



NSW Government response to the Guide to the proposed Basin Plan

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Executive summary

Since the 1994 Council of Australian Governments' (COAG) reforms and signature of the National Water Initiative (NWI) in 2004, Basin States have made considerable progress towards more sustainable and efficient water management. However, severe and prolonged drought, the onset of climate change, and the consequences of past water planning and management decisions and practices have caused serious environmental degradation of the Basin including its water and other natural resources.

Consistent with the spirit of the 2008 Intergovernmental Agreement on Murray-Darling Basin Reform (the 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.

In particular, the NSW Government reaffirms its commitment to the NWI, which sets out an agreed framework for managing surface and groundwater resources in a manner that optimises economic, social and environmental outcomes.

Despite this commitment, the NSW Government has concerns about the Murray-Darling Basin Authority's (MDBA) approach to the development of the Basin Plan, and the content of the Guide to the Proposed Basin Plan (the Guide). As the information released to date by the MDBA has been limited, this NSW Government Response reflects high level concerns relating to the content of the Guide and additional work that should be completed by the MDBA before it finalises the Basin Plan.

The NSW Government's key concerns are:

- **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 (WRPs). 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.

This NSW Response has been developed following a request by the MDBA for initial feedback to assist it with the development of the proposed Basin Plan. Accordingly, this Response should be considered an interim response to the Guide to the Proposed Basin Plan only. The NSW Government will undertake further analysis and review of the data underlying the Guide and the proposed Basin Plan before providing more detailed comments on the proposed Basin Plan when it is released.

For NSW to undertake a comprehensive assessment of the MDBA's proposals and best assist the MDBA in further development of the Basin Plan, NSW will require reasonable access to the MDBA's modelling, assumptions and data. The specific information sought by NSW is discussed throughout this Response and a consolidated list is provided at Appendix A.

The NSW Government looks forward to working with the MDBA to address these concerns in the intervening period through structured bilateral and multilateral engagement.

1. Introduction

This NSW Government Response to the Guide to the Proposed Basin Plan (NSW Response) is intended to assist the MDBA in developing its proposed Basin Plan.

The NSW Response includes a range of issues that relate to the broader implementation of water reforms. While some of these issues, such as the no net cost provisions of the IGA do not fall under the MDBA's responsibilities under the *Water Act 2007*, they are relevant to the Basin Plan and the ability of NSW Government to fulfil its resultant obligations.

The NSW Response then considers different elements of the framework outlined in the Guide, posing questions for the MDBA to consider during the development of the proposed Basin Plan and highlighting where clarification is required and/or more information should be provided.

The NSW Government notes the recent efforts by the MDBA to arrange a series of multilateral and bilateral meetings on the technical aspects of the Basin Plan and expects that these meetings will form the basis of a constructive working relationship and assist in resolving some of the technical issues outlined in the NSW Response.

2. Implementing water reforms in the Murray-Darling Basin

2.1 Stakeholder engagement and the development of the Basin Plan

In developing the Response, the NSW Government has consulted with a wide range of Basin stakeholders including: Local Councils, water user groups, individual irrigators, irrigation corporations, Chambers of Commerce, peak environment groups, Aboriginal Land Councils and Catchment Management Authorities. Whilst the interests of these stakeholders are varied, they have many common concerns, which are also shared by the NSW Government. In particular stakeholder engagement by the MDBA to date has been inconsistent and ineffective, resulting in many stakeholders feeling disenfranchised from the process.

The MDBA has not recognised the extensive efforts and adequately communicated the benefits of the work undertaken by the Basin States, water licence holders and conservation groups to date to improve environmental outcomes in the Basin. For example:

- the NSW Government has recovered more than 332,000 megalitres of water entitlement for the environment through NSW RiverBank, the Rivers Environmental Restoration Program, the NSW Wetland Recovery Program and The Living Murray Initiative, adding to water already provided to the environment by NSW water sharing plans; and
- between 2006 and 2009, the NSW Achieving Sustainable Groundwater Entitlements Program reduced entitlements in inland groundwater systems which were deemed to be overallocated by an average of 54 per cent, along with a structural adjustment package.

Notwithstanding that more work is required, it is important to recognise these achievements as a starting point for further progress.

The NSW Government strongly recommends that the MDBA revisits its consultation strategy to re-engage stakeholders in the development of the proposed Basin Plan. In NSW, water management and planning has well developed frameworks for incorporating stakeholder needs into decision making and planning instruments, including water sharing plans, which could serve as a model for future consultation. NSW Basin stakeholders are well informed and have an expectation of continued involvement in decision making.

There are numerous examples of successful collaboration by conservation groups and land holders in undertaking projects to improve environmental outcomes. The MDBA should seek to build upon these relationships to promote improved environmental outcomes from within communities rather than imposing them externally.

2.2 Sustainability of rural communities

The NSW Government is committed to a Basin which is ecologically sustainable, however this should not come at the expense of the viability of rural communities.

It is likely that the Guide's proposals to reduce SDLs will result in a reduction in irrigation activity in the Basin. This would probably lead to reduced employment opportunities in the irrigated agriculture sector such as fewer farm employees. This, in turn, would be likely to reduce the need for services to support the irrigated agriculture sector for example, less need for truck drivers to deliver and transport farm supplies and produce and to reduce the demand for services provided in towns which service the irrigated agriculture sector for example resulting in fewer employment opportunities in the retail sector in smaller towns.

There are also likely to be flow on impacts to Government services as the lower population base reduces the operating capacity for State infrastructure and services. Possible impacts may include:

- risks to the viability of small schools;
- difficulties in attracting skilled staff, or additional cost burdens associated with incentives required to make remote locations attractive;

- increasing demand for public housing assistance in areas where stock may already be insufficient; and
- potential loss of future infrastructure upgrades such as roads or bridges.

The Basin Plan needs to balance the needs of the environment and rural communities. Where the environmental watering requirements of the Basin result in adverse impacts on rural communities, the Commonwealth Government needs to provide appropriate structural adjustment assistance to communities as they transition to circumstances with reduced water availability. In developing this assistance package, the NSW Government strongly recommends that the Commonwealth Government consult closely with regional communities and local and State Governments to identify alternative employment opportunities and appropriate delivery mechanisms.

2.3 Recognition of the role of works and measures

The NSW Government believes that the MDBA has a responsibility to ensure that it explores the full range of opportunities for securing the ecological sustainability of the Basin. The water entitlement buyback program is only one mechanism for improving the health of the Basin. Investment in water-related infrastructure and on-farm efficiency, as well as environmental works and measures can assist in achieving environmental outcomes without reducing current diversion limits and affecting rural communities.

Through the IGA, the Commonwealth Government agreed in-principle to provide NSW with \$1.358 billion to implement water savings infrastructure, subject to these projects meeting due diligence requirements. The NSW Government notes that delays by the Commonwealth Government in approving these projects also defer valuable investment in water savings projects that would directly offset the need to reduce current diversion limits.

In relation to environmental works and measures, the NSW Government understands that the MDBA is undertaking further work to determine whether the proposed environmental watering requirements can be implemented without operational constraints. These constraints may include restricted storage and release capacity from dams, flood impacts from high flows, the availability of easements to pass environmental flows downstream and lack of available channel capacity either during the peak irrigation season or in autumn/winter when channels are cleared. This analysis is critical to understanding whether the Basin Plan's objectives for ecosystem health can be practically achieved.

Similarly, where the environmental watering plan for an 'environmental asset' identified under the Basin Plan would require the inundation of privately owned property by regulated flows, the Basin Plan must identify the potential legal issues and liability for compensation that may arise. The MDBA should draw upon previous programs managed by the Murray-Darling Basin Commission that provided ex-gratia payments to landholders whose properties were impacted by regulated flow releases in the Mitta Mitta Valley in Victoria and the Murray Valley between Hume Dam and Lake Mulwala in NSW and Victoria.

