggests that the Burtundy operational target is impractical due to limitations of managing concentrated salt at low storage levels in Menindee Lakes.</p> <p>NSW advocates strongly that lower system salinity management is far better addressed by codifying operating rules to maximise the mitigation of high river salinities, than by having operating salinity targets in Chapter 8.</p> <p>NSW is aware that the Schedule 9 targets were not intended to apply to some wetlands and that this should have been indicated in Chapter 8 text. NSW seeks that this omission be redressed.</p>
WQSM aspects of Chapter 7 <i>cont.</i>	<p>Environmental Watering Plan</p> <p>One of the key issues for water quality is the use and application of environmental watering and the risk assessment framework and mitigation of any adverse water quality impacts. Whilst floodplain, wetland and riverine connectivity is highly important for maintenance of ecological condition (carbon etc) there needs to be some consideration of water quality impacts within the annual watering plans by the state and commonwealth EW holders, that also include a monitoring program in high risk situations.</p> <p>To that effect chapter 7 Part 4 Division 2 Section 15 states that “a long term watering plan must identify b) strategies to manage those risks having regard to the strategies in Ch 4” (the strategy being ‘the water quality in salinity management plan’) amongst the other 3 being the environmental watering plan, water trading rules and water resource planning. Additionally part 7 identifies principles that need to be applied in environmental watering that include Principle 4 – Risks (ensuring measures are taken to minimise risks including downstream risk).</p> <p>To that effect the WQ&SMP operational targets include a dissolved oxygen target of 50% saturation, salinity operational targets and recreational water quality targets) that the Plan requires to be considered by the CEWH and state environmental water holder & TLM. The DO consideration is a positive step that will assist the operators (State Water in NSW) in meeting targets only if the risk assessment is properly considered and some proportion of the environmental allowance is reserved for a dilution flow or flushing flow to target pool refugia and protect fish from any onset of blackwater. It also assumes that a comprehensive network of monitoring or baseline monitoring is being undertaken in order to provide information in a real time sense to forewarn environmental water managers. All of this comes at a cost. However the MDBA WQAP is assessing information and providing advice to environmental water holders and river operations that can assist in the risk assessment process. In providing water 50% saturation is also sometimes difficult to achieve, particularly in the morning and in summer.</p>

Clause	NSW concern
WQSM aspects of Chapter 7 <i>cont.</i>	<p>In summary:</p> <ul style="list-style-type: none"> ■ The chapter is basically a summary of what water quality is expected across the whole of the Basin - an overall umbrella for the Water Quality Management Plans (WQMPs) that will be part of the Resource Management Plans for each separate resource area within the Basin. ■ Part 7 of Chapter 9 allows the use of local values - the term used is "objectively determined actual value." ■ This means that locally derived water quality targets currently being derived for NSW catchments within the Murray Darling Basin (by David Ryan) will be acceptable under the Basin Plan, and can be used when NSW has to write its own WQMPs within its Resource management Plans. <p>Having aspirational targets only within the WQSMP rather than mandatory targets is a reasonable approach. These targets (or those within the WQMPs) will at least set some form of benchmark against which performance towards the water quality objectives as set out in the WQSMP can be measured - however it is unlikely that many of the aspirational targets within the WQSMP will ever be met, especially in the short term. There may be a chance over the long term - 50 to 100 years - but generally the focus should be ensuring no further deterioration in water quality across the Basin. Efforts that lead to improvement of water quality are difficult and expensive, with improvement only likely to happen slowly over the long term as a result of prolonged management interventions and significant investments. There is no panacea for the Basin to achieve an instant improvement..</p>
WQSM aspects of Ch 9	<p>Water Resource Planning requirements</p> <p>Chapter 9 also makes reference to the WQSMP by establishing Water Quality Objectives (Part 7). A Water Resource plan must include;</p> <ul style="list-style-type: none"> ■ a water quality management plan that; <ul style="list-style-type: none"> ◆ identifies key WQ causes of degradation NSW is in the process of using analytical approaches to identify key drivers of WQ at specific sites in NSW. ◆ can specify an alternate target value (not for EoValley targets or Ramsar Wetlands) (9.36 (4) (NSW is working to this end. <p>The WQM plan must specify measures undertaken that contribute to achievement of WQOs that need to ;</p> <ul style="list-style-type: none"> ■ relate to the key causes of WQ ■ specific to targets <p>In NSW this will include the various strategies already developed that include the NSW Diffuse Source Water Pollution Strategy, environment protection legislation and regulation, local environment plans, operational guidelines (such as the "NSW Algal Management Strategy alignment with the Cold Water Pollution Strategy") and the CMA CAPs. Through an alignment process developed through the MER Strategy process and EEP Branch with the NRC NSW Office of Water has been able to align CAPs with Water sharing plans in terms of establishing an alignment process. Other projects funded by the NWC have included developing objectives for the Water sharing plans that also consider the CAP process. All of this will enable NSW to provide evidence of measures that relate to improving WQ.</p> <p>NSW can also develop of operating protocols. River Murray Water Operational Environmental Guidelines being developed by the MDBA. NSW can do this but it will take substantial resourcing to achieve.</p> <p>The WQMP must identify locations in the WRP for which raw water and irrigation targets apply. This could be problematic as the licensing of works and publishing the licensed work is contrary to the <i>Privacy Act</i>. However we may be able to identify a management zone in the plans.</p> <p>The MDBA has previously responded to NSW comments indicating that the water resource scale WQMP will be able to set specific water quality targets for the Ramsar sites that may be more appropriate. However, section 9.36(4a) suggests that this option is not available i.e. if limits of acceptable change are set for a Ramsar wetland, section 9.36(4a) means that these must be the water quality targets and the WQMP cannot specify an alternative target.</p>

