BUILDING A FUTURE IN THE MURRAY-DARLING BASIN

September 2009

WENTWORTH GROUP OF CONCERNED SCIENTISTS

IN ASSOCIATION WITH

Prof R. Quentin Grafton, Dr Fiona Verity,

Prof Chris Miller, Jim McColl

WENTWORTH GROUP OF CONCERNED SCIENTISTS

Mr Peter Cosier, former Deputy Director General, NSW Department Infrastructure, Planning and Natural Resources.

Prof Tim Flannery, paleontologist, 2007Australian of the Year, Author of *The Future Eaters* and *The Weather Makers*, Chair, Copenhagen Climate Council.

Dr Ronnie Harding, zoologist, Assistant Commissioner NSW Natural Resources Commission, Senior Visiting Fellow Institute of Environmental Studies UNSW.

Prof David Karoly, Professor of Meteorology, University of Melbourne, Co-coordinating Lead Author in the Intergovernmental Panel on Climate Change (IPCC).

Prof David Lindenmayer, ecologist, ARC Research Fellow, Professor, Ecology and Conservation Science, Fenner School of Environment and Society, ANU.

Prof Hugh Possingham FAA, Professor, Mathematics and Zoology, Centre for Australian Environmental Decision Analysis UQ, ARC Research Fellow.

Mr Robert Purves AM, businessman, Director Purves Environmental Trust, Chair, Environment Business Australia, Copenhagen Climate Council.

Dr Denis Saunders AM, ecologist, President WWF Australia, Editor, Pacific Conservation Biology, former Chief Research Scientist, CSIRO.

Prof Bruce Thom, geomorphologist, Chair 2001 Australian State of the Environment Committee, former Vice Chancellor UNE, Chair Australian Coastal Society.

Dr John Williams, agricultural scientist, Commissioner, NSW Natural Resources Commission, and former Chief CSIRO Land and Water.

Prof Mike Young, resource economist, Director, Environment Institute, Adelaide University

IN ASSOCIATION WITH

Prof R. Quentin Grafton, environmental economist, Crawford School, The Australian National University.

Associate Prof Fiona Verity, social scientist, Faculty of Social Sciences, School of Social Work, Flinders University

Prof Chris Miller, social scientist, Head of School, Faculty of Social Sciences, School of Social Work, Flinders University.

Jim McColl, agricultural scientist and economist, former Director General, SA Department of Agriculture.

Project Manager - Tim Stubbs, Wentworth Group

BENNELONG OFFICE SUITES, 3B MACQUARIE STREET, SYDNEY
phone: +61 (02) 8667 3036

email: information@wentworthgroup.org
web: www.wentworthgroup.org

INTRO

The current crisis in the Murray-Darling Basin provides an opportunity to build a new future in our Murray-Darling heartland resulting in more resilient communities and healthier rivers.

Increasingly it is accepted that in the Basin we have a system which is currently over allocated and that there needs to be an adjustment. Communities are faced with making tough and painful decisions.

If we are going to take this opportunity we all need to know the reality of what we are dealing with. Wentworth Group is currently working with the best ecologists, hydrologists, social scientists, and economists to provide a picture of the social and hydrologic reality of the Basin today, the potential water requirements of key assets in each valley and the economic impacts of returning this water to the environment.

With this information we can have a real conversation about how to move forward. This is a challenge for all Australians and if we do not have the courage and wit to take it up now we will not see the opportunity come around again.

OUR LEVEL OF WATER USE IS NOT SUSTAINABLE

In a relatively short time we have developed an industry that produces much of the top quality food and fibre we all enjoy.

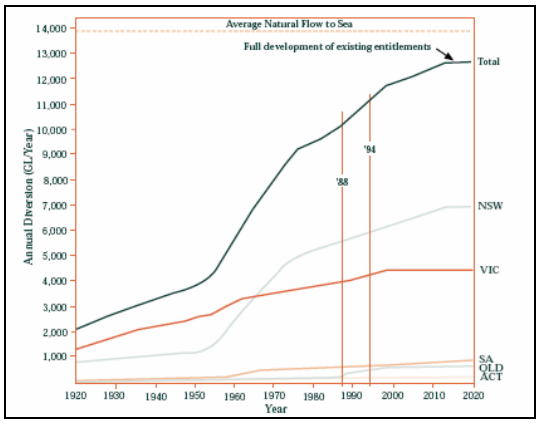

Figure 1: Growth in Water Use in the Murray Darling Basin[1]

This growth in irrigation has been largely achieved as a result of families and individuals investing their time, money and aspirations into their farms, infrastructure and businesses.

Industries that support irrigation have developed and employed people. In turn service industries ranging from the pub to the newsagent have set up, or expanded, to service the needs of the growing population.

The gold that fed this rush was water. In the last ten years much of the gold has dried up.