The proposed Basin Plan should identify where operational constraints require the implementation of engineering and infrastructure works and measures to achieve the proposed environmental watering requirements and their estimated costs to facilitate Commonwealth investment decisions. Similarly, it should identify potential complementary works that could assist in improving environmental assets, key ecosystem functions or water quality such as removal of redundant structures and rehabilitation of fish passage and riverine habitat.

The proposed Basin Plan should also draw upon work being undertaken by the States that would assist to identify whether any infrastructure or other complementary works are required to deliver the proposed improvement in key ecosystem functions or environmental watering requirements, water quality and/or would contribute to higher SDLs and their estimated costs.

2.4 Recognition and treatment of environmental water purchases already made

The Guide states that “the MDBA will undertake discussions during the consultation period with holders of environmental water to identify how held environmental water can be moved around to ensure there is capacity to respond to the Basin Plan’s environmental priorities and get the best overall outcomes from environmental water” (Volume 1, page 200). The NSW Government welcomes these discussions, noting that with the exception of the 485 GL recovered under The Living Murray Initiative, the MDBA has not taken into account water that has already been recovered for the environment under Commonwealth and State water recovery programs in calculating and modelling the current level of diversions. The use of this licenced environmental water will not be accounted as diversion and will therefore contribute to achieving the SDLs that have been proposed. This reduces the further recovery that would be needed in some valleys.

The NSW Government periodically sells water allocations from environmental water licences to cover a proportion of charges associated with the holding and use of these licences. Water allocation sold by an environmental water holder to a consumptive user will be accounted as a diversion when used by that consumptive user.

It is noted that the MDBA is of the view that this kind of periodic trade ‘presents a risk of exceeding the diversion limit’. The NSW Government considers that any such temporary trade is only likely to be a minor component of water allocation held against these licences and is unlikely to be a significant issue for SDL compliance assessment on an annual basis at a valley scale and that, in any case, SDL compliance is a matter for Basin States to address. Furthermore, in some years the NSW Government may purchase more water for the environment than it sells, which would contribute in a positive way to SDL compliance.

The NSW Government is concerned about the proposed treatment of held environmental water under the compliance and enforcement framework outlined in the Guide. The Guide states that the MDBA may require water resource plans to compel holders of held environmental water to make annual declarations about their intentions and/or issue entitlements with particular caveats limiting the use of environmental water to a specific purpose and timeframe. In NSW, the trade of allocation to and from environmental licences is allowed on the same terms as for other licences of the same category within each water source (that is, allocation trade is not limited or prohibited). Any restrictions on the ability of the NSW Government to trade held environmental water could substantially diminish the economic and environmental value of water licences already purchased by the NSW and Commonwealth Governments. These restrictions would also be inconsistent with the proposed Basin Plan trading rules which aim to remove barriers to trade.

Accordingly, the NSW Government seeks confirmation from the MDBA that all held environmental water, such as RiverBank licences, will contribute to offsetting SDLs.

2.5 Interstate equity

NSW has a range of concerns about the impacts of the Basin Plan in relation to interstate equity. Firstly, NSW believes that it is important that the reductions in current diversion limits be shared equally by all States and that the agreed state shares in the Murray-Darling Basin Agreement are maintained. This includes both surface water and groundwater sources, wherever those water sources are shared. From the information available in the Guide, it does appear that each Basin State is facing similar reductions in diversion limits. NSW seeks the MDBA’s assurance that this will also be the case in the proposed and final Basin Plan.

While the Guide acknowledges that the regulations under the Commonwealth *Water Act 2007* have to identify Victorian WRPs, it also refers to the Basin Plan taking effect after Victoria’s bulk entitlements end in 2019. In effect, this means that the Basin Plan will only commence in Victoria in 2020, while other States must comply by 2014. NSW is concerned by this significant interstate inequity, which will enable Victoria to extract water at existing levels from Basin resources for an additional five years, while other jurisdictions are required to comply with the Basin Plan’s restrictions.

The NSW Government understands that the MDBA is proposing the use of Transitional Diversion Limits and the buyback program to ensure that the SDLs are introduced in Basin States at the same time. However,

this would only partly address NSW's concerns in relation to the equity of the timing of the Basin Plan implementation.

The NSW Government would welcome the opportunity hold discussions with the MDBA on the full range of options for achieving interstate equity to ensure the final Basin Plan does not create unintended consequences as a result of the Basin States' existing water regulatory frameworks.

2.6 Compensation

The NSW Government signed the IGA in July 2008 on the condition that the Commonwealth would be responsible for all compensation payments that the NSW government might previously have been responsible for under the Risk Assignment Framework agreed in the NWI, except where future reduction in water entitlements arise from a change in state government policy.

As the Commonwealth Government has already announced it will continue its buyback of surface water licences to achieve any necessary reduction beyond that achieved by existing programs, the NSW Government understands the above NWI risk assignment provisions will no longer be triggered by the Basin Plan. If the MDBA believes that there may still be some unforeseeable reduction in water security for remaining water access licences holders, then NSW requests that the MDBA release for consultation a methodology for calculating the amount of compensation that would be payable.

The NSW Government seeks clarification from the Commonwealth Government on whether it intends to bridge the gap between current diversion limits for groundwater and what is required to be recovered under the final Basin Plan.

2.7 No additional net cost considerations

Another of the preconditions to the NSW Government signing the IGA was that the Basin States would not bear additional net costs as a consequence of the water reforms and the implementation of the Water Act.

Notwithstanding the lack of detailed information for NSW to make a comprehensive assessment of the proposals contained in the Guide, the Basin Plan will impose substantial implementation costs on NSW. A range of activities with cost implications are outlined further throughout this NSW Response, particularly in Section 3.8.

NSW notes that the administration of the no additional net cost arrangement is the responsibility of the Commonwealth Department for Sustainability, Environment, Water, Population and Communities. However, the MDBA should be aware that the ability of NSW to implement the various requirements on Basin States outlined in the Guide will depend on clear specification and costing of the relevant activities and development of Commonwealth funded implementation plans that are consistent with the no net additional cost agreement.

3. Comments on the *Guide to the proposed Basin Plan*

3.1 Environmental water requirements

The NSW Government requires more technical information to provide a comprehensive assessment of the environmental water requirements proposed in the Guide. Restoration of floodplain flows and other aspects of the natural flow regime should benefit in-stream river health, including improving conditions and opportunities for fish breeding and migration, improving the condition of key wetlands habitats, and providing suitable conditions for more frequent and larger scale waterbird breeding events. Notwithstanding this, more information is needed to determine the extent to which the additional environmental water proposed will deliver on these outcomes, how these outcomes are proposed to be measured and the associated costs.

To facilitate a more detailed response to the proposed Basin Plan, the NSW Government requests that the following information be made available:

- the peer reviews (national and international) which confirm that the MDBA's approach to determining environmental watering requirements is robust and represents the application of the best available science as required by the Act.
- the modelling and decision rules used to determine the environmental water requirements for the 106 hydrologic indicator sites (18 key environmental assets and 88 key ecosystem functions) and the flow requirements themselves;
- how all seven components of the flow regime (from no flows to overbank flows) are addressed and accounted for in the scenarios for additional water for the environment;
- the modelling and decision path used to determine which groundwater systems are overdeveloped;
- how unregulated river flow regimes and flow management are considered in the establishment of SDLs;
- the modelling and decision rules used to determine the environmental water requirements for seven groundwater systems considered to be overdeveloped; and
- the data and modelling underpinning the analysis of environmental outcomes in Chapter 8 of Volume 1 of the Guide.

