

Water and the Murray Darling Basin - A Statistical Profile

Australia

2000–01 to 2005-06

Appendix — Policies and Programs Relevant to the Murray-Darling Basin

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ABBREVIATIONS

'000	thousand
\$m	million dollars
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ANCID	Australian National Committee on Irrigation and Drainage
ANZSIC	Australian and New Zealand Standard Industrial Classification
ASGC	Australian Standard Geographical Classification
Aust.	Australia
AWRC	Australian Water Resources Council
BoM	Bureau of Meteorology
BRS	Bureau of Resource Sciences
CD	collection district
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEWHA	Australian Government Department of the Environment, Water, Heritage and the Arts
excl.	excluding
EC	exceptional circumstances
GL	gigalitre
GVAP	gross value of agricultural production
GVIAP	gross value of irrigated agricultural production
GWh	gigawatt hour
ha	hectare
incl.	including
IRSD	Index of Relative Socio-economic Disadvantage
kL	kilolitre
km ²	square kilometre
m	million
MDB	Murray-Darling Basin
MDBA	Murray-Darling Basin Authority
MDBC	Murray-Darling Basin Commission
ML	megalitre
ML/ha	megalitres per hectare
no.	number
NHT	National Heritage Trust
NRM	natural resource management
NSW	New South Wales
NT	Northern Territory
NWC	National Water Commission
NWI	National Water Initiative
Qld	Queensland
SA	South Australia

SEEA	System of Environmental-Economic Accounting for Water
SLA	statistical local area
t	tonne
Tas.	Tasmania
Vic.	Victoria
WA	Western Australia

APPENDIX

POLICIES AND PROGRAMS RELEVANT TO THE MURRAY-DARLING BASIN

INTRODUCTION

There have been a number of water management policy initiatives introduced in Australia during the past 20 years that have been directly relevant to the MDB. These have been developed to address social, economic and natural resource management issues within the Basin, particularly the sharing of water resources between the environment, agriculture and other users. Some of the policies are national in scope, others are MDB-specific.

NATIONAL POLICY

INITIATIVES RELEVANT TO

THE MURRAY-DARLING BASIN

Water management policies

THE NATIONAL WATER INITIATIVE

In 2004, the National Water Initiative (NWI) was signed by all state and territory governments except for Western Australia and Tasmania. Tasmania signed in 2005, followed by Western Australia in 2006. The NWI is the overarching policy framework that guides current water management in Australia. It represents the Commonwealth, state and territory governments' shared commitment to water reform (NWC 2008).

The overall objective of the NWI 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 (NWC 2008).

The NWI represents and extends previous key policy reforms of the past two decades including:

- integrated catchment management;
- tradeable water rights;
- full accounting of resources and use;
- regional water planning; and
- environmental allocations (Hussey and Dovers 2007).

One of the key objectives of the NWI is to facilitate the operation of efficient water markets and the trading of water within and between jurisdictions. Another objective is to establish best practice pricing and institutional arrangements to promote economically efficient and sustainable use of water resources, infrastructure and government water management resources (NWC 2008).

The purpose of implementing these measures is to:

- reduce barriers to water trade;
- more effectively allocate water between competing users;
- improve water efficiency; and
- ensure that water is allocated to its highest value use (Grafton and Peterson 2007, Wong 2008).

THE NATIONAL PLAN FOR WATER SECURITY

The National Plan for Water Security seeks to facilitate the modernisation of Australian irrigation, helping to put it on a more sustainable footing at a time of declining water resources. It seeks to address over-allocation in the MDB, to improve the health of rivers and wetlands of the MDB, and to benefit irrigators and the community (Australian Government 2007).

Under the National Plan for Water Security, the Commonwealth Government will invest up to \$3 billion over ten years to address over-allocation of water in the MDB. Planned in conjunction with the modernisation programme, this will be achieved by providing

*Water management policies
continued*

assistance to irrigation districts to reconfigure irrigation systems and retire non-viable areas, such as those at the end of isolated channels or in salt-affected areas. Assistance will be provided to help relocate non-viable or inefficient irrigators, or help them exit the industry. Where necessary, water entitlements will also be purchased on the market (Australian Government 2007).

There are three other key aspects of the National Plan for Water Security. The first is reforming governance arrangements through establishing the new Murray-Darling Basin Authority (MDBA). The MDBA will be responsible for planning the Basin's water resources in the interests of the Basin as a whole. The second is improving the accuracy, timeliness and comprehensiveness of water information, by nesting responsibility for water availability and use data collection with the Bureau of Meteorology. The third key aspect is the examination of northern Australia for future land and water development and completing the final phase of the Great Artesian Basin piping and bore-capping project (Australian Government 2007).