Clause	NSW concern
WQSM aspects of Ch 9 <i>cont.</i>	<p>MDBA to remove point (a) from section 9.36(4) to allow site specific targets to be set for Ramsar wetlands that already have limits of acceptable change.</p> <p>The BP must include a section in 9.36 to provide the ability to include site specific water quality targets for wetland sites in the water resource scale WQMP, where necessary.</p>
9.36	<p>The MDBA has previously responded to NSW comments indicating that the water resource scale WQMP will be able to set specific water quality targets for the Ramsar sites that may be more appropriate.</p> <p>NSW requests that water quality targets for wetlands are removed from Schedule 9 and 8.12(2) and replaced through an amendment to Section 9.36 with the ability to include site specific water quality targets for wetlands in the water resource scale water quality management plan, where appropriate.</p>
WQSM aspects of Chapter 12	<p>Monitoring and Evaluation</p> <p>Chapter 12 identifies four outcomes of the WQSMP:</p> <ul style="list-style-type: none"> ■ Decisions relating to management of water flows are made having regard to the targets ■ WQ and Salinity trigger points at which water in the River Murray system becomes unsuitable for critical human water needs are determined and emergency responses for managing events are in place ■ Implementation of the measures identified in the WQM Plan is enabling progress towards meeting the objectives in Ch 8 as informed by whether the targets specified in the WQM plan are being met ■ There is a low risk that Basin water resources will be unfit for use, consistent with the water quality objectives in part 3 of Chapter 8. (this evaluation question is better than the target objectives in Chapter 8). <p>Under Part 5 of Ch 12 the evaluation framework, the WQSMP targets in the WQMP and the Environmental Water Plan are assessed for their effectiveness in contributing to the objectives of Ch 7 & 8 (environmental watering and WQSMP). The MDBA must also review the WQ targets every 5 years after the plan is commenced.</p> <p>12.11(2)(b), Salinity targets: Make the following text change: <i>The first review must include consideration of whether it is necessary to increase change the number of target sites in order to improve the management of salinity.</i> The modified text allows the removal or addition of sites, as well as changing their location.</p>
Schedule 9	<p>Defining ecosystem types: The schedule sets out water quality targets for different ecosystem types. These ecosystem types need to be defined. It would be preferable to adopt the ANZECC guideline classifications.</p> <p>The targets for wetlands (including Ramsar sites) should be removed from Schedule 9.</p> <p>Comments on other chapters relevant to Chapter 8. (Ch 7, Ch 9, Ch 10, Ch 12)</p> <p>The draft Basin Plan over-emphasises the role of water quality targets for wetlands. Given the highly variable nature of wetlands, it is not possible to undertake meaningful measurement of their water quality against target values (e.g. wetlands can be dry for extended periods, they perform water quality treatment actions therefore the quality of the water entering is different to the quality of water leaving the wetland). It is the volume of water that is the driver for wetland health.</p> <p>Schedule 9 also has targets for Ramsar wetlands in parts of the state where there are no Ramsar wetlands.</p> <p>NSW Ramsar wetlands are not just one geomorphic type of water body, as Schedule 9 suggests, but are characterised by a heterogeneous mix of a range of different types of water bodies, that vary in their extent and condition, spatially and temporally in response to inundation. Limits of acceptable change for NSW Ramsar sites in the MDB were not set for this reason.</p> <p>NSW does not consider it meaningful to apply a single water quality target to floodplain wetland complexes. Water quality targets, as for other key wetland complexes or individual wetlands, may need to be tailored for individual Ramsar wetlands in the respective WQMPs rather than trying to apply blanket target values to them as the WQSMP would have us do.</p> <p>MDBA should remove water quality targets for wetlands from Schedule 9 and section 8.12(2) and replace them (through an amendment to section 9.36) with the ability to include site specific water quality targets for wetlands in the water resource scale water quality management plan, where appropriate</p>

Clause	NSW concern
Schedule 10	<p>Items 15 & 16: Due to the range of factors that influence water quality that are outside the regulatory scope of the Basin Plan, it is not appropriate to make the objectives and targets mandatory. While the MDBA has taken on these comments, in general, however Schedule 10 still presents the targets as mandatory:</p> <ul style="list-style-type: none"> <li data-bbox="359 414 1436 515">■ Item 15: Make the following text change: <i>Implementation of the measures identified in a WQM Plan is enabling progress towards meeting the objectives in Chapter 8 – as informed by progress towards meeting whether the targets specified in the WQM Plan are being met.</i> <p>Item 16: This section requires that in 2019 the monitoring report identifies whether there is a <i>low risk that Basin water resources will be unfit for use, consistent with the water quality objectives in Part 3 of Chapter 8</i>. Initial versions of the Basin Plan presented this as a long-term aspirational / guiding outcome. Now there is a date (i.e. 2019) for achieving this outcome. To achieve this outcome by 2019, it would be necessary to implement catchment based actions – which is effectively introducing a ‘mandatory’ component to catchment planning.</p>