This information will assist the NSW Government in assessing the extent to which the Basin Plan will improve the condition and function of NSW riverine ecosystems, wetlands, and groundwater dependent ecosystem, including whether it:

- provides for a network of key assets that can be managed as a connected system;
- can be implemented within existing or practical operational constraints;
- is flexible enough to respond to annual and climatic variability, particularly extended droughts (noting that numerous flow management scenarios are possible within State operating environments under the same SDL);
- provides for drought refugia, low, medium and bankfull flow to protect in-stream key ecosystem functions and habitat diversity within both regulated and unregulated streams and are included within, or are additional to, the volumes identified as required to maintain the 18 priority KEAs (particularly in years where there are no high-flow events). These components of a flow regime are critical to protecting water dependant species that are unique to the Murray-Darling Basin, including native fish not protected under international agreements and/or threatened species legislation (e.g. Murray Cod, Trout Cod, Silver Perch, Flat-headed Galaxias and Murray Hardhead);
- appropriately provides for native fish recovery in each valley (by establishing native fish targets through water requirements for either key environmental assets or ecosystem functions);
- can meet the water needs of environmental assets in NSW that have not been identified as 'key' by the MDBA;

- adequately protects the health of groundwater dependant ecosystems and maintains connectivity between surface water and groundwater systems;
- considers how unregulated flows will be used to contribute to the environmental water requirements for key environmental assets and ecosystem functions
- will contribute to the recovery of threatened species, populations and endangered ecological communities and listed under the *Threatened Species Conservation Act 1995* and/or the *Fisheries Management Act 1994*; and
- considers risks associated with providing large flows to floodplain wetlands including water quality impacts on native fish communities and the potential breeding and spread of carp and other identified hot spots for pest fish recruitment.

3.2 Interception

3.2.1 Threshold issues

The Guide does not contain a clear explanation of the methodology used to translate National Water Initiative (NWI) requirements into Basin planning and in particular into the assessment and management of interception.

The NSW Government recommends that the MDBA provide more information on the identification, treatment and management of interception from a whole-of-Basin point of view. It should also advise whether NWI obligations will be required to apply consistently across the Basin.

There is also the potential for policy conflicts between government policy objectives for carbon sequestration, biodiversity, water quality management and land use planning. This issue is further explored at Section 3.2.4.

The NSW Government requests the MDBA provide a definition of 'significant' and threshold values. The *Water Act 2007* 22(3(d)) states the need for 'the regulation, for the purposes of managing Basin water resources, of interception activities *with a significant impact* (whether on an activity by activity basis or cumulatively) on those water resources'. Based on the information available, it is not clear whether farm dams and forestry are significant.

The NSW Government's notes that its *Assessment of Risks to the NSW Murray-Darling Basin's shared water resources (2008)* used an agreed inter-jurisdictional methodology and concluded that the risks of growth in interception are localised and minor. NSW seeks clarification of the methodology and risk assessment procedure that the MDBA has used and is advocating for use in preparing accredited water resource plans.

3.2.2 Interception estimates

The NSW Government has a number of concerns related to the way in which the MDBA has estimated levels of interception in the Basin:

- There is limited reliable data on the level of interception by farm dams, forestry plantations and mining and the MDBA has acknowledged an error band of up to 50 per cent. Furthermore, the majority of these interceptions are not explicitly represented in models. The NSW Government requests the MDBA provide the science it used to substantiate its conclusions in the level of interception.
- The MDBA notes that it "will work to improve estimates of interception impacts and develop arrangements to incorporate improved estimates over time". The NSW Government requests that the MDBA clarify what 'improved estimates' means in terms of the implications to SDLs for the life of the Basin Plan before the proposed Basin Plan is released. The NSW Government recommends that further work is needed to model and ground-truth the impacts of farm dams, plantation forestry and mining interception of groundwater.
- The lack of a whole-of-water cycle assessment of all forms of interception and the application of a clearly defined measure of significance and threshold values diminishes the scope for detailed

analysis and an understanding of the material impact of the Basin Plan proposals on interception activities.

- Interception has not been incorporated into river and basin flow routing models and the attenuation of hydrological impacts between interception activity and surface stream gauging stations appears simplistic, giving rise to uncertainty about impact estimates.
- The MDBA has not incorporated the interception impact of pre development landscapes on stream flows. This influences the MDBA's pre-development benchmark model and artificially increases stream flows. The NSW Government is concerned that this approach does not adequately recognise interception activities and could limit future landscape restorative programs to restore healthy catchment values. The NSW Government requests that the MDBA provide evidence to support its conclusion that land clearance has not had a marked effect on inflows to streams.
- The MDBA has estimated farm dam interception volumes based on 'basic rights' and 'irrigation and other purposes'. There are significant anomalies between the NSW unregulated licensed data set where farm dam volumes differ significantly to the MDBA's estimates. It is likely that double counting has occurred in the assessment of farm dams that are also used for irrigation and may include dams sourcing water from licensed surface water diversions.

The NSW Government notes that the MDBA has developed a water balance tool which has not been made available to the NSW Government to test its underlying assumptions and values. The NSW Government considers that this tool requires careful scrutiny and looks forward to the opportunity of using it and providing constructive feedback to the MDBA.

3.2.3 Socio-economic analysis on restricting interception activities

The NSW Government notes that the MDBA has not undertaken socio-economic analysis of the consequences of the proposed interception arrangements on industries and communities. In addition, it has not identified any tailored trading mechanisms or mitigation activities that could alleviate these consequences and/or facilitate adjustment to industry and communities reliant upon interception.

By ring-fencing interception 'take' from watercourse diversions, the Guide appears to suggest that reductions in current diversion limits will be assigned to surface water users. This is likely to be viewed as inequitable by existing licensed surface water users. Further policy analysis should be undertaken to determine alternative mechanisms for managing the impacts of interception, which could in turn be incorporated into a transition strategy.

The NSW Government also recommends that the MDBA consider the significance of risk from uncertainty and error in determining interception and the associated scale of impact in regulatory and industry/community costs.

3.2.4 Potential perverse policy outcomes

The NSW Government notes that there may be potential policy conflicts as the Guide appears to have not included consideration of government policy objectives for carbon sequestration, biodiversity, water quality management and land use planning. For example, conditions on regional development whereby new peri-urban rural sub-division is required to provide fire-fighting dams may be in conflict with the MDBA's view to managing growth in farm dams.

It will be important to develop policy options that provide for population growth and consistency with the proposed lower SDLs. For example, in some jurisdictions, planning authorities may require new residential sub-divisions in peri-urban areas to provide dam water for fire-fighting purposes. Such requirements may be inconsistent with the MDBA's approach to managing growth in farm dams.

3.3 Sustainable Diversion Limits

The NSW Government requests further clarification on the modelling assumptions used by the MDBA in developing the SDL scenarios.

Along with other Basin States, the NSW Government provided its current valley-scale hydrologic models to the MDBA for use in the development of the Basin Plan. The NSW Government understands that the MDBA modified the NSW models to varying degrees including reconfiguring them to meet various environmental flow targets.

The NSW Government requires the results of this modelling and the underlying assumptions so that it can undertake a technical assessment of how the SDLs have been calculated. In particular, it is not clear how the various components of the SDL such as regulated licensed diversions, unregulated licensed diversions, and interception activities have been considered when determining the proposed reduction in water use. Based on the information available, the SDLs appear to be predominantly driven by the objective of providing end of system flows for a natural aquatic environment.