The National Plan for Water Security is a document of the former Australian Government. The current Australian Government's new national water plan, Water for the Future incorporates elements of the earlier plan.

WATER FOR THE FUTURE

Water for the Future is a national strategy to secure Australia's long term water supply. It is built on four key priorities:

- taking action on climate change,
- using water wisely,
- securing water supplies; and
- supporting healthy rivers (Wong 2008).

Water reforms will include:

- removing barriers to trade in water, allowing markets to operate more effectively in allocating water between competing uses, improving water use efficiency, and delivering water to its highest value uses;
- ensuring that economic settings work to promote affordable and timely investment in secure water supplies, and ensuring that alternative water supplies and water-efficient technologies can compete on a level playing field;
- improving water security in remote communities, including remote Indigenous communities; and
- making sure water planners have the best information on available water resources and the likely impacts of climate change (Wong 2008).

Water for the Future includes a commitment to a National Greywater and Rainwater Initiative. This provides direct incentives for household rainwater and greywater use, recognising the importance of water conservation and water efficiency to water planning.

The policy also aims to improve the efficiency of irrigation infrastructure. Under the Sustainable Rural Water Use and Infrastructure Program, funding is provided for investment in improving the efficiency and productivity of water use and management to reduce the amount of irrigation water lost to leakage and evaporation (Wong 2008).

In response to the challenge of securing water supplies for Australia's cities and towns, with growing water needs and declining traditional water resources, the Commonwealth, state and territory governments will work together to develop new sources of water that do not rely entirely on rainfall. An Urban Water and Desalination Program will provide funding towards new and innovative water supply projects in desalination, recycled water and stormwater harvesting (Wong 2008).

*Water management policies**continued*

Another program, the National Water Security Plan for Towns and Cities, will target infrastructure refurbishment, new infrastructure, and practical projects to save water and reduce water losses.

Water for the Future also includes an Improving Water Information Program.

Administered by the Bureau of Meteorology, this program will produce national water accounts supported by a national water monitoring and data collection network (Wong 2008).

THE WATER ACT 2007

The *Commonwealth Water Act* was initiated by the previous Australian Government in 2007 and commenced on 3 March, 2008 under the new government. The Water Act will "enable water resources in the MDB to be managed in the national interest, optimising environmental, economic and social outcomes" (DEWHA 2008c). The Act establishes the MDBA to manage water resources in the MDB in an integrated and sustainable way. The MDBA's functions include preparing a Basin Plan that sets sustainable limits on surface and groundwater that can be taken across the Basin. The MDBA will develop systems that facilitate water trading, and will be responsible for measuring and monitoring water resources in the MDB (DEWHA 2008c).

The Water Act establishes a Commonwealth Environment Water Holder. This holder will manage the the water entitlements that the Commonwealth acquires, in order to protect and restore environmental assets in the Basin (DEWHA 2008c).

The Act provides the Australian Competition and Consumer Commission (ACCC) with the role of developing and enforcing water charge and market rules. The aim of these new functions is to ensure that water markets are able to operate freely across state borders (DEWHA 2008c).

The Act also provides the Bureau of Meteorology (BoM) with water information collection and publication functions. The BoM will also be responsible for setting and implementing national water standards for water information (DEWHA 2008c).

Drought and Exceptional Circumstances

In the mid-1990s, it was recognised that there were circumstances that warranted government intervention in the form of drought assistance, and drought and Exceptional Circumstances policies were initiated to mitigate the affects of extreme events on agricultural production.

Exceptional Circumstances (EC) events are defined as rare and severe events that are outside those that farmers could normally be expected to manage using responsible farm management strategies. Specifically, they are events that occur on average once every 20 to 25 years and that have an impact on income for a prolonged period (DAFF 2007a).

The framework for assessing drought was based on 6 principles: meteorological conditions, agronomic and stock conditions, water supplies, environmental impacts, farm income levels, and, scale of the event (DAFF 2008).

Operationally, an area must become 'EC declared' before farmers can apply to receive assistance (DAFF 2008).

POLICY INITIATIVES SPECIFIC
TO THE MURRAY-DARLING
BASIN

There are several policies that are MDB-specific. Some have regulatory and accounting imperatives, others concentrate on drought contingency planning, or deliver programmes comprising significant on-ground works. Furthermore, some programmes aim to improve resource condition while others are focussed towards improving socio-economic conditions. They are operated through establishing plans, setting targets, monitoring to determine whether targets have been achieved, and then reporting on, and evaluating, the outcomes.

*Management of the
Murray-Darling Basin*

MURRAY-DARLING BASIN AUTHORITY

In July 2008, the Council of Australian Governments agreed to changes in the *Water Act 2007* to establish the independent Murray-Darling Basin Authority (MDBA) with the functions and powers needed to ensure that the Basin's water resources are managed in an integrated and sustainable way (DEWHA 2008c).