Chapter 9 - Water resource plans

Clause	NSW concern
9.02	The MDBA has informed NSW that water resource plans will be allowed to apply to more than one water resource plan area. However, the drafting of this clause only permits plans to apply to single areas. The MDBA may want to consider allowing water resource plans to cover parts of water resource areas. A subclause could be inserted to say that separate accreditation is required for each water resource area covered by the water resource plan if that is what the MDBA intends.
9.04	<p>It is not clear what “instruments” a water resource plan would consist of. For example, NSW water sharing plans contain dealing rules however dealings are also regulated by the Access Licence Dealing Principles Order and the Act. This clause should be redrafted to clarify the types of documents, such as water sharing plans, orders, and even legislation that should be included.</p> <p>There doesn't seem to be any point to subclause (1) and subclause (3) (b) is superfluous. Also, no maps of the SDL/water resources are required to be included in WRPs by other clauses such as 9.03.</p>
9.06	NSW also seeks clarification if the Authority envisages accrediting all policies /orders that facilitate the implementation of WRPs for eg Harvestable rights order, floodplain harvesting policy, Works Approvals granted to State Water.
9.07 (1) (a)	Is not required in view of 9.07 1 b. Why would we need to consider an adjacent WRP area when they are not hydrologically connected?
9.07 (1) (b)	<p>NSW seeks clarification on how significant hydrological connection is defined and what does “have regard to” mean?</p> <p>The MDBA should note that this clause does not require Basin States to take any particular actions as a consequence of “having regard”. The point of this exercise is not clear.</p>
9.08	The purpose of 9.08 is not clear. If the MDBA wishes Plans to specify the person (i.e. Minister) responsible for certain matters to be dealt with in a water resource plan, it would be more useful to identify those matters here or build this requirement into the clause that requires that matter to be dealt with.
9.09	<p>This clause has the potential to cause significant problems both in accreditation and implementation, as described in the “Overview.” The approach in this clause should be reconsidered. Whatever approach is settled on, it is vital that the intent and operation of this clause are clear to stakeholders and the States alike.</p> <p>As drafted, several aspects of the clause should be clarified. Whilst Subdivision B of Division 4 of Part 2 of the <i>Water Act 2007</i> mentions “change in reliability” in numerous provisions, it does not define the term. Without a clear definition, it would be difficult or impossible to implement 9.09.</p> <p>It is worth noting that virtually any plan rule of any significance has some potential to affect reliability of allocations or access. In regulated systems, environmental watering accounts can affect storage in the dam, and consequently reliability of allocations. Cease to pump rules in unregulated systems do not have a direct effect on allocations in NSW, but can affect reliability of access. Any change in trading rules in regulated systems will change reliability of holders. Clause 9.09 does not even allow States to improve reliability.</p> <p>Given the above, it appears to be the case that Chapter 9 may not be able require a WRP to include any environmental water rules or even a change in trading rule to the extent it affects reliability. If this is the case, the utility of some other sections of Chapter 9, such as sections 9.21-9.26, is questionable</p>
9.10 (1)	<p>The term “class of water access right” mentioned in this clause is not defined either in the Proposed Basin Plan or the <i>Water Act 2007</i>.</p> <p>“Class” and “form” overlap and are not a hierarchy of terms. Classes are within form of take - for eg Farm Dams is a form of take. BLR or licences would be a class of rights. NSW suggests that the drafting needs to be clear by mapping relation between form of take and class of rights.</p>
9.10 (1) (c)	It is not clear what purpose is served by listing the number of rights (e.g. number of domestic and stock rights holders in NSW). The more relevant estimate is the quantity of water extracted. NSW suggests that the reference to “number of rights” be removed from this clause as quantity of water taken is addressed in clause 9.48.

Clause	NSW concern
9.11	<p>Drafting could be clarified by saying that WRPs must establish planned environmental water in the WRP area and prescribe rules and arrangements. Also, a WRP can require a register to be established and maintained, but cannot itself maintain a register.</p> <p>It is not clear why 9.11 (3) is needed if 9.11 (4) overrules it and does not require the water resource plan to actually specify a website.</p>
9.12 – 9.15 (general comments)	<p>The MDBA has indicated to NSW that it intends to allow Basin States to specify long-term diversion limits that are lower than the SDLs. However, it is not clear what the consequences of doing this are for the rest of the provisions of the Plan. The MDBA needs to make it clear from the rules in the Plan that the MDBA is only concerned with compliance with the SDL. This will need to be carried through to rules in Chapter 6.</p> <p>The MDBA should note that 9.13 (3) does not require WRPs to include rules that manage extractions to the SDL. NSW notes that 9.13 (3) requires WRPs to identify a method for demonstrating that rules are operating to manage extractions to the SDL (e.g. we run a model), however there is no explicit requirement that WRPs are to contain such rules.</p> <p>NSW suggests that 9.12 be amended so that it:</p> <ul style="list-style-type: none"> ■ specifies that from 1 July 2019, the long-term annual diversion limit specified for each SDL resource unit must not exceed the long-term average sustainable diversion limit specified in Schedule 2 or Schedule 4 for the SDL resource unit. ■ Specifies that water resource plans include mechanisms to ensure that long-term average annual diversions do not exceed the SDL. <p>With these changes, 9.13 would no longer be required.</p> <p>The purpose of 9.14 is not clear. Does the MDBA intend to set volumetric limits for individual water years in WRPs? If the purpose is solely an accounting one to enable assessment against compliance with the SDLs, then it should be amended to:</p> <ul style="list-style-type: none"> ■ Require WRPs to include processes to calculate the volume of water that would have been taken in that water year (retrospectively) with the level of development and practices assumed in the SDL scenario. The concept of “permitted to be taken” is incorrectly applied here. ■ The rule should require this calculation to be performed every water year and should be referenced in the SDL compliance rules in Ch 6. ■ if the MDBA intends to allow Basin States to account for forms of take differently (e.g. how runoff dams and basic rights are grouped for accounting purposes) as long as total take is managed, then rules need to provide this flexibility e.g. by requiring States to calculate a total figure only. This should be applied consistently throughout the Plan. <p>9.15 should be removed as not required if changes are made to 9.12. As it stands, the wording does not reflect the intent of the MDBA as NSW understands it.</p>
9.13 (4)	<p>Not all surface water sources are regulated rivers, and not all water sources have detailed river basin models. This provision seems to imply that the assessment of usage relative to the SDL has to be done with some form of modelling applied over the entire historic period of record. This may be reasonable in regulated rivers (typically long term models available) but not relevant where a model is not available, i.e. most unregulated rivers.</p> <p>In these instances, such a test is not practical. In reality, we have confidence that the SDL will be met through the application of the growth-in-use strategy. We do not need to “pre-test” it.</p> <p>Such a strategy involves the actual usage being compared to the SDL over a fixed smoothing window and a growth in use response triggered at an appropriate time, should there appear to be usage in excess of the allowable average. The typical smoothing window used in NSW is 5 years, not the “entire historical climate”.</p> <p>Where a long-term model is not available, compliance should be worded more similarly to the words in 9.14.</p>

