Australian Government

National Water Commission

Submission to Senate Inquiry: The management of the Murray-Darling Basin

On 28 October 2010, the Senate agreed that the Standing Committee on Rural Affairs and Transport would hold an inquiry into the management of the Murray-Darling Basin. This submission is intended to provide information which may assist the Committee in its deliberations.

Overview

The National Water Commission (NWC) recognises that developing a whole-of-basin plan is a difficult and complex task - indeed it is one of the largest and most challenging water planning exercises in the world. The development of a single plan that covers the entire Basin will be a huge step forward for water management in Australia.

The NWC is of the view that the *Water Act 2007* (Water Act) can deliver a Basin Plan that is consistent with the National Water Initiative (NWI). Both the NWI and Water Act require the return of over-allocated or overused systems to environmentally sustainable levels of extraction or take - that is, extraction levels that will support key environmental assets, ecosystem functions and the productive base.

The identification of potential social and economic impacts in the Basin is an important step in the process of developing a Basin Plan.

The NWC has argued that transparency is a critical part of water planning and is essential in building both understanding and confidence concerning final objectives. We therefore welcome the MDBA's public release of the evidence and science underpinning the proposed Basin Plan.

It is important to acknowledge that the release of this Guide to the Basin Plan marks the beginning of the process to develop a Basin Plan over the coming months. What is now crucial is the consultation and engagement with the basin community that will take place in the months ahead. This is the next and most vital step in deciding how best to go about recovering water, whilst easing the impacts on regional communities.

The NWC urges all parties to engage constructively with the process so that ultimately a Basin Plan is implemented and there is clarity about the rules going forward. A constructive approach will allow governments and affected communities to focus on the crucial process of adjustment to secure key environmental assets, a productive irrigation sector and confident communities.

This submission includes:

- comments on specific matters identified within the terms of reference
- comments about general issues for water planning and water markets, and
- some background on the NWC and the NWI.

Comment with respect to individual terms of reference:

The impacts of changes proposed in the Basin.

Predicting accurately the impacts of the Plan on regional communities is a complex and challenging objective. As one contribution to understanding the impact of water reform on individuals,

communities and agricultural businesses, the NWC published in June 2010 a report on the impacts of water trade. [1]

The report is a comprehensive and integrated assessment of the affects of water trading at local, regional and basin-wide levels from 1998-99 to 2008-09. This covered the period of the severe drought that affected the region and which led to severely reduced water allocations.

Several of the findings in the report are pertinent. The study noted that:

"...water markets are making a major contribution to the achievement of the NWI objective of optimising the economic, social and environmental value of water. The overwhelming conclusion of the study is that water trading has significantly benefited individuals and communities across the s[outhern]MDB."[2]

Concerns about adverse economic and social impacts of water trading are usually linked to cases in which outward trade reduces local water use, irrigated agricultural production and economic activity in associated industries and regions. Reductions in economic activity are linked to concerns about community viability.[3]

Even in cases where regional water use fell, analyses of production and water-use data demonstrate that reduced regional water use did not lead to a proportional reduction in the value of agricultural production—because water is moving to those who value it most. Farmers may exploit dryland farming opportunities, substitute water for other inputs (such as fodder) and increase their on-farm water-use efficiency. It has been observed throughout the sMDB that water trading allows some (high-value) industries to maintain production while other (low-value) industries reduce production.

Comparisons of trade patterns and key socioeconomic indicators revealed no discernible link between patterns of water trading in or out of a region and changes in population, employment in agriculture or weekly household income. Instead, it was found that observed trends in those indicators were similar across regions regardless of their water trading history. For example, employment in agriculture fell in all regions, regardless of whether those regions were net purchasers or sellers of water. The South Australian Murray region showed the sharpest decline in employment in agriculture between 2001 and 2006, despite being a net importer of water during that time. This suggests that other factors had a greater impact than water trading in driving social and economic change at the regional level between 1996 and 2006.[4]

In relation to impacts on regional economies and communities the NWC observed that "All regions benefited from water trading. However, declines in water use due to trading did have flow-on impacts on associated industries and communities in some localised cases, such as rice-growing areas in the NSW Murrumbidgee and Murray regions and the Pyramid–Boort region in northern Victoria."[5]

The NWC also submits that the maintenance and restoration of ecosystems and key environmental sites is likely to produce a number of benefits that will be difficult to quantify economically. These include enhanced local amenity for communities, improvements to the quality of water that is used for community supply and increased tourism opportunities.