Based on the limited information provided to date, the NSW Government believes there are a number of issues which should be considered and verified by the MDBA prior to releasing the proposed Basin Plan:

- The NSW Government is concerned that land use change may not have been adequately considered in the MDBA's modelling, which may have resulted in the modelling overstating the required reduction in current diversion limits.
- The accuracy of the data for unregulated rivers included in Volume 2.
- The current approach to Cap accounting for the SDLs (which places the emphasis on annual accounting) will be inconsistent with NSW policy and legislation regarding management of diversions under water sharing plans (which is based on long-term modelling).
- The modelling and data available to the MDBA for some NSW aquifers may not be sufficiently robust for setting of SDLs. In particular, the proposed reductions in some groundwater sources appear high given recent reductions already achieved through the \$135 million Achieving Sustainable Groundwater Entitlements (ASGE) Program. This is particularly evident in the Lower Lachlan Alluvium where the Guide proposes a reduction to the current diversion limit of 40 per cent, despite the significant reduction already imposed under the ASGE Program.
- The NSW Government notes that the Guide classifies groundwater aquifers into seven broad categories with only limited information to support this classification. The NSW Government recommends that the MDBA provide further information on how this classification has been made.
- The NSW Government notes that the groundwater SDLs may not take account of some of the benefits related to groundwater use where current pumping is controlling land salinisation from shallow water tables. The NSW Government looks forward to the opportunity to discuss this issue with the MDBA prior to the release of the proposed Basin Plan.
- The NSW Government notes that the proposed SDL arrangements suggest that the proposed reductions in water use can come from any of the SDL components. It is not clear if this assumes that licensed water extraction upstream of the regulated river systems would have flowed into the regulated river system undiminished. The NSW Government requests that the MDBA clarify how reductions in water course diversion or interception will be accounted for depending on location and activity.
- It is unclear whether projects that increase the efficiency of water use for users and/or the environment (eg operational surplus flows at the end of regulated rivers) will be recognised in achieving SDLs. The NSW Government seeks clarification on this.

3.3.1 Socio-economic considerations of reducing current diversion limits

The NSW Government welcomes the additional socio-economic analysis being undertaken by the MDBA prior to the release of the proposed Basin Plan. The NSW Government's review of the socio-economic work released so far by the MDBA has identified a substantial gap relating to the localised

impact of the reductions in current diversion limits, including immediate and short-term impacts. NSW understands that the new study will examine these impacts. In order to maximise the value of this work, the NSW Government recommends that the MDBA seek to ensure that this analysis is presented at state water resource planning spatial levels to enable assessment of the socio-economic impacts by state boundaries. Without this information, Basin States will be unable to implement the Basin Plan requirements in an informed manner.

The NSW Government has also identified a number of issues with the MDBA's analysis and recommends that these be addressed before the proposed Basin Plan is released:

- The Guide does not include an estimate of the economic, social and environmental costs and benefits that would arise in the absence of a Basin Plan. The NSW Government recommends that the MDBA develop a social and economic baseline against which a 'Basin Plan policy' baseline is compared. The baseline should consider the current policies and initiatives being implemented by the States, including The Living Murray Initiative and other water recovery programs, implementation of the National Water Initiative and the NSW Water Sharing Plans. The baseline should also identify any likely economic costs that may arise from the deterioration in the health of the Murray-Darling Basin.
- The Guide does not provide adequate values of environmental benefits or applied value estimates to the environmental targets or outcomes. This means that the value of environmental benefits cannot be adequately assessed against the costs of implementing the Plan and the costs associated with various SDLs at the catchment level.
- Separation of costs associated with reduced water availability from climate change (i.e. the first three per cent reduction in current surface water diversions) from costs associated with SDLs.
- Assessment of the costs associated with the proposed new SDLs against the relevant climate change scenarios, rather than against current conditions.
- An estimate of the flow-on impacts of SDLs on local councils and local water utilities.
- Consideration of transitional arrangements, structural adjustment, compensation measures, likely adaptation, and other mechanisms for offsetting cuts in SDLs.
- Noting that water buyback and water use efficiency infrastructure programs which will help to ameliorate the impacts of SDL reductions are not currently captured in the socio-economic impacts in the Guide, the NSW Government recommends that the MDBA undertake this analysis. It is recommended that the MDBA note that the location and extent of the environmental water requirements, institutional/physical constraints on movement of water, the proposed water buyback, and water use efficiency infrastructure programs will result in different impacts for the regional economies (i.e. proposed target areas).
- Noting that the Guide does not provide details on the socio-economic performance indicators that should be monitored and evaluated, the NSW Government recommends that program logic, key evaluation questions and reporting requirements also need to incorporate socio economic indicators and mitigation strategies to minimise negative impacts.
- Noting that buyback of inactive water (sleeper licences) will have implications for current water users through resource allocation, the NSW Government recommends that the proposed Basin Plan address this issue.
- Noting that the Guide does not include estimates of the potential costs associated with limiting the expansion of interception activities, the NSW Government requests that such estimates be developed for inclusion in the proposed Basin Plan.

3.4 Water Resource Plan requirements

The NSW Government believes that the Water Resource Plan (WRP) requirements should be consistent with the National Water Initiative Policy Guidelines on Water Planning and Management which are currently awaiting COAG approval. The Guidelines reflect an agreed inter-jurisdictional understanding of the definition of several key water management terms such as overallocation, overuse and sustainable extraction. NSW considers it important that the proposed Basin Plan acknowledge and take into account the Guidelines.

3.4.1 Accreditation

The NSW Government believes that it is important that the accreditation stage should be an ongoing process, rather than left to the end of the development of WRPs. Ongoing engagement between Basin States and the MDBA will provide the most effective way of obtaining accreditation for WRPs by ensuring that the States understand the MDBA's expectations and the MDBA has confidence that the developed WRPs will meet these expectations. Indeed, some WRP requirements, such as a Basin State WRP consultation strategy, would require accreditation at different stages.

A number of other WRP accreditation process requirements would benefit from further development. For example, the Guide proposes that the Basin States have only 14 days (as per the Act) to respond to MDBA concerns in the event that the MDBA does not accredit State WRPs. In the event that the MDBA does not accredit a state WRP, and the Commonwealth Minister requests that the MDBA develop the relevant WRP (the MDBA WRP), the process for the MDBA developing the WRP is not clear, nor is the specific role of the States in contributing to the development and implementation of the MDBA WRP.

The WRP accreditation process will increase obligations to:

- document the process of consultation;
- demonstrate the modelling;
- complete verification and peer review of models; and
- set out roles, responsibilities and timeframes for implementation.

NSW considers that this presents onerous obligations on the Basin States and is likely to result in increased costs and the potential for regulatory complexity and delay. The NSW Government would be pleased to discuss with the MDBA and the other Basin States approaches to developing an effective and streamlined WRP accreditation process.

Specific comments on some parts of the proposed WRP requirements are outlined below.

3.4.2 Environmental watering arrangements

Based on the information available, the environmental water management framework proposed by the MDBA appears generally consistent with the NSW Government's approach to environmental planning and management. The NSW Government notes that the MDBA proposes to consult with holders and managers of environmental water on the implementation of the Environmental Watering Plan (EWP) once the Basin Plan is adopted.

The NSW Government supports efforts to improve planning, coordination, monitoring and reporting of environmental watering across the Basin. However, it is critical that the Basin Plan's environmental water management framework:

- builds upon NSW's significant achievements to date in the purchase and management of environmental water;
- is flexible enough to permit environmental water managers to modify delivery arrangements when conditions change rapidly and extended and/or additional watering opportunities arise, even if this amounts to a deviation from the planning and approval pathway; and

- allows for NSW priority assets and ecosystem functions and new knowledge about key environmental assets, ecosystem functions and their watering needs to be incorporated into the planning process.

On this basis, the NSW Government recommends that the MDBA consider the following issues in further developing the environmental water management framework that will be set out in the Proposed Basin Plan.

Objectives and targets

The proposed targets and objectives for the EWP are reliant on being able to comprehensively measure ecosystem responses across the whole Basin. For example, the targets set out in the Guide suggest that relevant benchmark measures of ecological responses will be established. It is noted that any such benchmarks and subsequent monitoring will be a challenging and costly task. On this basis, it may be more appropriate for the MDBA to consider whether the EWP objectives and targets for the first Basin Plan should be more focussed on trends and rates of ecological response.