Clause	NSW concern
9.14 (1)	<p>This clause appears to require a separate limit for each form of take. This is not necessary in order to keep all extractions within a single limit and is unnecessarily inflexible. Any requirement for a limit on a particular form of take should be removed. There is an inconsistency between 9.14 and 9.18. It is not clear what are the benefits from prescribing limits each category of licence.</p> <p>It could be interpreted to be forward looking i.e. requiring Basin States to forecast the amount of water that could be permitted to be taken which is not possible.</p>
9.14 (3)	<p>The clause requires a water resource must be sufficiently certain to allow the quantity of water permitted to be taken in a water accounting period. This could be difficult for interception activities in unregulated catchments unless the Authority agrees to current NSW process for determining allowable take on unregulated systems (i.e. Barwon-Darling)</p> <p>NSW also requests the Authority to define what is 'sufficiently certain' in 9.14 and 9.15.</p>
9.15	"NSW seeks clarification on the difference between 9.14 and 9.15
9.16	<p>NSW seeks clarification on the links between 9.16 and 9.13.</p> <p>If the MDBA intends that annual allocations should be adjusted to ensure compliance with the long-term annual diversion limit over the long-term, then this clause should state that as the cross-reference to 9.13 is not clear. Please note that such a clause can only be retrospective. If the MDBA intends something different, then it should inform the Basin States.</p>
9.17 (1) (d)	<p>NSW seeks clarification on hydrological connection – a natural hydrological connection or a work which transfers water from one WRP area to another. It needs to be made clearer that this accounting is relating to checking compliance with the SDLs. It is not clear what (a), (d) and (e) would have to do with this.</p> <p>It is not clear what subclause 9.17 (2) is trying to achieve. For example, if water moves from the environment to irrigation, then it must affect the "permitted" annual take and actual annual take. Is the MDBA intending that SDLs should not be allowed to go up by the amount of the trade?</p>
9.18 (1)	<p>NSW believes that States should manage level of take = or < SDL. NSW should report against SDL and manage the various forms of take themselves. NSW also queries the need for what appear to be separate limits for different forms of take.</p> <p>If it is the intention of the MDBA that Basin States can choose to manage interception and other forms of take so that total diversions do not exceed the long-term diversion limit as implied by (2) (a), then clause 9.18 is not required. Since all forms of take will need to be measured using the 'best available method', (2) (b) is not required and it is not clear what would be required to be in compliance with (2) (c). If the environmental watering plan is carried out and the SDL is met, in what circumstances would the MDBA say that a trade off between interception and other forms of take means that take is no longer an environmentally sustainable level of take? (Who makes this assessment? Assessment may occur after the fact).</p> <p>Regardless of the issues above, this clause should be consistent with the long-term diversion limit compliance rules. It seems inconsistent to apply a BDL limit to certain forms of take, unless the long-term average annual take by all forms of take does not change (increase or decrease). This is not consistent with the 20% compliance threshold and method for assessing compliance. In addition, the terminology "can be taken" isn't clear. Since SDLs do not come into effect until 2019, should this requirement also come into effect in 2019?</p> <p>It should be noted that as it is written 9.18 only applies to surface water SDL resource units. As commercial plantations intercept groundwater, the MDBA may wish to consider whether it intends to apply this clause to groundwater SDL resource units as well.</p> <p>If clause 9.18 1 c is retained then NSW prefers the approach where we establish the area of commercial plantation as of June 2009 and undertake a marginal analysis to establish the net marginal change in take. The concept of monitoring and measuring net take as defined in the Basin Plan is unnecessarily onerous.</p> <p>Notwithstanding above, NSW's preferred position is that clauses 9.18 1 & 2 be deleted as other clauses in ch 9 ensure compliance with the SDL (9.14 & 9.15). There is no benefit in retaining this clause but potentially significant costs to implement it.</p> <p>This clause appears to be micro-management. The MDBA need to conclude what they are concerned with and at this point it should be with whether or not the SDL has been exceeded and if so by how much.</p> <p>NSW suggests that the MDBA either delete this section and/or replace with words reflecting the intent that take should not exceed the SDL</p>

Clause	NSW concern
9.18 (2)	NSW seeks clarification from MDBA on what it considers to be a reasonable estimate with respect to 9.18 2 b (ii).
9.18 2 c	<p>This subclause implies that changes in the amounts taken by the different forms of take can result in an environmentally unsustainable level of take, even if take stays within SDL limits (subclause 2(a) already requires that changes in the distribution of take must stay within the SDL). This necessarily means that the ESLT and the SDL are not the same figure.</p> <p>However, it is not clear what the ESLT is in this context or what even the broad limits of acceptable change in the mix of take might be. This introduces significant uncertainty for stakeholders and the States.</p> <p>If this subclause is to be retained, it should be redrafted to clarify what the ESLT is in this context, how will it be determined, and should it be defined during WRP developed or in response to a change in the mix of take.</p>
9.19	NSW considers that cl 9.19 does not serve any useful purpose. NSW understands that the process of setting the SDLs would take these under consideration. It will be impractical for a NSW WRP to identify and document the effect a Queensland WRP will have on the NSW WRP.
9.19 2 (a)	<p>“that unit” should be “this unit”.</p> <p>“a hydrologic connection” needs to be defined. This is only an issue where there is “high connectivity” and NSW has defined this term.</p> <p>Without definition, all GW is connected to water sources outside the SDL unit over some time-scale, even if it might be thousands of years.</p>
9.20 (1)	<p>This should include frequency and period of determination.</p> <p>NSW suggests that MDBA make it clear where the actuals come from to meet ch 6 requirements.</p> <p>The purpose of 9.20 seems to be so that the figure can be used in determining compliance with the long-term diversion limit in Chapter 6. Chapter 6 requires figures from 9.20 to be summed. It would be simpler if 9.20 only required the sum to be produced (i.e. only require that “the quantity of water actually taken for consumptive use, by all forms of take from an SDL resource unit, be determined”) then Chapter 6 does not have to require these sums to be performed.</p> <p>Performing an individual calculation for each form of take is not necessary unless these numbers are used to test compliance with other rules in the Basin Plan. This also allows for flexibility in how Basin States will distinguish and account for different forms of take e.g. runoff dams and basic rights.</p> <p>As the figure is to be used for Chapter 6, 9.20 should specify an accounting period that mirrors the accounting periods for Chapter 6. E.g. if the quantity is to be determined at the end of each water year, then the clause should say so.</p> <p>The risk assessment provisions of the Basin Plan should drive how we account for various forms of take.</p> <p>The purpose of subclause 9.20 (2) is not clear. For example, if water moves from the environment to irrigation, then it must affect the actual annual take. Is the MDBA intending that SDLs should not be allowed to go up by the amount of the trade?</p>
9.22	<p>NSW is of the view that 9.22 (3) is making it absolute, hence “having regard to” in 9.22 (1) has no meaning here.</p> <p>Also, there is potential, in this section and sections 9.23-9.26, for some perverse outcomes. Section 9.22 employs strict language to state that a WRP must include rules, wherever necessary, which ensure that the environmental watering requirements of priority environmental assets and ecosystem functions are not compromised, which potentially would include rules that have a significant impact on the reliability of water allocations. However, section 9.09 states that to the extent any requirement of Chapter 9 would result in a change to reliability, that requirement has no effect. Reading sections 9.09 and 9.22 together, a likely outcome is that in any case where section 9.22 would have an actual effect on behaviour, it will have no effect due to the operation of section 9.09. The same logic applies to sections 9.23-9.26.</p>
9.23 (2)	This does not consider the impacts of taking surface water on groundwater
9.23, 9.24, 9.25, 9.26	The reference to “resource condition limits” is okay, but an example should be included for clarity purposes e.g. an aquifer should not be pumped below a certain water level

