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Submission to House of Representatives Standing Committee on Regional Australia

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

The Australian Wetlands and Rivers Centre, School of Biological, Earth and Environmental Sciences, University of NSW provides the following submission.

Terms of Reference

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

a. Returning water to the Murray-Darling Basin would not necessarily result in a pro-rata reduction in agricultural output. Some agriculture will be favoured. The development of rivers (dams and diversions) has reduced the extent and frequency of downstream flooding of Murray-Darling Basin Rivers, affecting many wetlands including some of high conservation importance. This has resulted in a long term socioeconomic cost to landholders that own wetlands because of reductions to flooding. Flooded land has commanded a premium price over dryland areas because of its capacity to provide more output in terms of grazing livestock. Landholders on floodplains have sometimes also paid higher rates than other landholders on drylands (e.g. Lower Murrumbidgee). There are an estimated 6.29 million hectares of wetlands in the Murray-Darling Basin and most of this (93.1%) is floodplain (data from Kingsford et al. (2004) Marine and Freshwater Research 55:17-31). Only about 3% of wetland area is in conservation reserves and so 97% of wetlands are on privately owned or leased land. Owners of much of this land who have relied on it for livestock grazing have been affected by river regulation. The increase in river flows put forward in the Guide would favour many of these communities as they use floodplain wetlands for their grazing. They would increase viability of grazing cattle and sheep.

b. Increasing flow in the rivers and wetlands of the Murray-Darling Basin would also contribute to community wellbeing through the provision of ecosystem services

provided by rivers. Many rural communities of the Murray-Darling Basin rely on the rivers and the ecological health for their long term viability and well being. The list of values that are provided by healthy rivers and wetlands include good water quality, fisheries (commercial and recreational), timber production (river red gums), reduction in flood risk, pollution control, recreational boating and navigation, European and indigenous cultural values, environmental educational opportunities, effects on regional and local climates, and natural pest controls. Ultimately good water quality is critical for most agricultural businesses, particularly irrigation. The overallocation of water from rivers has increased the salinity of rivers and also the frequency of blue-green algal blooms. Increasing the amount of water in the rivers will reduce these problems.

c. Considerable costs were accrued by Government and industry in the lower Murray-Darling Basin with the reductions in flows in the Lower Lakes and the Coorong. This problem would not have eventuated without the diversion of water upstream. Costs have been considerable. This included the cost of maintaining an opening to the Murray Mouth (about $100,000 per week). In addition, Adelaide has been forced to develop a desalination plant because it relied on the River Murray for about 40-50% of its water during average years and considerably higher requirements during dry periods. There wer also considerable costs during the last dry period caused by insufficient flows to the Lower Murray included the building of levee banks to contain acidification; pumps for moving water between the lakes; piping of potable water to lake communities; rehabilitation of acid sulfate soils; training structures at river mouth; cracking of 100 km of river bank along the River Murray; loss of conservation tourism; loss of fisheries; loss of local irrigation; extension of off-take for water supply with low water levels; slumping of river banks; government planning and engagement and; monitoring and studies. These costs amounted to >2.1-2.5 billion, directly resulting from inadequate flows to the end of the Murray-Darling Basin.

d. The withdrawal of whole irrigation licences to provide for water for the rivers of the Murray-Darling Basin will have effects locally and these need to be provided for through structural adjustment by the wider community. This includes the challenge of managing delivery infrastructure to irrigation communities and its long term maintenance by fewer people. In addition, withdrawal of irrigation licences will affect service industries, requiring structural adjustment for some of the rural towns and communities. In particular, encouragement of sustainable industries should be encouraged. There is currently little infrastructure for tourism to some of the Murray-Darling Basin's magnificent wetland systems. Such areas are known to be a drawcard in other parts of the world where there are well established tourist routes (e.g. Camargue, France). For example, there is relatively little infrastructure in the Macquarie Marshes to provide for tourists. Further, the gazettal of this area is only as a Nature Reserve not a National Park, and so visitors are not encouraged. Tourism will not be a panacea and other sustainable industries could also be encouraged.

e. Ultimately, it is important to consider the Murray-Darling Basin and its agriculture and environment as a long term sustainable system where there are rewards for good

environmental management and sustainable agriculture. Increasingly, it is likely that consumers in Australia and overseas will be requiring information on the sustainability of river systems and production for agriculture before consumption. It is conceivable that river systems where there is good environmental management will command a premium market price, in terms of return from consumers while systems that are not sustainable may be penalised in the market. Such certification has occurred in many other industries (e.g. seafood, timber). If the Murray-Darling Basin rivers are not returned to environmental sustainability, long term irrigated agricultural markets may be affected by consumer choice.