Relationship between environmental water requirements and the environmental water delivery

The NSW Government notes that the environmental water requirements for key environmental assets and ecosystem functions set out in the Guide were developed by the MDBA for the purpose of determining the new SDLs. However, it also notes that:

- these water requirements were developed to meet a set of objectives and targets required to protect and restore a hydrologic indicator site to a level consistent with the requirements of the *Water Act 2007*;
- these objectives and targets are very similar to the EWP's overall objectives for water-dependant ecosystems;
- the long-term watering plans to be developed by the Basin States must include site-specific objectives and targets for key environmental assets and ecosystem functions that are consistent with the EWP's overall objectives for water-dependant ecosystems.

While the Guide does not state that EWPs must specify watering arrangements consistent with the water requirements identified by the MDBA in setting SDLs, it is not clear if there will be an expectation on Basin States to deliver similar flow regimes.

It is recommended that the MDBA clarify this issue in the proposed Basin Plan. Should the expectation be that Basin States will deliver the environmental water requirements outlined in the Guide, then Basin States must be given the opportunity to critically analyse their adequacy, appropriateness and feasibility before the final Basin Plan is adopted.

Long-term and annual environmental watering plans

Based on the requirements set out in the Guide, the development of long-term EWPs within 12 months of the Basin Plan being adopted will be a challenging and resource-intensive task for Basin States as it is not clear that the content or coverage of existing plans will meet the MDBA's expectations.

NSW already develops annual reporting plans for RiverBank target valleys (i.e. the Macquarie, Lachlan, Murrumbidgee and Gwydir valleys). NSW's annual water plans provide the primary context for environmental water management activities in the upcoming water year and are based on advice from Environmental Water Advisory Groups. The plans propose likely opportunities for watering in the year ahead using asset condition, immediate watering history, the availability of both planned and adaptive environmental water at beginning of water year and climatic forecasts. The NSW Government requests clarification from the MDBA as to the extent to which existing NSW annual watering plans will be consistent with the MDBA's requirements.

The NSW Government is concerned about the proposed timing for the development of annual watering plans by March of each watering year. NSW's annual watering plans are developed by June of each year when asset condition and climate scenarios for the next watering season can be more reasonably

predicted. Annual watering plans finalised in March are likely to require revision at the commencement of the water year, unless they are sufficiently flexible to account for changing climatic circumstances, which may impact on the MDBA's published priorities for environmental watering.

Annual prioritisation process and the role of the Environmental Watering Advisory Committee

It is noted that the MDBA proposes to develop annual watering priorities for key environmental assets and ecosystem functions that require watering at the Basin scale by June each year. It is also noted that the MDBA will be advised by the Environmental Water Advisory Committee and that it may also engage individual scientists, a scientific advisory committee or other relevant parties to provide advice on these priorities.

The NSW Government considers it important that the Basin Plan environmental water management framework process does not compel the use of the state's water assets. The NSW Government considers that the process for determining annual priorities should be based on a consensual agreement between Basin States and the MDBA, rather than the current proposed approach which leaves the final decision with the MDBA.

The Environmental Water Group established under The Living Murray Initiative is a good example of how environmental outcomes can be achieved through a consensus decision-making process. However, where consensus on Basin priorities cannot be achieved within a reasonable timeframe, an environmental water holder should not be prevented from utilising environmental water holdings to achieve environmental outcomes within its jurisdiction. The NSW Government further recommends that the MDBA also consider how disagreements between Advisory Committee members would be dealt with.

As noted above, flexibility is an essential element of adaptive environmental water management. Once annual priorities are set, Basin States must retain the right to modify delivery arrangements when conditions change rapidly and extended and/or additional watering opportunities arise, even if this amounts to a deviation from the MDBA's annual priorities and the state long-term and annual watering plans.

Environmental watering schedules

It is noted that the Water Act requires the MDBA to develop environmental watering schedules with environmental water holders and managers and environmental asset owners.

While such schedules may be appropriate for inter-jurisdictional coordination of environmental watering in cross-border areas, the NSW Government does not expect to be required to negotiate formal agreements for watering of assets within NSW. Through the Department of Environment, Climate Change and Water, the NSW Government already works cooperatively with private landholders who provide access to their properties, advice and on-ground support during watering events. While there may be opportunities to formalise these relationships, agreements of this kind should not be mandatory as they may cause some landholders to withdraw support from cooperative actions. It is also noted that cooperation with other environmental water holders in NSW is already governed by voluntary agreements, such as the Memorandum of Understanding between the NSW Department of Environment, Climate Change and Water and the Commonwealth Environmental Water Holder.

The NSW Government requests that MDBA clarify who is responsible for preparing environmental watering schedules, and any operational and legal issues that may arise as a consequence of the schedules, and the responsibility for any legal liability. The Guide states that the MDBA will facilitate these agreements as schedules to the EWP. The Guide also states proposed cooperative arrangements with neighbouring water resource plan areas can be outlined in long-term EWPs developed by Basin States. The NSW Government notes that if States are to produce long-term plans within 12 months of the Basin Plan taking effect, any environmental water schedules agreement would need to be finalised well before this time (so that their provisions can be included in the long-term plans).

NSW Environmental Water Advisory Groups

In NSW, Environmental Water Advisory Groups play an important role in providing the NSW Government with advice on environmental water management activities and provide a unique forum for drawing on expert knowledge, including local knowledge and experience. This kind of local decision making is an important part of NSW's successful environmental water management framework as local community acceptance of environmental watering activities is obtained at both the planning and implementation stage. It is not clear whether there will be discretion for NSW to maintain the role of these committees within the framework proposed by the MDBA.

Identifying environmental assets and ecosystem functions

The method outlined on page 284 of Volume 2 implies that Basin States will be required to 're-do' the process used by the MDBA in identifying key environmental assets and ecosystem functions for the purposes for determining the SDLs. At the same time, page 285 requires Basin States to identify the relevant key environmental assets and ecosystem functions "derived from those to be published by MDBA".

The NSW Government recommends that the MDBA clarify the methodology for identifying environmental assets and ecosystem functions and whether it allows States to identify assets and functions not already identified by the MDBA. The MDBA should also re-consider the necessity for Basin States to repeat the work already carried out by the MDBA.

Transitional arrangements

It is noted that the Guide states that proposed environmental water management framework is to start "immediately after the Basin Plan is adopted, except where an interim or transitional water resource plan maintains a current environmental watering arrangement". The MDBA is requested to provide more information so that NSW can determine the extent to which existing NSW arrangements for environmental watering may meet the MDBA's expectations in this regard.

3.4.3 Water Quality and Salinity Management

To enable a more detailed analysis of the proposed arrangements for the Water Quality and Salinity Management (WQSM), NSW requests the MDBA releases the following additional information:

- the modelling undertaken by the MDBA to support its confidence that most water quality targets will be met with an additional 3,000-4,000 GL flowing through the Basin;
- detail on how the water quality emergency response triggers will be coordinated across the Basin;
- an explanation of which water quality matters will be directly managed through the Basin Plan; and
- guidelines on the collection and analysis of data that underpins reports prepared by the jurisdictions which will be required to monitor and evaluated the water quality and salinity management targets.

The NSW Government supports the proposal that water quality and salinity targets set under the Basin Plan will not impose direct mandatory compliance obligations on Government. However, based on the information in the Guide, it appears that if a water quality target is exceeded, State authorities will be required to investigate and report on the consideration and evaluation of mitigation options, including the decision making process that resulted in the target not being met. Whether this translates to States demonstrating best endeavours, or there is subsequent corrective action required is unclear. The inherent difficulty in undertaking actions in real time to meet some water quality targets means that demonstrating performance through a combination of water and land management actions over time is an appropriate strategic response. If it is not feasible to meet a target through storage operation, interception works or landscape investments, then the NSW Government would view that target as problematic, such that it would need to be reviewed. The NSW Government requests further information on these matters from the MDBA.