Clause	NSW concern
9.24	<p>The management of surface water will have an impact on groundwater that will alter (increase or decrease) the outflow to the stream or evapotranspiration.</p> <p>The approach proposed here would result in groundwater access holders bearing the resultant impact rather than the environment as has been the default position in the past.</p> <p>This approach will lead to a perverse outcome whereby groundwater may only be available in times of high water availability and grossly restricted in drought. During the recent drought it was the availability of groundwater underpinned the economic activity in all regional and some urban communities.</p> <p>Implies that surface water has priority above groundwater systems. Basin States can't do anything to surface water and groundwater bears all the pain. What is "base flow" anyway? 1 ML of GW extraction affects 0.20 ML of surface water base flow. There is no clear threshold identified in the draft Basin Plan.</p> <p>NSW seeks clarification from the Authority on how we define "not compromised". How do we define whether an environmental asset is compromised or not? Eg – in extremely dry times there will be impacts on surface water as a result of groundwater pumping. NSW needs to know what levels of impacts are acceptable. It will depend on how connected the systems are.</p>
9.25 (1) b)	NSW suggests that MDBA include the words "or improved" after maintained
9.27 (b)	<p>NSW seeks clarification if this clause is related to addressing risk as per ch 4 (4.04) that can be identified at any time. NSW plans have to address these. It is not clear why subclause (b) has been included here when it is covered by requirements in 9.47 (1), which requires medium or higher level risks to be managed or an explanation provided as to why the risk cannot be addressed by the plan.</p>
Part 5 Interception	<p>It is important that chapter 9 conveys the true intent of the MDBA. If it is the intent of the Authority to not micro-manage and to allow states the flexibility to seek cost effective methodologies etc. then the plan should say this.</p>
9.28	<p>The term "class of interception" mentioned in this clause is not defined either in the Proposed Basin Plan or the <i>Water Act 2007</i>. If these equate to specific forms of take, then these could be listed in a definition for class of interception.</p> <p>9.28 (1) does not define significance in a meaningful way. Need a better understanding of what is meant by impact. It is an assumption that 'the impact' is the quantity of water, but could also refer to water quality impacts. Advice and guidance is required on trading off impacts on water quality and water quantity.</p> <p>There is a need for recognition of the COAG NWI Policy Guidelines on Water Planning & Management.</p> <p>Section 9.28(1) requires a broad assessment of all potential interception activities that may have an impact. This may impose considerable costs on NSW</p> <p>Section 9.28(3) requires NSW to report on an interception activity regardless of its significance of impact – it would be much preferable that we only have to report on significant interception activities.</p> <p>NSW suggests that in clause 9.28 (1) MDBA add the words "where adequate information and suitable arrangements are there" after whether on an activity by activity basis, or cumulatively.</p> <p>9.28 (1) "potential to have" – NSW suggests that this be linked to risk assessment and mitigation strategies.</p>
9.28 (3)	<p>a) – d) currently written in the singular and should be amended to plural (a to all) as a class would presumably be a group of runoff dams etc.</p> <p>Under 9.28 c) and d) – mining is a licensed activity in NSW, it is part of the formal entitlement framework rather than interception.</p>
9.29	<p>Monitoring interception activities</p> <p>NSW suggests that this is better placed in ch 12. Monitoring would involve significant costs to Basin States and potential risk. For eg with respect to vegetation, net take of water at that site – the impact is at receiving end of water source. Size and timing of impact would be important. It would require significant growth in hydrometric network requiring high resources.</p> <p>NSW suggests that the MDBA consider the experience of the NWC project on developing a methodology for monitoring impacts of interception activities where the methods didn't fit well and appeared to be data hungry. NSW is of the view that MDBA's guidelines should constrain the amount of work required.</p>