Without adequate and timely water, water-dependent ecosystems in the Basin will lose their capacity to provide services, such as provision of good quality water for irrigation and domestic use, habitat for

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[1] *The Impacts of water trading in the southern Murray-Darling Basin: an economic social and environmental assessment* June 2010: http://www.nwc.gov.au/www/html/2816-impacts-of-water-trading-in-the-southern-murraydarling-basin.asp?intSiteID=1

[2] Ibid, Executive summary p v

[3] Ibid, Executive summary p vii

[4] Ibid, Executive summary p vii

[5] *The Impacts of water trading in the southern Murray-Darling Basin: an economic social and environmental assessment* Executive summary p x

fish and other aquatic fauna and flora, removal of wastes and contaminants and aesthetic, cultural and recreational benefits[6].

Structural adjustment

The NWC notes that there will be local and regional industry adjustment effects likely to arise from the implementation of a Basin Plan. Once again, quantification of these will not be straightforward, but the NWC has commented broadly on adjustment issues in the 2009 Biennial Assessment of the NWI[7].

The NWC assessed performance in addressing the NWI objective of addressing future adjustment issues that may impact on water users and communities (NWI clause 23(ix)). The assessment focused on the irrigation sector in the MDB, where the NWC considers that adjustment challenges will be most significant concluding that:

"Structural adjustment is the continuing process of change in the size, composition and characteristics of industries, which occurs naturally in response to a range of market, technological and environmental factors, as well as in response to government policy reforms. Adjustment should be seen as a necessary and positive phenomenon bringing opportunities for innovation and improved productivity.

"Successful adjustment is necessary for successful water reform. For that reason governments should pay attention to the pressures and processes of adjustment. However this does not mean that special adjustment programs are either necessary or desirable. On the contrary, too many supposedly pro-adjustment programs and policies have, in the past, delayed, distorted or derailed adjustment processes—to the long-run cost of the communities involved.

"Across much of Australia, and in particular in the MDB, future reductions in water availability, combined with other factors such as commodity prices, exchange rates and social trends, will contribute to ongoing adjustment in the irrigation sector and irrigation-dependent communities. The reductions in water availability for irrigation in the MDB are expected to result from a combination of factors including drought, climate change and establishing sustainable diversion limits for surface and groundwater systems. For broad planning purposes, it is important to understand that these reductions are likely to be very significant. While irrigation industries and communities have been responding to the many and varied forces of change for decades, reduced water availability will add to these pressures.

"Water reforms outlined in the NWI aim for more environmentally, economically and socially sustainable water management. Water markets play a critical role in this transition to sustainability by giving entitlement holders the opportunity to make their own adjustment, investment and production decisions. By removing barriers to trade and other policies which otherwise impede the natural and continuing process of adjustment, governments can facilitate this necessary and positive process. Water trade and environmental water purchase programs should be allowed to proceed in a timely, agreed and coordinated way, unencumbered by artificial trade barriers. At a time of drought and declining market conditions, irrigators need more options and flexibility rather than less."

In summary, the NWC has found that some measures which have been implemented to address concerns about the localised community impacts of adjustment, such as state government restrictions on water trading, undermine the ability of water markets to facilitate adjustment by individual irrigators. This causes confusion, distorts smooth adjustment, adds unnecessary cost, and undermines confidence in water management across Australia.