In implementing the WRPs, there will be instances where operators need to make trade-offs between competing water quality goals. For example, an operator may need to breach a temperature target in order to avoid releasing surface water with toxic levels of blue-green algae. The proposed reporting

requirements would be particularly onerous where an operator had to report on an event by event basis. To avoid this, the NSW Government suggests that operating protocols that document these trade-offs and the decision processes be developed and approved. Such protocols are currently in development in NSW for cold water pollution management during algal blooms.

Given that the targets are not mandatory, the MDBA is requested to clarify compliance arrangements. For example, if direct enforcement is not proposed, does this mean that WRPs will have to be revised, or is other 'indirect' enforcement action proposed, and what might this entail? The NSW Government also requests the MDBA clarify the distinction between Basin scale 'obligations' imposed on States and WRP requirements, particularly with respect to water quality.

The NSW Government takes the view that compliance cannot easily be demonstrated, and that it would be more productive to evaluate delivery of actions and establishment of links between hydrology and landscape management change that could guide catchment investments. If the targets are not binding, then the MDBA should consider clearly defining the water quality objectives and targets as aspirational, long-term goals.

The NSW Government is also concerned that use of terms such as 'ensure', 'obliged', 'enforce', relating to meeting of targets cannot be mandated for broader natural resource management actions beyond water management activities, and should be used much more selectively in the context of Basin Plan compliance.

Environmental watering and the WQSMP

The Environmental Watering Plan and the Water Quality and Salinity Management Plan for each WRP need to be consistent and management should be focussed on protecting the same key environmental assets. The Guide currently implies that the plans will aim to protect different environmental values.

Water quality targets for environmental assets

'Limits of acceptable change' as proposed to be adopted as water quality targets for Ramsar sites have not been developed for all NSW Ramsar sites. The Basin Plan will need to develop alternative approaches for setting these targets, based on best available science.

For regional scale water dependent eco-systems, the NSW Government believes the approach could be restrictive and that locally relevant targets should be developed where information is available.

Aboriginal water planning objectives and outcomes

Noting that aboriginal values are recognised in the Australian and New Zealand Environmental Conservation Council guidelines, there is no mention in the Guide of water quality objectives to protect indigenous water values. Water quality may be a component of the management measures to help achieve the indigenous water planning objectives and outcomes, which will be specified in each water resource plan. It will be important that the water quality and salinity management plans are developed to be consistent with the indigenous water planning objectives and outcomes, where relevant.

Water Resource Plans and NSW Catchment Action Plans

In previous correspondence to the MDBA, the NSW Government has pointed out the limited capacity of water management activities within water resource plans to address many of the water quality issues within a catchment. Many nutrient delivery issues occur at high flows and are directly related to land management. These issues are better influenced by plans that address catchment management issues. In NSW, this role is performed by Catchment Action Plans (CAPs) administered by Catchment Management Authorities. The NSW Government proposes that the WRP should also have the ability to refer to outcomes supporting water quality improvements achieved through the CAPs in demonstrating the requirement to meet some of the Basin Plan water quality outcomes.

In NSW, implementation of the Water Management Plan component of the National Water Quality Management Strategy has largely been undertaken by the CMAs through the development of the CAPs, which focus on landscape management activities. Water and catchment planning is now being coordinated through the NSW Monitoring Evaluation and Reporting Strategy.

While landscape management is outside the legislative scope of the Commonwealth *Water Act 2007* (the Water Act), the MDBA is proposing that alignment with landscape planning be demonstrated through WRPs. It is clear that the Water Act cannot mandate these actions. The NSW Government believes that WRPs should only identify the contribution of these improvements to meeting water quality targets. On this basis, the NSW Government seeks clarification from the MDBA that enforcement of these activities is not proposed through WRPs.

Trade offs between values and objectives

The NSW Government recommends that the MDBA acknowledge the significant investment in infrastructure that would be required by water operators to meet some targets (e.g. multi-level water offtakes to meet temperature targets for cold water pollution), and that a staged approach to delivery of some targets may be required, as funding and timeframes permit.

NSW is concerned about the reconciliation and trade-offs to be considered for water delivery to meet watering targets for an asset, which may meet the watering target but result in water quality objectives and targets not being met. The NSW Government recommends that the MDBA work with jurisdictions to address the potential for perverse or contradictory outcomes in areas such as environmental watering decisions or other water management activities. This may require development of protocols to determine priorities or overriding objectives, such that States can manage water resources effectively.

In addition to the comments above, the NSW Government has a range of technical concerns in relation to the WQ&SM Plan requirements which would be best addressed through the bilateral and multilateral discussions.

3.4.4 Critical human water needs

The NSW Government believes that the critical human water needs requirements of the Plan should reflect the current discussions between the Commonwealth and Basin States on Schedule H of the Murray-Darling Basin Agreement, and which is limited to the Murray Valley only.

The NSW Government requests that the MDBA provide more information than currently available in the Guide to determine whether the proposed SDLs will impact on critical human water needs in other valleys.

3.4.5 Water trading rules

The NSW Government notes that the trading rules included in the Guide are largely consistent with the advice provided by the Australian Consumer and Competition Commission (ACCC). The NSW Government has submitted a detailed response on the draft rules to the ACCC and provided a copy of this advice to the MDBA. However, these comments are not reflected in the amendments to the ACCC rules contained in the Guide.

Some of the NSW Government's key concerns with the proposed trading rules are summarised below:

- NSW believes that it is necessary to have some limited restrictions to trade based on intended use, in particular where this might impact on critical human water needs.
- The MDBA proposes that there should be no volumetric limits on trade such as the four per cent interim threshold limit on trade in permanent entitlements out of irrigation areas. The NSW Government supports the proposal subject to all States lifting the limit simultaneously to ensure competitive neutrality in the interstate trading market.
- The NSW Government is concerned about the potential for interstate inequities and competitive advantages arising from the timing of the removal of the four per cent limit by Victoria and other trade rules, given that the WRPs will not be introduced in that State until after 2019.

- As part of the WRP requirements, the Guide refers to the consideration of third party impacts between the environment and consumptive users. The NSW Government believes that this should also be a consideration for trade between consumptive users.
- NSW has detailed processes, procedures and systems for enabling water trade intrastate and interstate which are, on the whole, consistent with the Murray-Darling Basin Agreement. NSW expects that the Basin Plan will uphold these rules and extend them over the whole Basin to ensure consistency in practice as well as terminology. The NSW Government notes that trade is incorporated into NSW's water accounting systems, and that any changes to trade and associated accounting due to the water trading rules will create significant costs and workload for NSW.
- The water market trading rules do not incorporate interception into water trading markets. The MDBA has not undertaken investigations into the development of property rights and water trading markets for landscape interception.

The NSW Government strongly recommends that the MDBA consider the NSW Government's comments during the development of the proposed Basin Plan.

In addition to its advice on water trading rules, the ACCC made a number of recommendations on trading issues. The NSW Government seeks clarification on whether the MDBA is also considering the ACCC's recommendations.

3.4.6 Aboriginal cultural values

The NSW regulatory framework for water management includes an explicit role for Aboriginal participation in water management, including clear objectives in the *Water Management Act 2000* and WSPs, provision for Cultural Access Licences in all water sharing plans and a Cultural Access Licence in the Murrumbidgee Valley. Since 2000, the NSW Government has worked with Aboriginal communities in the development of water sharing plans and, to some degree, has identified Aboriginal values of the water resource, which include cultural, community development and commercial needs. There are a number of successful cases of implementing measures to protect and enhance Aboriginal cultural values within NSW WSPs.

