

irrigation update

sustainable irrigation

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FUTURE OPTIONS FOR THE GOULBURN-BROKEN

A research project in the Goulburn-Broken catchment in northern Victoria is set to lead the way for future resource and catchment planning processes across Australia.

Irrigation Futures of the Goulburn Broken Catchment is aiming to bring the community and irrigation stakeholders together in order to develop a shared vision of the future options for irrigation in the region.

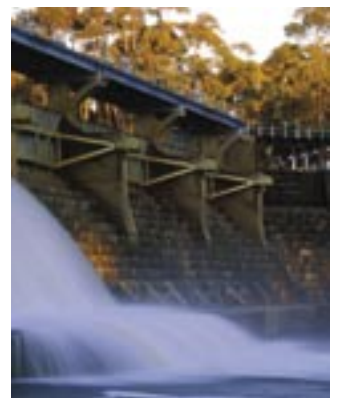
Principal investigator Dr QJ Wang says the active participation of the general and irrigation communities will be a central and key feature of the project in order to give stakeholders ownership of the vision.

The Goulburn system is one of the oldest gravity-fed irrigation systems in Australia and will need substantial renewal of infrastructure during the next 20 years. This project will aid the planning process by integrating the community's vision of the future of irrigation in the region with the best scientific knowledge available to generate a range of scenarios and analyse the impacts of each.

Partners in the four-year, \$2.5 million project are Goulburn-Murray Water, the Goulburn-Broken Catchment Management Authority, the Victorian Department of Primary Industries and Department of Sustainability and Environment, and the Sustainable Irrigation Program.



Improved water use efficiency and reduced environmental impacts are likely to be core elements of future irrigation systems.



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SUSTAINABLE IRRIGATION PARTNER: GOULBURN-MURRAY WATER

The Sustainable Irrigation Program works in partnership with 17 organisations to achieve its research goals. In order to help our clients understand our business, it is important to understand the businesses of our partners. Today, we profile Goulburn-Murray Water.

Australia's largest rural water authority, the business of Goulburn-Murray Water is managing the water cycle: harvesting, storing and delivery to ensure that water is available across the region. The mission of the organisation is to deliver sustainable water services.



With headquarters in Shepparton, Goulburn-Murray Water has responsibility for an area that covers approximately one-third of Victoria – from the Great Dividing Range north to the River Murray, and from Corryong down river to Nyah near Swan Hill. The Goulburn and Murray regulated water systems are the two dominant sources of supply.

Goulburn-Murray Water is also Victoria's Constructing Authority for the Murray-Darling Basin Commission and manages the Dartmouth Dam and the Yarrawonga, Torrumbarry and Mildura Weirs.

Four separate business units within Goulburn-Murray Water manage the system: Bulk Water Services

SHARED VISION FOR CATCHMENT COMMUNITY

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The outcomes of the project will include improved debate about environmental policy resulting from rigorous assessment of social, environmental and economic impacts, regional leadership with innovative approaches to meet new challenges, and confident irrigation communities achieving their shared aspirations.

manages headworks and associated water storage infrastructure, the delivery of bulk water to customers and recreation services at water storages; Diversion Services provides regulated and unregulated surface water and groundwater diversion services; District Services delivers water entitlements, drainage and flood protection services to more than 14,000 properties and six Irrigation Areas; and, Natural Resource Services provides business support for sustainable land and water management.

Goulburn-Murray Water operates on a not-for-profit basis, and all costs recovered provide for the ongoing maintenance of system infrastructure. In 2002/03 the total revenue was \$96 million and the organisation had approximately 600 employees. Total assets under management are currently worth \$2.7 billion.



For more information about Goulburn-Murray Water visit www.g-mwater.com.au, email reception@g-mwater.com.au or call (03) 5833 5500.

The project will take a systems approach in order to deal with the complexity of the issues, and the methodology developed will be able to be applied across Australia for sustainable irrigation planning at a catchment scale.