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[6] *NWC Position Statement on Water-dependent Ecosystems*, September 2008: http://www.nwc.gov.au/www/html/861-water-dependent-ecosystems.asp?intSiteID=1

[7] *Australian Water Reform 2009: Second biennial assessment of progress in implementation of the National Water Initiative*, Chapter 10 , National Water Commission, Sept 2009 (BA 2009)

In the NWC's view, maintaining an open attitude to continuing structural adjustment is essential to successful water reform. However, this does not necessarily mean that additional financial assistance is either warranted or beneficial. In fact, governments can impede the natural process of adjustment when they try to slow down the process or influence the outcomes, so a considered approach is required.

Opportunities for a national reconfiguration of rural and regional Australia and its agricultural resources

Water reform is influencing adjustment processes to varying degrees throughout Australia with a particularly profound influence on large water using sectors such as irrigators with the flow-on effect to irrigation-reliant communities. Policies being implemented as part of the NWI are focused on increasing the efficiency of water use and addressing overallocation resulting in a shift in water use patterns and consequently an reallocation of resources in the economy.

In the 2009 Biennial Assessment the NWC noted that new irrigation developments were proposed to commence in some areas, specifically Tasmania, and that continued rigour and a principled approach to irrigation development would be essential to ensure that new developments do not repeat the mistakes of past government-driven irrigation areas in other parts of Australia.

Key principles include transparently and independently testing the economic viability and environmental sustainability of the projects, and requiring irrigators to meet the full on-going cost.[8]

Similar good practice should be applied in Northern Australia, where the NWC has supported work into developing a better understanding of water resources and the opportunities for sustainable water-dependent development.

This included providing funding for the Northern Australia Land and Water Taskforce (the Taskforce), which was convened in June 2007 to establish a better understanding of opportunities for new sustainable economic developments in the north, based on water resource availability. In September 2008 the terms of reference and membership for the Taskforce were changed to broaden its inquiries and strengthen its independence.

Key priorities for the Taskforce were to find new opportunities for economic development in the north, based on water availability and sustainability, and to report on the potential impact of new developments on water balance and quality, the environment, existing water users and the broader community.

The Taskforce completed their report in December 2009 and made a series of recommendations to government, noting that sustainable development of the North will be a complex policy challenge, requiring an appreciation of the north's current and potential contribution to national prosperity and its particular social, environmental and economic circumstances[9].

More efficient water use

The NWC consider that there is a role for improved infrastructure and technologies to contribute to improved water efficiency. Improved efficiency will come from a mix of continued water market development, appropriate improvements to infrastructure (on and off farm) and changes to crop types.

The NWC cautions that improvements to infrastructure should be targeted and cost-effective. The Commonwealth and state governments are making major investments in irrigation renewal projects. While such investments are generally a positive contribution to better water management,

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[8] Ibid, p214

[9] *Sustainable Development in Northern Australia, A report to Government from the Northern Australia Land and Water Taskforce*, Department of Infrastructure, Transport, Regional Development and Local Government, December 2009 (http://www.nalwt.gov.au/files/NLAW.pdf)

government funding has the potential to distort water use and economically efficient investment decisions[10].

The NWC recommends that implications for future water charging should always be made transparent, especially to future users of the infrastructure, when irrigation infrastructure investment proposals are being developed. Investment should be consistent with NWI commitments relating to full cost recovery, and the draft NWI pricing principles on recovery of capital[11].

The Productivity Commission discussed the recovery of water through non-market means in its March 2010 research report 'Market Mechanisms for Recovering Water in the Murray-Darling Basin'[12]. The Productivity Commission found that "Funding infrastructure upgrades is generally not a cost-effective way for governments to recover water for the environment. It is also likely to be inefficient and inequitable"[13].

The Productivity Commission observed that

"Governments can also become involved in funding or co-funding irrigation infrastructure projects. This does not in itself recover any water for the environment. ... For governments to recover water for the environment through infrastructure upgrades, they need to gain ownership of some or all of the water savings in return for the funding they provide. Where they do this, governments are effectively buying water, but with the requirement that the payment they provide be used to invest in irrigation infrastructure.