Based on the information available, the Guide's proposed requirements that WRP take into account Aboriginal cultural values is generally consistent with and builds upon existing NSW Government policy. However, the NSW Government seeks the MDBA's clarification on some elements of the framework including how 'Aboriginal uses' is defined and whether the MDBA has considered the challenges in publishing Aboriginal knowledge, where it is currently controlled by the communities.

The NSW Government notes that new methodologies and strategies will have to be developed to implement this WRP requirement. In addition, the NSW Government strongly recommends that the Commonwealth Government recognises that, because water planning issues are relatively new for Aboriginal communities, resources will have to be developed to build Aboriginal community capacity in this area.

The NSW Government also notes that the accreditation test ascribes an important role for peak groups (eg Murray Lower Darling Rivers Indigenous Nations or Northern Murray-Darling Basin Aboriginal Nations). These groups have an important role in supporting local community groups and setting overall directions. However, given that these groups cover a very large area they may be limited in their role or capacity to identify localised values and uses. The NSW Government strongly recommends that the MDBA provides all necessary support to these peak groups to assist them in fulfilling their roles.

3.4.7 Risks to the Basin's water resources

The NSW Government notes the MDBA's prioritisation of the management of the identified risks at the Basin scale and the strategies required to address these risks. Many of the proposed risk management strategies have significant resource implications and would be required to be completed within very short timeframes. It is noted that the Guide does not outline what

responsibility, if any, the Basin States have in implementing the proposed Basin scale risk management strategies and any related costs. NSW notes that any obligations placed on the Basin States to implement risk management strategies would be subject to the no additional net costs provisions of the 2008 IGA.

The NSW Government also notes that Water Resource Plan Requirement H (Approach to managing risks to the Basin's water resources) requires Basin States to evaluate risks at a WRP scale using similar categories as those at the Basin scale. The MDBA is requested to clarify if there is an expectation that any strategies Basin States identify to address risks at a WRP scale have to be consistent with the strategies identified at a Basin scale (and within the same timeframes), or whether the States will have discretion to develop their own strategies and appropriate timeframes.

3.5 Climate change

The inclusion of climate change in water allocation planning is a new challenge for the Basin. NSW has concerns about the manner in which the MDBA has chosen to consider and respond to climate change impacts. These concerns include the uncertainty in the estimate, its uniform application basin-wide, the attribution of part of the reduction in diversion limits to climate change, and the proposal for accrediting water resource plans.

The Guide has quoted a 10 per cent reduction in water availability, with three per cent occurring over the life of the Basin Plan. The considerable uncertainty in the science underpinning climate projections means that, compared with natural climate variability, it is not possible to say with certainty how much water availability will change over a finite period. The Guide states that this reduction applies Basin wide. Contrary to statements in the Guide, there is not general agreement that the whole Basin will be drier. While there is some evidence that this could be the case for the southern Basin, there is not comparable evidence for the northern part of the MDB where different weather systems prevail.

The Guide has then attributed to climate change three per cent of the reductions to the diversion limits for compensation purposes. These reductions appear to have been estimated using only historical climate. As no changes to climate change related water availability were used to estimate these reductions, the full extent of these reductions can only be considered as being to recover water for the environment, and therefore a compensable change in policy.

The Guide proposes that future Basin Plan compliant WRPs must share climate change 'equitably', and to do this, the plans must be shown to be able to share reductions to water availability in equal proportion to environment and to consumptive water users. In a highly variable system with significant non-linearity, the NSW Government is concerned about the validity of this assumption, and recommends the MDBA considers alternative approaches to achieve the intended outcome in an equitable manner.

The NSW Government would like to work with the MDBA to develop an alternative scenario based approach to equitably manage climate change impacts consistent with the 2010 National Water Commission paper *Incorporating climate change in water allocation planning*.

3.6 Compliance and enforcement

Based on the information available, the NSW Government's main concern in relation to compliance and enforcement is that the Guide does not clearly articulate the respective compliance roles and responsibilities of the Commonwealth and Basin States.

The Guide outlines how the MDBA will assist Basin States' compliance and enforcement activities through the application of consistent principles, a risk based approach, training, support systems and sharing intelligence. The NSW Government would be grateful for more information on the nature of this assistance. For example, does the reference to 'consistency' refer to common offence provisions and penalties? If so this may require legislative reform in Basin States. If it is a reference to procedural consistency then NSW suggests that the proposed Basin Plan should include more detail.

The Guide refers to the MDBA providing services such as education and delivery of key messages. The proposed Basin Plan should provide detail on how this will be managed in collaboration with Basin States to avoid conflicting messages to the regulated community, duplication of effort and importantly, so that enforcement actions are not compromised.

In addition, NSW requests further detail on:

- the circumstances in which the MDBA will take action against individual water users/licence holders;
- what procedures and protocols will be followed to ensure collaboration with Basin State agencies;
- the expected monitoring frameworks between the Basin States and the MDBA to ensure individuals' compliance with WRPs, and how these will be funded;
- the level of interaction and cooperation the MDBA expects from Basin States in terms of the proposed compliance audits;
- the level of consistency that is sought in the compliance and enforcement frameworks of Basin State agencies; and
- how audits will be used to monitor compliance, and the associated arrangements for information sharing and access.

3.7 Monitoring, Evaluation and Reporting

3.7.1 The monitoring and evaluation program

Based on the information available, the NSW Government has significant issues with the proposals for the Monitoring, Evaluation and Reporting Program (MER Program). The NSW Government recommends that the MDBA consider the issues outlined in developing the proposed Basin Plan.

Firstly, establishing the primacy of outcomes is essential to full operation of a monitoring and evaluation program for the Basin Plan. The NSW Government notes that six key basin plan elements are identified for determining overall performance of the Basin Plan:

- ecosystem outcomes from the implementation SDLs and EWP;
- water quality outcomes from WQSM Plan;
- critical human water needs;
- risks to the condition and availability of Basin water resources;
- water trading and transfer rules; and
- socio-economic impacts.

As the Basin Plan has multiple objectives, decisions and judgements have been made to determine the SDLs in all valleys. They will also have to be made in combining evaluation results for the different basin plan elements for overall evaluation of Basin Plan performance.

While the MER Program is the instrument for determining the success of the Basin Plan, there is potential for the MER Program to be interpreted as a report card on the States' implementation of their WRPs.

Part of the performance of WRPs is the degree to which they achieve WQSM. Successful implementation of the Basin Plan should be assessed against delivery of actions, the establishment of links between hydrology and other natural resource management, evaluation against objectives, and modification of the plan, rather than achievement of the long-term aspirational targets.

Contradicting the non-mandatory nature of the targets, implementation of landscape planning and pollution control actions is identified as an accreditation requirement for state WRPs. This results in indirect mandatory water quality requirements (particularly actions) to be placed on the states. The accreditation requirements of WRPs for objectives for water quality and salinity includes that "the authority responsible for each plan will be responsible for enforcing the implementation of the water

resource plan's management strategies" (Volume 2, page 268). This could act as a disincentive for land based management actions to be included in the WRP, which might reduce the effectiveness of the Basin Plan in delivering water quality outcomes.

3.7.2 Program logic

The MDBA is encouraged to work closely with the Basin States to develop the program logics for evaluating the key basin elements. Program logic is the backbone of the evaluation design and has significant implications in monitoring resource requirements and performance determination of State WRPs. The NSW Government regards the logic diagrams in Volume 2 of the Guide as examples that will be developed through consultation between the MDBA and the Basin States.

The NSW Government notes the indicators listed for outcome stages in the program logic diagrams. These are intended proxy outcomes for Basin element objectives. The NSW Government believes that selection of these indicators and associated targets must be agreed to by the States.