Clause	NSW concern
9.30	<p>9.30 (c) does not seem consistent with what is permitted under clause 9.18 where an increase in some forms of interception above the baseline diversion limit is permitted provided there is no change in total (permitted?) long-term diversions. This clause should be revised so that it is clear that “no action” is permissible if impacts have been mitigated.</p> <p>Since SDLs do not come into effect until 2019, should this requirement also come into effect in 2019?</p>
9.31 9.31 – 9.33	<p>This part should firstly outline what role a WRP will play in environmental watering, since at least some of the environmental provisions in current WSPs (e.g. establishing watering priorities) will be moved to the long-term watering plans.</p> <p>Current WSPs establish the quantity of planned environmental water, list broad watering priorities and some set up advisory committees to provide advice on annual watering activities. With regard to held environmental water, WSPs simply allow water entitlements to be dedicated to environmental use.</p> <p>Given the above, it is not clear how a WRP could contribute to achieving the ‘overall environmental objectives’ set out in part 2 of Chapter 7 because most of the envtl water will be held as licensed envtl water, not planned envtl water and there is no ability to compel a licensed holder to use their licence in a particular way.</p> <p>Therefore it might be sufficient to say that a WRP should be consistent with, and support the implementation of the long-term EWP with consideration given to the usage of the licensed envtl water. It is not clear why subclause (1) requires the WRP to be consistent with the environmental watering plan yet then require that it only be prepared having regard to the most recent version of the long-term watering plan. What is the intent here?</p> <p>NSW seeks clarification if these rules place any requirements on WRPs to have rules to require certain licences to be used to deliver environmental outcomes. There is no legislative ability for NSW to do this.</p>
9.32	<p>Needs clarification. There is no guidance as to what specific actions might constitute compliance with this provision</p> <p>The intention of this clause is not clear. What kind of coordination does the MDBA have in mind? From the drafting of 9.32 it is not clear whether it applies only to water resource plans that apply to more than one water resource plan area.</p> <p>If it is the intent of the MDBA that this requires all water resource plans to allow for coordination of environmental watering in connected surface waters (i.e. shepherding), then the MDBA should consider how water resource plans may deliver this if environmental watering plans are not prepared before the WRPs and where plans (both water resource and environmental watering) are prepared by different States and at different times. The wording could mirror that in 9.31 (2) (a) where the requirement only relates to the most recent version of long-term watering plans.</p>
9.33	<p>This has the potential to result in reductions greater than those required to meet the SDLs, depending on the purchase program (for example, if the Commonwealth purchases 120% of the entitlement needed to “bridge the gap” between the BDL and the SDL). The requirement should be that the plan in combination with purchased water needs to meet the SDL.</p> <p>NSW’s view is that this clause should apply only to the extent that environmental purchases do not exceed the amount needed to bridge the gap.</p>
9.35	<p>MDBA to remove “failure to prevent” in ch 8 schedules. It is a value judgement about a range of natural processes, and implies a degree of fault, and control that does not exist. MDBA previously agreed (verbally) that this would be removed, but it is still in the draft BP.</p>
9.36	<p>Suggests that a Ch 8 target can be overridden by an alternative target that meets WQ objectives. This is inconsistent with Ch 8 discussions that indicate Ch 8 targets have primacy. Need Ch 8 to include this rather than Ch 9 ?</p> <p>This is still unclear. NSW assumes that these will over ride ch 8 targets.</p> <p>The purpose of subclause (1) is not clear when subclause (2) sets out the water quality target values. Drafting could be clarified by requiring water resource plans to specify the following as water quality target values: (a) – (e)</p>

Clause	NSW concern
9.36 <i>cont.</i>	<p>With regards to subclause (3), we understand this to be a “no degradation” rule. The drafting of this subclause is not clear and does not consider the variability in water quality above a baseline.</p> <p>With regards to subclause (4) – the link between subclause (4) and subclause (2) is not clear.</p> <p>Q - What happens if a water resource plan area crosses state boundaries? We must have to develop a plan for only PART of a water resource plan area. This has to be permitted by 9.02</p>
9.37	<p>This requires that the specific measures to be taken that will contribute to the achievement of the WQ objectives are specified within the WQMPs. This will mean that the WQMPs, once prepared, will have to reflect the contribution that Catchment Action Plans of the CMAs can contribute to meeting Water Quality objectives, as this is probably the most realistic instrument for management interventions to have any effect on stream water quality.</p> <p>NSW is concerned that the realistic capacity for decisions around flow management is very limited in many situations. This applies with respect to water quality monitoring, as well as predictive water quality modelling. NSW advocates that considerable investment in shared capacity building and enhanced monitoring will be necessary for most realistic flow management consideration and decision making. There is no real capacity for systematic consideration or “optimisation” with current capacity in data or decision making frameworks (including models) To facilitate water quality being considered along with other matters in flow management decision making the WQM Plan should describe the considerations that will be taken into account in decisions. However, the science needs considerable further development for this to be feasible.</p> <p>The following text (or similar) should be added to 9.37(2):</p> <p>“(2) For the purpose of subsection (1), regard must be had to the water quality targets identified in accordance with section 9.36, <i>the environmental watering requirements identified in accordance with section 7.13, the annual environmental watering priorities identified in accordance with section 7.19, and socio-economic and cultural values.</i>”</p> <p>It was suggested that section 9.37 specifies that where a ‘measure’ is a flow management decisions, the decision maker will consider a range of matters.</p> <p>Where (and how) exactly does the MDBA believe these considerations are provided for in Ch 8? 8.11(4) only requires decisions to have regard to the targets in 8.11(5).</p>
9.39	<p>Drafting could be improved by being more specific about which water quality targets subclause (a) relates to. Are they the water quality targets specified in the other Basin State’s WRP?</p>
9.40	<p>The way it is currently drafted, the clause does not say what the Part actually applies to. It would be clearer to write this in the positive i.e. this Part applies to water access rights that are able to be traded under State water management law. This clause could be removed without affecting the rest of the clauses in the Part.</p>
9.41 to 9.43	<p>It may not be possible for the WRP to specify conversion rates as these may have to be adjusted on a case by case basis or over time. If the conversion rate needs to change, the WRP would need to be amended each time. NSW WSPs allow this to happen through rules that require the Minister to specify conversion rates in an order, which can be changed without amending the plans. NSW requests that the rule be amended to specify the way in which conversion rates are done.</p>
9.44	<p>NSW queries the need for a definition. The definitions of “risk” and “risk factor” are circular and do not provide any guidance as to what the MDBA means by risk for the purpose of 9.45 and 9.46. If the MDBA intends to apply the everyday meaning of risk, then these definitions can be removed.</p> <p>NSW is of the view that risk management under ch 4 should be the MDBA addressing risks across the Basin. Risks at catchment level in ch 9 should be Basin States responsibility. Definition should be the same.</p>
9.45	<p>It is not clear how the risks identified under this clause relate to those identified under section 4.02. The <i>Water Act 2007</i> requires the Basin Plan to identify the “risks to the condition, or continued availability, of the Basin water resources”, which has been done in 4.02. Section 9.45 should be responding to those risks only. If there are risks identified by Basin States in addition to those in 4.02, then it should be optional for Basin States to assess and respond to those additional risks.</p> <p>As the risk assessment with respect to interception in part 5 is not consistent with part 9 of ch 9, NSW requests MDBA to make the purpose of each chapter clear i.e. ch 4 and part 9 of ch 9.</p> <p>It appears that the Basin Plan is trying to get Basin States to undertake the tasks that the <i>Water Act 2007</i> requires the MDBA to undertake.</p>