"Infrastructure upgrades frequently produce water savings at the farm or irrigation district level. Due to hydrological realities, however, these savings can be at least partly at the expense of downstream water users and/or ecosystems. These broader effects need to be taken into account when assessing the merits of recovering water through infrastructure upgrades."[14]

Comments regarding Water Planning and Markets:

Water Markets

The NWC considers that water markets are an important mechanism to allocate water efficiently and contribute to the NWI goal of managing water in a way that optimises economic, social and environmental outcomes within the framework established under plans. Water markets provide opportunities for water to be reallocated between competing uses and allows for flexibility in responding to emerging issues, such as drought and climate change.

The formulation of a water management plan is usually an important prerequisite for creating a water market for a particular water system. In effect, planning defines and caps the water available for consumptive use, which can then be reallocated through trade. Good planning is essential for sustainable water management to prevent overallocation and other problems that arise if diversion limits or resource characteristics are poorly specified.

Water Planning

Water plans establish a balance between environmental and consumptive uses and are fundamental to water management. Under the NWI, transparent, statutory-based water plans should be developed for all surface water and groundwater management units in which water entitlements are issued.

Water plans ultimately are about the sharing of a resource, with a trade-off between competing uses in the plan. Trade-offs between competing outcomes for water systems will involve judgements

[10] Finding 8.10, BA 2009 p 160
[11] Recommendation 8.8, BA 2009 p 160
[12] *Market Mechanisms for Recovering Water in the Murray-Darling Basin*, Productivity Commission Research Report, March 2010: Chapter 6 (www.pc.gov.au/projects/study/water-recovery/report)
[13] Ibid, p103
[14] Productivity Commission 2010 p 123

informed by best available science, socio-economic analysis and community input. Transparency of process, inputs and decision making is crucial in obtaining acceptance of the finalised plan.

The necessary legislative reforms to enable NWI consistent water planning have been completed in all Basin jurisdictions but ongoing delays in completing and implementing water plans across much of Australia are preventing the full realisation of the benefits of an effective water planning regime envisaged under the NWI.

In the 2009 Biennial Assessment of progress in water reform, the NWC expressed disappointment at the lack of progress towards the return of over-allocated or overused systems to environmentally sustainable levels of extraction. The NWC has highlighted the Basin Plan as an historic opportunity to meet this challenge.

Mining and water

The National Water Commission released a position statement on mining in May 2010, which can be found on the NWC website. Parts of that statement are set out below;

'On a national basis mining uses a relatively small proportion of water resources, however this use has been increasing rapidly in the last decade and in a number of regions across the country mining is the primary consumer of water. In these regions, or where water systems are approaching or at full allocation, current and future mining developments could, if not adequately managed and regulated, impact on surface water or groundwater systems at a regional scale.'

'Clause 34 of the NWI states that the Parties agree that there may be special circumstances facing the minerals and petroleum sectors that will need to be addressed by policies and measures beyond the scope of the NWI Agreement. In this context, the Parties note that specific project proposals will be assessed according to environmental, economic and social considerations, and that factors specific to resource development projects, such as isolation, relatively short project duration, water quality issues, and obligations to remediate and offset impacts, may require specific management arrangements outside the scope of the Agreement.'

'The Commission's position is that the use of Clause 34 of the NWI is only intended to operate in exceptional circumstances. Where Clause 34 is used, a clear and transparent explanation of why it was used, rather than the generic water planning and management regime, should be provided. Additionally, due to the locality of many mining operations, focus needs to be maintained, and sharpened, on regions outside the Murray Darling Basin.'

'The Commission recommends that NWI-consistent water access entitlements be defined for the minerals and similar industrial sectors in order to provide those industries with secure access and the ability to trade with other users. Particular circumstances (such as mine dewatering and return flows) and potential third-party impacts that might limit the applicability of NWI-consistent water access entitlements should be clearly identified and managed.'

'The Commission maintains that NWI-consistent water access entitlements should be made available to mining activities wherever possible. This will provide secure access to water markets to buy or sell water to alter overall water security, and allow new mining entrants to seek to purchase water in the market.'

Coal Seam Gas extraction.

