



IRRIGATION RESEARCH & EXTENSION COMMITTEE

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FOR IRRIGATION CROPPERS

**Making the most of every megalitre
- opportunities for grain growers**

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MAKING THE MOST OF EVERY MEGALITRE *OPPORTUNITIES FOR GRAIN GROWERS*

Kaye Dalton, Water for Rivers – Project Director

KEY MESSAGES

- There are unprecedented government investment opportunities for improving water use efficiency in Australian irrigated agriculture.
- There is growing community concern across Australia for the health of rivers and the role of irrigation as a large water user.
- Irrigation industries need to become world's best in water use efficiency to create marketing opportunities for their products, remain competitive and positively influence community perceptions about irrigation.
- All levels of water distribution, storage and use should be targeted to maximise the return on investment.

Whilst the current operating environment for irrigation businesses is defined by ongoing drought, changing market and trading rules, increasing action to return water to the environment and complex government institutional arrangements, there are significant opportunities offered by the unprecedented levels of government investment in water use efficiency.

Investment Programs

Including the existing water recovery programs such as Water for Rivers, the Living Murray and RiverBank, there is currently over \$14 billion targeted at water efficiency, water savings projects and water buyback across Australia, with the majority of this concentrated in the Murray Darling Basin.

The largest of these programs is the Commonwealth Government's Water for the Future, where \$12.9 billion will be made available over the next five years. There are two elements of Water for the Future which are particularly relevant to farmers and water distribution organisations in southern NSW:

- *The \$650 million Private Irrigation Infrastructure Operators Program in NSW, and*
- *The \$300 million On-Farm Irrigation Efficiency Program which will operate in the Southern Valleys.*

More information on Water for the Future can be found at www.environment.gov.au

Water for Rivers

The Joint Government Enterprise Ltd, trading as Water for Rivers, was set up by the governments of NSW, Victoria and the Commonwealth to recover 282,000 ML of water entitlement for \$375 million by June 2012. The Commonwealth Government has recently provided an additional \$50 million to the program.

The water recovered will go to providing environmental flows in the Snowy River (212,000 ML of entitlement) and in the Murray River (70,000 ML of entitlement).

Water for Rivers primarily invests in water efficiency and water savings projects in return for an agreed volume of water entitlement. Of the 200,000 ML of water entitlement already recovered by Water for Rivers, some 120,000 ML has been recovered through infrastructure investment. The remainder has been purchased on the water markets in NSW and Victoria. Water for Rivers has completed its program of entitlement purchase and the remaining water entitlement to be recovered by the company over the next three years will come from infrastructure investment.

More information on Water for Rivers and current and completed projects can be obtained from the company's website: www.waterforrivers.org.au

Why is Water Use Efficiency Important?

Whilst making the most of every megalitre is an undeniable necessity during the current ongoing drought, there are good long term reasons for bringing irrigation industries and water distribution systems in Australia up to a world's best standard.

There is widespread concern in the Australian community and some evidence of global community concern over the health of Australian rivers and the Murray Darling Basin in particular. As a result irrigation industries, as the largest diverter and user of water in the Murray Darling Basin, are clearly the focus of those wanting to see a larger share of water managed for environmental outcomes.

The ongoing impacts of drought, potential impacts of climate change and the growing competition for water means declining water entitlements and volumes will be available for irrigated industries into the future.

Recent innovations in technology now allow more accurate and timely measurement and monitoring of water flows and water usage. This has benefits to river and system operators, assisting them to more closely match dam releases with downstream demand. There are advantages to irrigators also, with real time data and remote telemetry allowing greater control over water application and a more accurate record of water use.

New computer driven operational models can provide greater accuracy and control over regulating structures, allowing more water to be retained in upper storages and less release of "operational surpluses".

The availability of technology and the current levels of government investment create a unique opportunity for Australian farmers and irrigation industries to become world leaders in water use efficiency. This has both advantages locally and globally for the marketing of products and will lead to a greater recognition and acceptance of irrigated industries as responsible users of water.

At What Scale?

Water efficiencies need to operate at all scales if we are to get the greatest benefits for the investment made. Farms need to be of sufficient scale and diversity and be configured to support an economically viable and efficient business. This will include the most effective irrigation method to suit the enterprise and position of the farm in relation to the level of service delivery possible from water supply infrastructure.

There is a need to modernise and restructure water delivery schemes to accommodate the efficient delivery of lower volumes of water and the demand for higher service delivery by some farming sectors. This is likely to include the need to define those areas of delivery systems that should be retired or managed in an opportunistic way to support corresponding farming systems in years when water is available.

At a river valley and whole of basin scale there is a need to define sustainable levels of water availability for irrigated industries and update and renew infrastructure to delivery water to both agriculture and the environment in the most efficient and effective way.

Water for Rivers is investing in each of these sectors of water delivery and use in the Murray, Murrumbidgee and Goulburn-Broken Systems.

On-Farm Reconfiguration

Water for Rivers is working with farmers to improve water use efficiency at a farm business level. To date investment has been provided to upgrade irrigation layouts, convert flood irrigation to spray irrigation and assist farm expansion.

System Modernisation

At an irrigation system level, Water for Rivers was an early investor in what has become the modernisation of Goulburn Murray Water, funding the installation of channel automation technology in the Central Goulburn Irrigation District. Water for Rivers has invested in the installation of a pressurised pipeline for stock and domestic supply in the Hay Irrigation District and is working with several other small joint supply authorities to convert open channel distribution systems to pressurised pipelines.

Water for Rivers is also working with groups of irrigators at a sub-system level to provide investment and expertise in the rationalisation of infrastructure and on-farm reconfiguration to optimise water distribution and use efficiency.

The Murrumbidgee River Efficiency Project

In partnership with the NSW river operator, State Water, Water for Rivers is investigating all aspects of Murrumbidgee River operations to identify ways water can be more effectively managed to meet the needs of all water users and create water savings.

The Murrumbidgee project involves developing a more accurate water balance for the river system and its distributaries, testing and installing more accurate water meters for irrigation diverters, auditing and installation of improved flow gauging particularly in the upper tributaries, investigation of on-route storages and ways in which evaporative savings can be made.

Most importantly the project will involve the development of a computer driven operational model for the river, assisting State Water to better match dam releases and re-regulation of flows to meet user demand.

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