Clause	NSW concern
9.46	It is not clear why risks are required to be categorised as low, medium and high if medium and high risks are treated exactly the same under 9.47.
9.48	<p>NSW seeks clarification on “each class of water access right”</p> <p>WRPs can only estimate take that is measured and not measured up to the point that WRPs are accredited. It cannot do this into the future.</p> <p>What is the purpose of this clause? Is it the intent of the MDBA that this estimate be for long-term average annual extractions:</p> <ul style="list-style-type: none"> a. under the last x number of years prior to the water resource plan commencing? Or b. under the period of the previous plan? Or c. permitted to be taken under the SDL scenario? <p>The purpose of this clause isn't clear given the requirements to specify SDLs, to measure annual take and calculate take under SDL scenarios for SDL compliance assessments earlier in the Chapter.</p>
9.48 (d)	NSW seeks confirmation from the Authority that the agreed standards for measuring water taken is the NWI National Non Urban Metering Standards.
9.49	<p>It is not clear what the MDBA is expecting to see in WRPs as a result of this clause. For example, does the MDBA expect WRPs to say such things as:</p> <p>“in order to improve the proportion of take that is measured, NSW commits to install meters for X% of all basic landholder rights extractions”.</p> <p>Such statements may be unacceptable to Basin States as attempting to lock us in to programs for which funding has not been approved or available.</p> <p>The level of measurement of forms of take should be commensurate with the level of risk.</p>
9.50	<p>It is not clear how monitoring of water resources under water resource plans can be consistent with Chapter 12 since Chapter 12 is concerned with monitoring and evaluation of the Basin Plan and reporting on it. There is a difference between monitoring plan outcomes and monitoring water resources.</p> <p>What does the MDBA want Basin States to do in terms of monitoring water resources?</p>
9.53	<p>It is often difficult to only use “best available information” as a basis for developing water management rules as it may not be in the appropriate form, however it is possible to consider this information. Determining what is the best information is often subjective and difficult. This issue could be addressed by redrafting the clause so that “WRPs must consider the best available information”.</p>
9.55	<p>It is impossible to prescribe how we will manage water resources in all listed extreme circumstances. NSW also suggests that the events listed in a to c need to be defined.</p> <p>The term “regional water plan” is undefined. The term “statutory plan” would be clearer.</p> <p>NSW suggests that in 9.55 (1) MDBA substitute “following” with “in response”</p> <p>NSW also seeks clarification if any real time decisions for managing these events would be considered as an amendment of WRP and require accreditation of the amendments.</p> <p>What is the process for imposing alternate rules under subclause (3)? Does it involve accreditation of amendments to WRPs? What happens if alternate rules would breach 9.09?</p>
9.56	<p>Subclause (1) – a WRP can repeat what is heard in consultation, however a WRP cannot identify the objectives of Indigenous people or outcomes desired by Indigenous people. The distinction between (a) and (b) is not clear. The WRP can include objectives for water for Indigenous people but cannot say what a group of people want.</p> <p>It is not clear what the MDBA intends by “having regard”. The MDBA should note that this clause does not require Basin States to take actions as a consequence of “having regard” under subclause (2) and (3).</p>
9.57	Is the intent of this clause to require Basin States to consult on matters (a) – (d)? If so, this should be made clear and some matters could be revised to more clearly link with water management (e.g. (d))

Clause	NSW concern
9.58	<p>Management of water for cultural values is broader than cultural flows as it can include groundwater. It needs to be recognised that in some instances the WRP may not have the mechanisms to meet the desired cultural flow outcomes.</p> <p>There is no definition of “cultural flow” – why is this concept not applied elsewhere in this Part?</p>
Definitions and Schedule 3	<p>Chapter 9 makes use of two terms defined elsewhere in the Plan. NSW has concerns that the literal meaning of these definitions are not matching the MDBA’s intent.</p> <p>Historical climate conditions: If the MDBA intends for SDL/BDL figures to be able to be revised based on new information (including climate data), then the definition of historical climate conditions should be amended to remove the June 2009 end date. NSW is of the view that this definition must be amended to reflect the current process for modelling long-term average annual extractions and the long-term average annual extraction limit in our WSPs. If the MDBA wants to use a 2009 benchmark, then the BDLs should mirror what was in our WSP rules in 2009 or Schedule E of the Murray-Darling Basin Agreement where a WSP was not in place in 2009.</p> <p>Definition of Baseline Diversion Limit for most water resource plan areas: The formula for establishing BDLs in Schedule 3 (clause (a) of column 2) is drafted in a way that could lead to unintended outcomes. Subclause (i) requires that the quantity of water that would have been taken from regulated rivers and by floodplain harvesting for each year of the historical climate conditions be calculated, assuming that 2009 law applied. Although the intent of this calculation is probably that 2009 infrastructure and cropping patterns are to be considered in addition to climate conditions, the clause does not mention development levels. It would be more in keeping with the intent to redraft the subclause to assume both 2009 water management law and 2009 levels of development.</p> <p>Also, what does “State water management law” mean? Does it mean under rules in water sharing plans or in accordance with the conditions attached to water rights? If the MDBA means that the BDL should be as defined under water sharing plan long-term average annual extraction limits as at 2009, then the BDL should either just refer to the water sharing plan. Where no water sharing plan was in place, then the BDL should refer to the cap baseline conditions in Schedule E of the Murray-Darling Basin Agreement. The slightest difference in interpretation could lead to vastly different BDL figures. For WRP areas that cover multiple WSP areas, the BDL should be Limit A + Limit B + Limit C.</p> <p>Finally, the forms of take listed in Column 2 of Schedule 3 do not necessarily comprehend all forms of take. For example, some forms of urban stormwater harvesting are not taken from regulated rivers or watercourses as defined in the <i>Water Act 2007</i>, and cannot be considered as floodplain harvesting, a basic right, a runoff dam or any other form of take listed in the BDL. However, stormwater harvesting extractions are included in the long-term average annual extraction limit for NSW unregulated river water sharing plans. Ensuring that the BDL accurately comprehends all forms of take under NSW water sharing plans is another reason why a BDL should refer to WSP limits as at 2009 rather than independently defined levels of take.</p>