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

a. Cutting back entitlement does not deliver any environmental water to river systems and so will not deal with the problem of overallocation of rivers and ecological degradation of rivers. Also, the number of sleeper or dozer licences within river valleys has generally decreased markedly in the last 5-10 years, making it difficult to use cuts on the basis of history of use.

b. A critically difficult issue will be to determine the use of water by floodplain harvesting and supplementary supply. These are both considered lower forms of water security.

c. The method of delivering water back to the environment in different valleys will vary depending on the opportunities from high security, general security, supplementary licences and floodplain harvesting.

d. Water savings options will vary across the Murray-Darling Basin. Channel systems are more extensive and widespread in southern river valley systems while off river storages are widespread in northern valleys of the Murray-Darling Basin. They will require different technologies to improve and save water in the different river valleys.

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

There should be significant opportunities available to increase efficiency of water use through replacement of open channels by piping and implementation of drip irrigation. Government investment will be necessary with funding already available ($5.8 billion) for improving efficiency. This provides considerable opportunity to recover water for the environment by increasing efficiency. One particular problem is that seepage into groundwater already represents environmental water. Saving this water does not necessarily convert to an efficiency gain for the environment.

Further issues

i. Measures to increase water efficiency and reduces consumption and their relative cost effectiveness

Most (95%) water use in the Murray-Darling Basin from rivers and groundwater is for irrigation and so greatest efficiency gains most obtainable in this area. Clear targets for efficiency should be reducing water loss from open channels and large off-river storages. Some opportunities also exist to save water provided for stock and domestic use. Creek and river systems are sometimes run at unnaturally high levels of water with considerable loss of water to evaporation. Improving efficiencies in these systems should aim to restore the natural flow regime.

Also, sometimes water held in large lakes, used as reregulating storages (e.g. Menindee Lakes), could be managed more efficiently. The key consideration for increasing water efficiency from wetlands such as Menindee Lakes is to attempt to restore the original flooding and drying patterns in these systems. This same argument applies to creek systems that are used for stock and domestic supply. This means that the original flow regime with its variability should be the target for rehabilitation. For example, the Menindee Lakes system could have its original flooding and drying regime established. The Royal Commission at the turn of the 20th Century indicated that the Menindee Lakes system (a string of lakes) often had water naturally and would have been an important wetland ecosystem. There is the potential to restore this ecosystem as well as supply additional water for the environment through improved management of the system. Completely drying such systems should not be a target as it would not deliver the opportunity of improved environment and improved efficiency.

ii. Opportunities for economic growth and diversification within regional communities; and

a. There is considerable variability in the gross irrigated return of different commodities for a megalitre of water varying from $415 for hay to $23,400 for vegetables (Australian Bureau of Statistics 2009. **http://www.abare.gov.au/interactive/09_ResearchReports/IrrigationGVP/htm/chapter_3.htm**). This could provide market opportunity to ensure that agricultural output is not diminished from the Murray-Darling Basin with provision of increased environmental flows to rivers and wetlands.

b. Other economic opportunities may be provided through potential regionalisation of service industries, provided by work opportunities provided by the National Broadband Network.

c. Improved marketing of environmental credentials of commodities in terms of water efficiency and sustainability of downstream wetlands could provide a

market opportunity in the same way organic marketing commands a higher price in some markets than the alternative products.

iii. Previous relevant reform and structural adjustment programs and the impact on communities and regions.

There have been ongoing reforms in water such as the Murray-Darling Basin cap and water management plans. Much of this has been necessary because of the overallocation of water resources. However, adjustments have been made and it would be useful to examine the previous impacts of some of the developments on economic output and rural viability.

As well, no analysis has been done of the costs to traditional livestock grazing of development of rivers on rural communities.

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