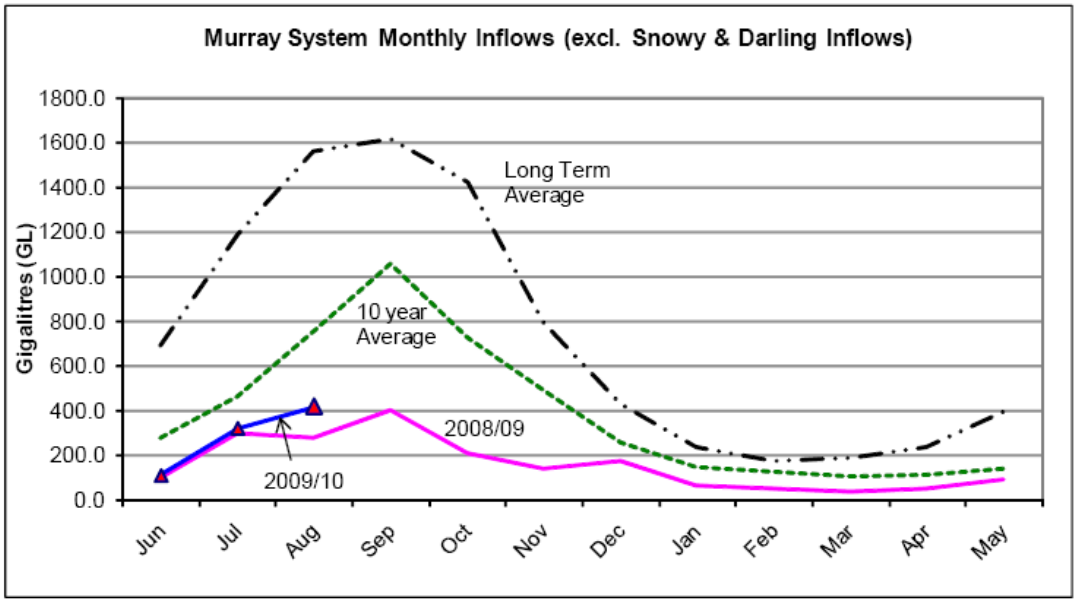

Figure 2: Murray System Inflows (excl Snowy and Darling Inflows)[2]

As the levels of inflow have reduced across the system the levels of extraction have reduced also however the rates of reduction have not mirrored each other. Subsequently the environment has been left to pick up the tab.

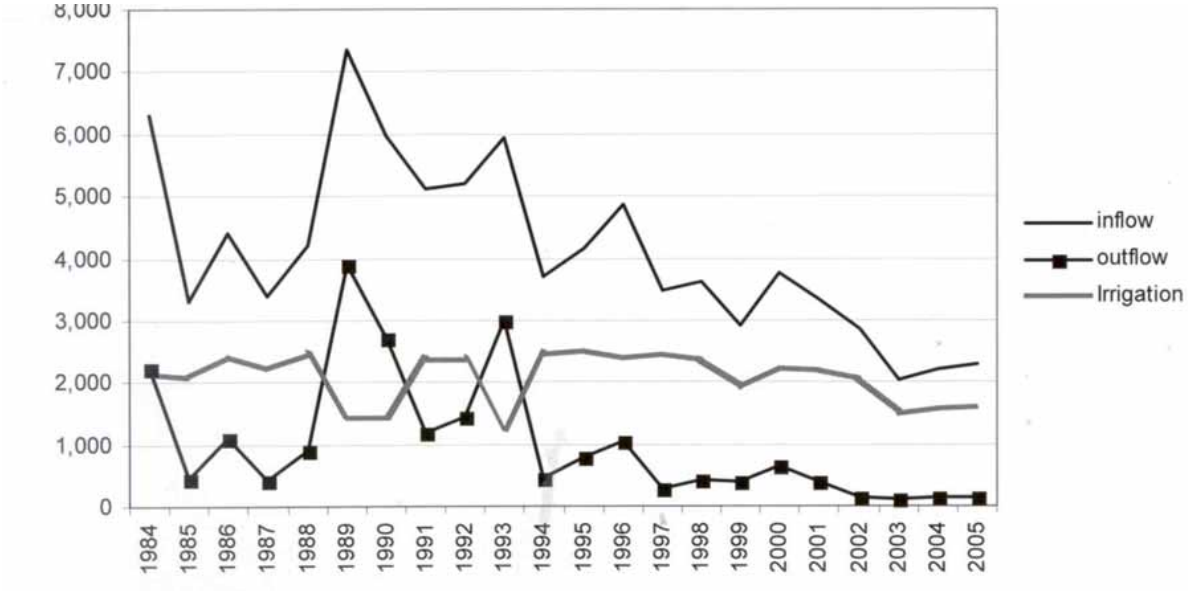

Figure 3: Murrumbidgee River: inflow, outflow and water used for irrigation[3]

This level of extraction has resulted in impacts on the health of the river and the assets of the Basin. The first Sustainable Rivers Audit[4] of river health, released in June 2008, shows that the vast majority of rivers in the Murray Darling system now show signs of long-term ecological degradation. Of the 23 river valleys in the Basin, only one, the Paroo, across the Queensland-NSW border, is in 'good' health. More than half (13 valleys) are in a 'very poor' condition.