Chapter 11 - Trading rules

Clause + priority	NSW concern
11.05 Separate rights	<p>This clause refers to unbundled water rights. NSW has restrictions on trade which will need to continue under the Basin Plan with respect to the following licences that are inherently tied to the location at which the licence has been issued:</p> <ul style="list-style-type: none"> ■ Floodplain harvesting ■ Special Additional Licences – high flow licences that are being converted, entitlements associated with off river farm dams that are in excess of the harvestable rights volume ■ Domestic & Stock ■ Mining
11.08 Purpose for which water is used	<p>With respect to dealing with Aboriginal cultural licences, NSW suggests a new rule 11.07 (4) which states “for any category of licence where new volumes can be issued without a corresponding increase in overall allowable extractions, this rule does not apply”.</p> <p>This does not mean that the licence holders cannot trade. It is up to the States’ discretion to decide whether it is tradeable or not. Adding this new rule will help in addressing current NSW trading restrictions on Aboriginal cultural licences. Currently NSW allows cultural licences to be issued upon request while ensuring that this will not increase the plan limit. If they are allowed to trade, then there is a potential for these licences to be traded and requests for additional cultural licences emerging thus creating third party impacts.</p>
11.09 Use of water outside the Basin	<p>This rule would appear not to apply to the Fish River Scheme (2 power companies move water outside the Basin) and the Snowy Scheme (transferring water in and out of the Basin), as these movements of water are not trades/transactions between licences.</p> <p>There is neither notes in the rules nor an explanation in the plain English summary as requested by NSW to deal with these two schemes. Plain summary only states, “A water access right may be traded free of any restrictions due to the fact that water extracted under the right might be transported or used outside the Basin.”</p>
11.13 Over-allocation	<p>A water access right may be traded within a water resource, free of any restriction based on the fact that the water resource is over-allocated. This could be problematic for NSW as unregulated river WSPs constrain trade in some areas to reduce water use and thus environmental impacts over time.</p> <p>Plain English summary states that a person may trade a water access right free of any restrictions based on historical use of the water or an anticipated increase in use of the water - i.e. trade restrictions are not to be used to manage any risk of future growth in water use. Whilst this accords with NSW policy generally, there are some trade restrictions currently in WSPs that are likely to be unacceptable under this rule (e.g. high and general security trade cut-off dates each year in the Murrumbidgee WSP).</p>
11.15-11.17 Free trade of surface water	<p>This section, combined with section cl.11.16 and 11.17, will require NSW to justify all existing restrictions on trade according to the terms of cl.11.17, which lists allowable physical and environmental reasons for trade restrictions. Whilst the list of allowable reasons for trade restrictions appears to provide for existing trade restrictions in NSW, it is unclear how the MDBA will assess any trade restrictions proposed / implemented by NSW against cl.11.15, and the level of detail that may be required to make the case for each restriction. Accordingly, there is a risk that these clauses, together with the notifications required under cl.11.18, may require significant resources.</p> <p>The MDBA has indicated that cl.11.15 -11.19 will not commence until 1 July 2014, meaning that any restrictions that may currently be in transitional and interim Plans will prevail over the Basin Plan until that time. For WSPs that are due to be remade in 2014, there will be an opportunity to make any necessary changes. However, for other WSPs (e.g. NSW Border Rivers, Peel, Belubula, and most unregulated WSPs), it is not clear whether the commencement of these clauses would require amendments to transitional or interim Plans.</p> <p>There is potential risk that existing trading rules may be disallowed under cl.11.17.</p>

Clause + priority	NSW concern
11.15-11.17 Free trade of surface water <i>cont.</i>	Purchasing of entitlements by the Commonwealth is continuing, and Victoria continues to have in place significant trading restrictions. Commencing Chapter 11 in 2014, and the primacy of transitional/interim plans (which in Victoria's case will be up to 2019) is likely to concentrate Commonwealth purchasing of entitlements in NSW.
11.22 Restrictions applying to tagged trading	<p>This clause provides for water orders placed by tagged entitlements (entitlement in one valley or trading zone that is linked to extraction works in another valley or trading zone) to be subject to all of the rules that exist under cl.11.15-11.17 for trade between the two valleys/zones, subject to exceptions for pre-existing tagged entitlements, or entitlements that are tagged prior to the commencement of this Chapter of the Basin Plan.</p> <p>This requirement is generally consistent with current management of tagged entitlements. However, the exceptions will create several classes of tagged entitlements, which will increase the administrative burden for no benefit (if the trade rules remain the same) and may provide some pre-existing tagged entitlements with additional rights if further restrictions on trade are required in the future.</p>
11.23 Trade within groundwater source	Clause.11.23(b) seems to be inconsistent with 11.13
11.24 Trade between groundwater SDL resource units	<p>This rule eliminates the possibility of re-distribution of groundwater stress in otherwise non connected ground water sources. Trade from a highly used SDL unit to a lower used SDL unit may be desirable as a means of addressing any overuse in the original GW source.</p> <p>NSW, therefore, suggests a new rule cl.11.24 (2) " if the trade is specifically for the purpose of providing a mechanism in addressing over use in the source groundwater resource then this section does not apply".</p> <p>Having this provision means that it is up to the States to determine whether to allow trading to reduce stress.</p>
11.25 Trade between groundwater and surface water	<p>The above principle applies to surface water as well, i.e., trade from a highly utilised surface water source to a lower surface water source may be desirable as a means of addressing over use</p> <p>NSW suggests that the current words in cl.11.25 be termed as cl.11.25 (1) and a new section cl.11.25 (2) be introduced that could specify that " if the trade is specifically for the purpose of providing a mechanism in addressing over use in the source surface water resource then this section does not apply".</p>
11.34 Specification of irrigation rights	NSW notes that the Commonwealth's market rules under the <i>Water Act 2007</i> that came into effect in Jan 2010 require IIOs to specify irrigation rights when requested to do so by a member. These trading rules make specification of irrigation rights compulsory. The market and trading rules could therefore be in conflict.
Part 5 Information and reporting requirements	NSW currently makes much of the required information available publicly through registers and websites, and already provides this type of information to the Bureau of Meteorology. Depending on the form of the information that the Authority prescribes for provision of information, this Part may provide additional administrative burden to NSW, and/or duplicate information that is already being made available.
11.46 Requirements for price disclosure as a condition of approval of trade	The seller is required to provide the sale price to the approval or registering authority at or before approval is granted. NSW currently collects and reports on 'trading prices' that is voluntarily disclosed by the trading parties. Basin States can only record price information provided by the seller.