The NWC has recently released a Position Statement on Coal Seam Gas and Water[15]. The Commission acknowledges that 'the industry offers substantial economic and other benefits to Australia. At the same time, if not adequately managed and regulated, it risks having significant, long-term and adverse impacts on adjacent surface and groundwater systems'. It recommends that to meet NWI objectives, industry, water and land-use planners, and governments adopt a precautionary

[15] *NWC Position Statement on Coal Seam Gas and Water,* December 2010 (http://www.nwc.gov.au/www/html/2959-coal-seam-gas.asp?intSiteID=1)

approach to CSG developments, ensuring that risks to the water resource are carefully and effectively managed.

The position statement outlines potential risks to sustainable water management from CSG developments and identifies a suite of principle for managing CSG and water. In particular, the NWC states that 'NWI-consistent water access entitlements should be made available to coal seam gas activities wherever possible, as the use of Clause 34 of the NWI is only intended to operate in exceptional circumstances. Where Clause 34 is used, a clear and transparent explanation of why it was used, rather than complying with the normal water planning and management regime, should be provided.'

Background on the National Water Commission and the National Water Initiative:

About the National Water Commission

The National Water Commission (NWC) is an independent statutory authority within the Sustainability, Environment, Water, Population and Communities portfolio[16].

Established under the National Water Commission Act 2004, the NWC was created to drive the national water reform agenda. It provides advice to the Council of Australian Governments (COAG) and the Australian Government on national water issues and progress in the implementation of the Intergovernmental Agreement on a National Water Initiative (NWI)[17]. The NWC considers its role as supporting and driving the sustainable management of water resources.

Since the passage of the Water Act 2007, the NWC also has the role of auditing the effectiveness of the implementation of the Basin Plan and the (associated) water resource plans[18].

Commentary in this submission is based on the NWC's responsibilities relating to the NWI. The NWC will not offer opinion on issues that might be seen as pre-empting its audit function with respect to the Basin Plan.

The National Water Initiative

The NWI represents a joint commitment by the Commonwealth Government and all State and Territory Governments (the Parties) to make the nation's water use more efficient and sustainable, leading to greater certainty for investors, producers, communities and the environment. It is Australia's blueprint for managing the nation's water. The NWI states that the Parties agree to implement the NWI in recognition of the continuing national imperative to increase the productivity and efficiency of Australia's water use, the need to service rural and urban communities, and to ensure the health of river and groundwater systems.

The objective of the Parties in implementing the Agreement is to provide greater certainty for investment and the environment, and underpin the capacity of Australia's water management regimes to deal with change responsively and fairly.

Under the NWI, governments have made commitments to:

- prepare water plans with provision for the environment
- deal with over-allocated or stressed water systems
- introduce registers of water rights and standards for water accounting
- expand the trade in water
- improve pricing for water storage and delivery
- meet and manage urban water demands.

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[16] www.nwc.gov.au/www/html/93-roles-and-functions.asp
[17] www.nwc.gov.au/www/html/117-national-water-initiative.asp
[18] *Water Act 2007*: s87-90.

The overall objective of the National Water Initiative is to achieve a nationally compatible market, regulatory and planning based system of managing surface and groundwater resources for rural and urban use that optimises economic, social and environmental outcomes[19]. Implementation of the National Water Initiative will achieve:

- clear and nationally-compatible characteristics for secure water access entitlements
- transparent, statutory-based water planning
- statutory provision for environmental and other public benefit outcomes, and improved environmental management practices
- the return of all currently over-allocated or overused systems to environmentally-sustainable levels of extraction
- removal of barriers to trade in water and meeting other requirements to facilitate the broadening and deepening of the water market, with an open trading market to be in place
- clarity around the assignment of risk arising from future changes in the availability of water for the consumptive pool
- a system of water accounting which is able to meet the information needs of different water systems in respect to planning, monitoring, trading, environmental management and on-farm management
- policy settings which facilitate water use efficiency and innovation in urban and rural areas
- smooth adjustment issues where reforms impact on water users and communities
- recognition of the connectivity between surface and groundwater resources and connected systems managed as a single resource.

[19] *Intergovernmental Agreement on a National Water Initiative* paragraph 23