Table 1: Health ratings of river valleys of the Murray Darling Basin

Health Rating	River Valley
Good	Paroo
Moderate	Border Rivers, Condamine
Poor	Namoi, Ovens, Warrego, Gwydir, Darling, Lower Murray, Murray Central
Very poor	Murray Upper, Wimmera, Avoca, Broken, Macquarie, Campaspe, Castlereagh, Kiews, Lachlan, Loddon, Mitta Mitta, Murrumbidgee, Goulburn.

All of this information clearly shows that there needs to be an adjustment. There are very few people in the Basin today who would disagree that there needs to be an adjustment. The problems arise when the discussion turns to what the adjustment looks like, how it can be done, how big it needs to be and what the economic impacts will be.

WHAT DOES THE ADJUSTMENT LOOK LIKE?

The reality of today and our historic over-allocation mean that there are two parts to the adjustment.

Firstly we need to adjust what we are doing today so that it better fits the reality of how little water we currently have in the system and to ensure we are using it in the most effective way. This must also include processes to ensure that when it does rain we are recharging the storages and not using all the water with no eye to the future. Decisions must be made with a robust appreciation of what we are foregoing both ecologically and economically. If we do not face up to our currently reality and manage it effectively we may find any future action is too late.

Secondly we need to make the long term adjustment to the sharing of water in the Basin. This adjustment must be such that we minimise both the ecological and economic impacts of the inevitable variations in climate in the future. This in turn may result in decisions about what levels of ecological and irrigation infrastructure can be supported.

Both these adjustments require significant change from the norm. Both these adjustments will have further impact on communities struggling as a result of the ongoing drought.

WHAT NEEDS TO BE DONE?

The current approach does not seem to be working.

People throughout the Basin are frustrated. Irrigators are frustrated and believe that water is being sold in a swiss-cheese pattern across their areas. Many feel there is no plan in place to help them have a future. They are frustrated that infrastructure spending that they want is not progressing at the speed they would like.

People in irrigation communities who are not irrigators are frustrated that there seems to be little consideration of their livelihoods or future as things change.

People who rely on the rivers to support their businesses are frustrated at what they see as the over-use of water and a lack of concern about ensuring healthy, working rivers.

Scientists and others that monitor the health of the environment of the Basin are very concerned at what they are watching, especially the lack of environmental flows that are desperately needed to prevent further degradation of the Basin's key ecosystems.

The ongoing dry period being experienced across the Basin means we are now in a reality much different to the long term averages commonly used for analysis and decision making.

It is critical that we understand the social and economic reality as well as the physical reality of how little water we have in the Basin and how this measures up to the demands of the current system.

No one can make it rain but we can provide the information needed to help communities autonomously adjust to a drier future and ensure that budgets allocated to promote a healthy Basin deliver what is needed.

Farmers and their communities have had to deal with change before. Clearly, there must be better ways to undertake change which empower communities to assess the size of the change and work with governments to make the decisions that give them the best opportunity at healthy and productive futures.

It is clear though that whatever the process is there is some key information communities need to be able to make tough decisions.

Wentworth Group is currently undertaking work with hydrologists, ecologists, social scientists and economists to:

- **provide a picture of the socio-economic and hydrological reality facing the Basin today**
- **estimate the water volumes required to meet a range of watering requirements at key environmental assets across the 18 valleys of the Basin,**
- **assess the cost effectiveness and progress of current processes to secure water for the environment, how much water those entitlements that have been secured may produce over the next few years and how this relates to the volumes required in each valley**
- **assess the economic impacts in each valley of resetting water extractions to meet the watering requirements under both a restricted and unrestricted water market.**
- **put forward a framework for how communities can use this information along with local knowledge to make decisions and work with governments to use water reform as the catalyst to build new futures and opportunities.**

This work is based on the best science currently available. It will provide information that communities need in order to make meaningful decisions about their future.

References and Notes

[1]Murray-Darling Basin Commission (2000). Overview Report – Review of the Operation of the Cap. MDBC, August 2000

[2] Murray Darling Basin Authority (2009) *River Murray Weekly Report for the Week ending Wednesday 16 September, 2009*, Murray Darling Basin Authority, Canberra

[3] Water Climate and Economic loss in the Murrumbidgee River and Southern Murray Basin. Professor Tom Kompas, Australian National University

[4] Davies, P., Harris, J., Hillman, T. and Walker, K., 2008. *Sustainable Rivers Audit: A report on the ecological health of rivers in the Murray-Darling Basin, 2004–2007*. Prepared by the Independent Sustainable Rivers Audit Group for the Murray–Darling Basin Ministerial Council