3.8 Cost impact

Any additional costs incurred by the NSW Government in implementing the Basin Plan must be reimbursed by the Commonwealth Government through the no additional net cost provisions of the 2008 IGA. The NSW Government believes that it is important to ensure that the Basin Plan can be implemented in a cost efficient and effective manner.

Based on the information provided in the Guide, the Basin Plan will impose substantial costs on the Basin States. The NSW Government would welcome the opportunity to work with the MDBA to quantify and reduce the cost impact of the Basin Plan on taxpayers. Examples of areas of the Guide which will impose costs in implementation are provided below.

- Environmental Watering Plan
 - engineering and infrastructure works and measures.
 - implementing any of the risk management strategies identified in the Guide.
 - developing long-term and annual environmental water management plans.
- New requirements under the MER Program
- Water Quality and Salinity Management Plans
 - preparing the Plans
 - water quality and flow modelling
 - revision of NSW Catchment Action Plans
 - implementation, monitoring and reporting
- Implementing interception and unregulated water course aspects of the SDLs.
- Identifying Aboriginal water values and use and implementing any measures to address them.
- Adjusting to the new methodology for SDL compliance, compared to the current Murray-Darling Basin Ministerial Council Cap methodology.
- Increase in compliance activities to counter expected increases in non-compliance due to the new SDLs.

4. Conclusion

The comments provided in this submission are intended to be the starting point for NSW Government engagement with the development of the proposed Basin Plan.

The NSW Government has developed considerable expertise and experience in environmental and water management and is committed to working cooperatively with the MDBA to assist the Commonwealth deliver a Plan that balances the sustainability of the Basin with the water needs of the Basin's communities. The NSW Government strongly recommends that the MDBA engage with NSW Government to ensure that the proposed Basin Plan benefits from this experience.

Appendix A

Summary of information requested by NSW Government

- Environmental works and measures that will assist in achieving environmental outcomes and offset the SDL reductions.
- Assessment of whether proposed environmental water can be delivered within existing operational constraints and details of proposed engineering works to overcome any identified constraints.
- Identification of potential legal issues and likely compensation arising from the inundation of privately owned land to water environmental assets.
- Confirmation that all held environmental water, such as RiverBank licences, will contribute to offsetting the SDLs.
- Proposed methodology to determine compensation if the NWI risk assignment framework is triggered.
- Peer reviews (national and international) which confirm that the MDBA's approach to determining environmental watering requirements is robust and represents the application of the best available science as required by the Water Act.
- Modelling and decision rules used to determine the environmental water requirements for the 106 hydrologic indicator sites (18 key environmental assets and 88 key ecosystem functions) and the flow requirements themselves.
- Details of how all seven components of the flow regime (from no flows to overbank flows) are addressed and accounted for in the scenarios for additional water for the environment.
- The modelling and decision path used to determine which groundwater systems are overdeveloped.
- Details of how unregulated river flow regimes and flow management are considered in the establishment of SDLs.
- The modelling and decision rules used to determine the environmental water requirements for seven groundwater systems considered to be overdeveloped.
- Data and modelling underpinning the analysis of environmental outcomes in Chapter 8 of Volume 1 of the Guide.
- An explanation of the methodology used to translate NWI requirements into Basin planning, and in particular, the assessment and management of interception.
- Additional information on the identification, treatment and management of interception from a whole-of-basin point of view, and whether NWI obligations will be required to apply consistently across the Basin.
- A definition of 'significant' and threshold values, as referenced in Section 22(3(d)) of the *Water Act 2007*.
- Clarification of the methodology and risk assessment procedure used by the MDBA in developing the Guide.
- Clarification of the methodology and risk assessment procedure advocated by the MDBA for use by the Basin States in preparing WRPs.
- Access to the science used by the MDBA to estimate the level of interception by farm dams, forestry plantations and mining.
- Clarification of the implications to SDLs over the life of the Basin Plan of proposed arrangements to incorporate improved interception estimates.
- Evidence to support the conclusion that land clearance has not had a marked effect on inflows to streams.
- Access to the water balance tool.
- Results of the hydrological modelling and underlying assumptions used to develop the SDL scenarios.
- Evidence supporting the classification of groundwater aquifers into seven categories.
- Clarification of accounting arrangements for reductions in watercourse diversions or interception.

- Clarification of how projects to increase water efficiency by either the environment or extractive users will be recognised in achieving SDLs.
- A baseline of environmental and economic outcomes in the Basin under a no policy change scenario.
- Valuation estimate of expected environmental benefits.
- Separate identification of the costs associated with reduced water availability from climate change and those costs associated with SDLs.
- Assessment of the costs associated with the proposed new SDLs against the relevant climate change scenarios, rather than against current conditions.
- An estimate of the flow-on impacts of SDLs on local councils and local water utilities.
- Consideration of transitional arrangements, structural adjustment, compensation measures, likely adaptation, and other mechanisms for offsetting cuts in SDLs.
- An analysis of the extent to which buyback and water use efficiency infrastructure programs ameliorate the socio-economic impacts of SDL reductions.
- Socio-economic indicators and mitigation strategies which will be included in the MER Program.
- Assessment of the impact on buyback of inactive water (sleeper licences) on current users.
- An estimate of the costs of limiting the expansion of interception activities.
- An explanation of the role of the Basin States in contributing to and implementing a WRP which is developed by the MDBA.
- Clarification of whether Environmental Watering Plans must specify watering arrangements consistent with the water requirements identified by the MDBA in setting SDLs.
- Clarification of the extent to which existing NSW environmental watering plans will be consistent with the MDBA's requirements.
- Clarification of the methodology for identifying environmental assets and ecosystem functions, and in particular whether it allows States to identify assets and functions not already identified by the MDBA.
- Additional information so that NSW Government can determine the extent to which existing NSW arrangements for environmental watering may meet the MDBA's expectations.
- The modelling undertaken by the MDBA to support its confidence that most water quality targets will be met with an additional 3,000-4,000 GL flowing through the Basin.
- Detail on how the water quality emergency response triggers will be coordinated across the Basin.
- An explanation of which water quality matters will be directly managed through the Basin Plan.
- Guidelines on the collection and analysis of data that underpins reports prepared by the jurisdictions will be required to monitoring and evaluation the water quality and salinity management targets.
- Information on whether the SDLs will impact on critical human water needs in Basin valleys other than the Murray.
- An explanation of the extent to which NSW Government comments on the draft ACCC Water Trading Rules have been included in the Water Trading Rules in the Guide.
- Clarification on whether the MDBA is considering the additional recommendation that the ACCC included in its advice to the MDBA.
- The definition of "Aboriginal users" and whether the MDBA has considered the challenges of publishing Aboriginal knowledge.
- Clarification of Basin State responsibilities in implementing the risk management strategies in the Guide.
- Clarify whether if there is an expectation that any strategies Basin States identify to address risks at a WRP scale have to be consistent with the strategies identified at a Basin scale (and within the same timeframes), or whether the States will have discretion to develop their own strategies and appropriate timeframes.

- The circumstances in which the MDBA will take compliance action against individual water users/licence holders.
- The compliance procedures and protocols which will be followed by the MDBA to ensure collaboration with Basin State agencies when it is presuming compliance action.
- The expected monitoring frameworks between the Basin States and the MDBA to ensure individuals' compliance with WRPs, and how these will be funded.
- The level of interaction and cooperation the MDBA expects from Basin States in terms of the proposed compliance audits.
- The level of consistency that is sought in the compliance and enforcement frameworks of Basin State agencies.
- Details of how audits will be used to monitor compliance, and the associated arrangements for information sharing and access.
- Estimates of the cost impact on the Basin States of implementing the Basin Plan requirements.