For more information on this project contact:
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CRC FOR IRRIGATION FUTURES

In July 2003 the new Cooperative Research Centre (CRC) for Irrigation Futures officially began operations. Recognising the benefits of close links, the Sustainable Irrigation Program is working to integrate suitable projects into the new CRC. This step will avoid duplication of research while ensuring maximum benefit for all investment in irrigation research.

The CRC for Irrigation Futures brings together 13 core partners and \$70 million in funding for the next seven years. It will contribute hugely to the expansion of knowledge in the sector through an approach that coordinates effort and funding.

The CRC research programs will focus on generating information to double productivity and halve rural and



urban irrigation water use in Australia. Fundamental to the research programs is recognising the importance of irrigation to the social and economic wellbeing of communities, as well as its environmental impact.

The research program themes are:

- Planning for change, including capacity building and policy;
- Sustainability, including identifying indicators of irrigation systems and regional sustainability;
- New technologies.

An education program has been incorporated into each of the themes.

Additionally, the portfolio is targeted within four zones encompassing Australia's major irrigation areas.

The University of Southern Queensland has been appointed as the Centre Agent for the CRC to undertake the administrative functions. Matthew Durack took up the position of Chief Executive Officer in mid-October, 2003.

More than 100 individuals will be directly involved in the CRC for Irrigation Futures.

For more information about the CRC for Irrigation Futures go to www.crcirrigation.nisn.com.au.

SOFTWARE HELPS WITH MANAGING CLIMATE RISK

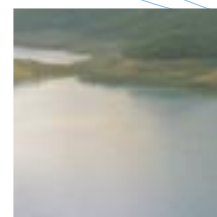
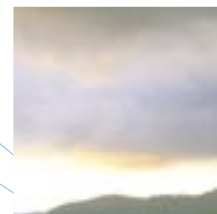
A special promotional edition of the 'Rainman + Streamflow' climate risk management software is now being given away by the Managing Climate Variability Program.

'Rainman + Streamflow' analyses historical monthly and daily rainfall data from 3800 locations throughout Australia to identify rainfall patterns. It can also test the reliability of seasonal forecasts based on the relationship of the historical data and the current Southern Oscillation Index level.

The software package includes tutorials on its use, an interactive publication 'Will it rain? The effect of the Southern Oscillation and El Niño in Australia', tutorials on variability in rainfall and streamflow and links to web

sites for world-wide climate forecasting.

To order a promotional edition of 'Rainman + Streamflow' go to www.lwa.gov.au/rainman or call 1800 776 616 and quote product code EC030609.



PROJECT SNAPSHOTS

The Sustainable Irrigation Program is currently investing in 10 research projects at farm, regional and national levels involving at least 55 researchers. For more information check our website, www.npsi.gov.au.

Title: Northern Australian Irrigation Futures: Building a basis for developing sustainable Irrigation across tropical Australia (CDS23) **Aim:** To deliver an irrigation framework for policy makers, regulators, managers and investors to ensure irrigation is developed in a sustainable manner across northern Australia. **Contact:** Dr Keith Bristow, Principal Research Scientist, CSIRO Land and Water, Keith.Bristow@csiro.au, Ph 07 4753 8596 **Research Partners:** CSIRO Land and Water, CRC for Irrigation Futures

Title: Sustainable Irrigation/ANCID Travel Fellowship (CID6) **Aim:** To provide young professionals within the irrigation industry the opportunity to travel overseas to undertake research and gain experience and knowledge in their nominated area of interest. **Contact:** Mr John Mapson, Executive Officer, ANCID, johnmap@g-mwater.com.au, Ph 0408 505 153 **Research Partner:** Australian National Committee on Irrigation and Drainage

Title: The Economic Benefits of Irrigation to National and Regional Economies (CIE12) **Aim:** To estimate the current economic contribution of irrigated agriculture to the Australian economy and the potential impact under alternative policy scenarios to irrigators and regional economies. This will help inform irrigation public policy and future research decisions. **Contact:** Dr George Reeves, Senior Consultant, Centre for International Economics greeves@intecon.com.au, Ph 02 6248 6699 **Research Partner:** Centre for International Economics