The key functions of the MDBA include:

- preparing a Basin Plan, including setting sustainable limits on water that can be taken from surface and ground water systems across the Basin;
- advising the Commonwealth Government on the accreditation of state water resource plans;
- developing a water rights information service to facilitate water trading across the Basin;
- measuring and monitoring water resources in the Basin;
- gathering information and undertaking research; and
- engaging the community in the management of the Basin's resources (DEWHA 2008c).

The Basin Plan will address the following range of issues:

- limits to the amounts of water (both surface and ground water) that can be taken from Basin water resources on a sustainable basis - known as long-term average sustainable diversion limits;
- identification of risks to Basin water resources, such as climate change, and strategies to manage those risks;
- the requirements that state water resource plans will need to comply with in order to be accredited under the *Water Act*;
- an environmental watering plan to optimise environmental outcomes for the Basin by specifying environmental objectives, watering priorities and targets for MDB water resources;
- a water quality and salinity management plan which may include targets; and
- rules about trading of water rights in relation to Basin water resources (DEWHA 2008d).

Water management policies

THE MURRAY-DARLING CAP ON DIVERSIONS

Because of concerns about the quantity of water being removed from the MDB for consumption, and the subsequent impact on flow regimes and river health, the NRM Ministerial Council initiated an audit of water use in the MDB in 1993. The outcome of the audit demonstrated that if the volume of water diversion continued to increase, river health would decline, and water security for irrigators and other water users in the Basin would be reduced (MDBC 2008a).

This resulted in a limit on the volume of water that could be diverted from rivers for use - this is called the Cap. The Cap is managed in accordance with a formal set of rules described in Schedule F of the MDB agreement. Each state and territory comprising the MDB is entitled to a share of the surface water resource under the Cap agreement, and this is managed for each designated Cap valley (MDBC 2008a).

Schedule F of the MDB agreement requires an annual Water Audit Monitoring Report that documents water use within the Basin and assesses the five state and territory governments' compliance with the Cap. For further information about the Cap agreement see http://www.mdbc.gov.au/nrm/the_cap.

THE LIVING MURRAY INITIATIVE

The Living Murray Initiative was launched in 2004. The aim of the initiative is to recover an annual average of 500 GL of water for environmental use at six icon sites:

- Barmah-Millewa forest;
- Gunbower and Koondrook-Perricoota Forests;

*Water management policies**continued*

- Hattah Lakes;
- Chowilla Floodplain (including Lindsay-Wallpolla);
- Lower Lakes, Coorong and Murray Mouth; and
- River Murray Channel.

Water savings are to be achieved through a variety of approaches, for example:

- through purchasing water from willing sellers for use by the environment;
- by improving water delivery infrastructure; and
- by improving on-farm water use efficiency (MDBC 2007).

The target date for water recovery is June 30, 2009. While water has been returned to the river progressively, most is expected to become available to the environment between 2008 and 2009. As at July 2008, 133 GL of recovered water was listed on the Environmental Water Register, however the actual volume of available water is dependent on allocations. Plans to recover a further 471.4 GL were in place or being developed (MDBC 2008b).

MURRAY-DARLING BASIN DRY INFLOW CONTINGENCY PLANNING AND MDB SUSTAINABLE YIELDS PROJECT

At a Summit on the MDB on 7 November 2006, the Prime Minister and the premiers of New South Wales, Victoria and South Australia asked officials to examine contingency planning to secure urban water supplies during 2007–08. Contingency Planning Reports have been released for February 2008, April 2007, May 2007 and September 2007 and December 2007. The reports outline the volume of water available in the MDB and recommend different uses for the water given increases or decreases in water availability. They also describe the management practices that should be adopted by delivery and storage managers, and water users to conserve water during times of reduced availability.

At the MDB summit, the CSIRO were commissioned to report on the current sustainable yields of surface and groundwater in the MDB, including an analysis of the affect of climate change on future sustainable yields. In total, 18 reports have been published, one for each catchment.

Other Natural Resource Management policies

Examples of other policies specific to the MDB include:

- Basin Salinity Management Strategy;
- Native Fish Strategy;
- Algal Management Strategy;
- Floodplain Wetlands Management Strategy; and
- Human Dimension Strategy.

For further information about these policies refer to: <http://www.mdbc.gov.au> and <http://www.environment.gov.au/water/mdb>.

GLOSSARY

Anomaly	An anomaly refers to the departure of an element from its long-period average value for the location concerned. See also Temperature anomalies and Rainfall anomalies.
Australian and New Zealand Standard Industrial Classification	A classification system for identifying and grouping all producing units (both goods and services) in Australia into industries to permit compatibility of data.
Basin state	A state or territory of Australia that has part, or all, of its area located within the Murray-Darling Basin. The Basin states are New South Wales, Queensland, Victoria and South Australia and the Australian Capital Territory.
Catchment	The area of land determined by topographic features, within which rainfall will contribute to run-off at a particular point. The catchment for a major river and its tributaries is usually referred to as a river basin. See also River basin.
Consumer price index	An index of retail prices which provides a quarterly measure of variations in retail prices for goods and services representing a high proportion of the expenditure of wage-earner households. The CPI is adjusted from time to time to take account of changing patterns of consumption and aims to measure only pure price changes and exclude the effects of any changes in quality and quantity of the good concerned.
Deep drainage	The volume of water that moves below the root zone which may or may not enter the saturated zone and become recharge to the groundwater system.
Distributed water	Distributed water is water supplied to a user including through a non-natural network (piped or open channel), and where an economic transaction has occurred for the exchange of this water. The majority of distributed water is supplied by the Water supply, sewerage and drainage services industry (ANZSIC 93 group 3701). The water supply component consists of units mainly engaged in storage, purification or distribution of water by pipeline or carrier. It also includes the operation of irrigation systems that supply water to a farm and the supply of steam and fresh hot water.
Ecosystem	A system formed by the interaction of a group of organisms and their environment.
Equivalised household income	A standardised income measure which enables analysis of the relative wellbeing of households of different size and composition. For further information refer to Appendix 3 of Household Income and Income Distribution, Australia (ABS cat. no. 6523.0). See also Equivalised household income - quintiles.
Equivalised household income – quintiles	Groupings of 20% of the total population of Australia when ranked in ascending order according to equivalised gross household income. See also Equivalised household income.
Evapotranspiration	Process of moisture loss to the atmosphere from plants by transpiration and evaporation.
Gross Value of Agricultural Production (GVAP)	Gross Value of Agricultural Production estimates are derived by the multiplication of price and quantity estimates of agricultural commodities.
Gross Value of Irrigated Agricultural Production (GVIAP)	Gross value of agricultural commodity production on irrigated land. Estimates are derived by the multiplication of price and quantity estimates of agricultural commodities produced on irrigated land.
Groundwater	The supply of fresh water found beneath the earth's surface (usually in aquifers) that is often used for supplying wells and springs.
Group household	A household consisting of unrelated adults.

In-stream use	The use of freshwater in situ (e.g. within a river or stream). Can include recreation, tourism, scientific and cultural uses, ecosystem maintenance, hydro-electricity and commercial activities, and dilution of waste. The volume of water required for most in-stream uses cannot be quantified, with the exception of hydro-electricity generation.
Irrigated land	Land that is artificially supplied with water.
Mean equivalised gross weekly household income	The average equivalised gross weekly household income. See also Equivalised household income and Equivalised household income – quintiles.
Non-irrigated land	Land that is not artificially supplied with water.
Natural Resource Management (NRM) region	A region defined by the Australian Government, in association with state and territory governments, in order to facilitate the integrated delivery of NRM priority issues.
Participation rate	The labour force participation rate is the number of persons in the labour force (employed plus unemployed) expressed as a percentage of the total population aged 15 years or over. People who did not report their labour force status are excluded when calculating the participation rate.
Quintiles	See Equivalised household income and Equivalised household income - quintiles.
Rainfall anomalies	Rainfall anomalies measure the deviation from the long-term average rainfall for a given location. See also Anomaly and Temperature anomalies.
Reuse water	Drainage, waste or storm water that has been used again without first being discharged to the environment. It may be treated to some extent.
Riparian zone	The channel margins (or banks) which form part of the floodplain.
River basin	The 245 river basins in Australia are defined by the area drained by a stream and its tributaries where surface run-off collects. In an area of uncoordinated drainage, drainage patterns define a basin. Refer to map 1.2 in Chapter 1 for an illustration of the river basins that form the Murray-Darling Basin. See also Catchment.
Run-off	The part of precipitation in a given area and period of time that appears as streamflow.
Salinity	The salt content in soil or water.
Self-extracted water	Water extracted directly from the environment for use (including rivers, lakes, groundwater and other water bodies).
Silage	Green fodder preserved in a silo, silage pit, or mound.
Surface water	Water flowing or held in streams, rivers and other wetlands in the landscape.
Temperature anomalies	Temperature anomalies measure the deviation from the mean annual temperature for a given location. See also Anomaly and Rainfall anomalies.
Tributary	A stream contributing its flow to a larger stream or other body of water.
Water consumption	Water consumption is equal to distributed water use plus self-extracted water use plus reuse water use minus distributed water supplied to other users minus in-stream use (where applicable).

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