Title: Understanding and Developing Effective Knowledge Management Systems (CRD1) **Aim:** To develop systems to assist public and private sector organisations in managing knowledge to assist clients make irrigation decisions. **Contact:** Mr Graham Harris, Senior Extension Agronomist, Queensland Department of Primary Industries, Graham.Harris@dpi.qld.gov.au, Ph 07 4688 1559 **Research Partner:** Queensland Department of Primary Industries, Australian Cotton CRC

Title: Coordinating Deep Drainage Research in the Northern Darling Basin (CRD2) **Aim:** To develop an agreed understanding by peak stakeholders of deep drainage in the Northern Darling Basin, and to identify gaps in knowledge and strategies to overcome them. **Contact:** Ms Nicky Schick, Research Liason Officer, Australian Cotton CRC, nicky.schick@csiro.au, Ph 02 6799 1511 **Research Partners:** Cotton Research and Development Corporation, Australian Cotton CRC

Title: Tri-State Project - Impact of Salinity on Lower Murray Horticulture (DEP15) **Aim:** To determine salinity relationships for the Lower Murray horticulture area, including the variability of soil water EC and leaching efficiency under known irrigation management. Simulate the performance of vines & citrus under different scenarios at Morgan and provide input into the Murray Darling Basin Salinity Strategy, ICM Plan and Living Murray initiative. **Contact:** Dr Gerrit Schrale, Department of Water, Land and Biodiversity, South Australia, schrale.gerrit@sa.gov.au, Ph 08 8303 9334 **Research Partners:** Department of Water, Land and Biodiversity, South Australia, South Australian Research and Development Institute, Victorian Department of Primary Industries, Mallee Catchment Management Authority, CSIRO Plant Industry, NSW Agriculture, Murray-Darling Basin Commission Catchment Water Management Board, South Australian Centre for Natural Resource Management

Title: Changing Irrigation Systems and Management in the Harvey Irrigation Area (SOU3) **Aim:** To bring innovation to irrigation systems and agronomy on-farm in the South West Irrigation Area (WA) that will increase water use efficiency, farm productivity and reduce ecological impacts through factors such as water and nutrient seepage to the water table, downstream nutrient run-off and soil structural problems. To understand the impact on water demand and supply and the energy balance of the changed operating system. **Contact:** Mr Kenneth Moore, Boorara Management and Consulting, kenn@boorara.com, Ph 08 9388 1172 **Research Partners:** Boorara Research and Management, Harvey Water, Horizon Farming WA Pty Ltd, Kuzich & Co. Irrigation Specialists, Dale Hanks Farming Enterprise, Department of Agriculture, WA

Title: Delivering Sustainability through Risk Management (UMO45) **Aim:** To achieve an improved level of adoption of (ecological) risk assessment and risk management methods in the Australian irrigation industry and in regulatory agencies. **Contact:** Professor Barry Hart, Director, Water Studies Centre, Monash University, Barry.Hart@sci.monash.edu.au, Ph 03 9905 4070 **Research Partner:** Monash University

Title: Use of Reclaimed Effluent Water in Australian Horticulture (VPI4) **Aim:** To undertake a coordinated national approach to assessing the benefits and drawbacks of irrigation with reclaimed water in Australian horticulture **Contact:** Anne-Maree Bolland, Horticulture Scientist, Department of Natural Resources & Environment, Victoria, bolanda@salty.agvic.gov.au, Ph 03 5833 5336 **Research Partners:** Department of Natural Resources & Environment, Victoria, Horticulture Australia, Primary Industries Research Victoria, CSIRO Land and Water, Water Corporation WA, Department of Environment WA and Department of Agriculture WA

The Sustainable Irrigation Program is managed by Land & Water Australia on behalf of the partners, which include irrigators, water authorities, research agencies, State and Commonwealth Departments as well as commodity groups. Suitable projects are also being integrated into the new CRC for Irrigation Futures. For information about becoming involved in the Sustainable Irrigation Program, please contact:

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