

NPIRD UPDATE

NO. 2 FEBRUARY 2002

CRC proposal on track

Late last year NPIRD was involved in coordinating a meeting of representatives from organisations to discuss the feasibility of developing an application to establish a Cooperative Research Centre for Irrigation. The meeting was chaired by Stephen Mills, NPIRD Management Committee Chairman.

As a result of the meeting, a working group was established to gather support from industry for the CRC and to develop an application to be submitted to the Federal Government in May this year. CSIRO Land & Water is coordinating the development of this application.

A document asking for organisations to register their interest in the CRC was developed and sent out last month. How much support there is for the CRC will be crucial to whether or not the application goes ahead.

For more information about the application contact Jeremy Cape, National Irrigation Science Network, phone 08 8303 8552, email <jeremy.cape@csiro.au>

Land & Water Australia Board to consider future irrigation funding

One of the items on the agenda of the next Land & Water Australia Board meeting, to be held in early March will be the shape that funding of irrigation research might take after Phase 3 of NPIRD which ends in June this year.

NPIRD program coordinators, Liz and Murray Chapman, and the NPIRD Management Committee are at present developing three possible scenarios:

1. bigger and better national research and innovation program
2. new irrigation R&D models (such as a CRC)
3. a new water consumption program, of which irrigation would be a part.

For more information contact Liz or Murray, phone 03 5763 3214, email <rplan@benalla.net.au>

NPIRD - innovation recognised

NPIRD is well recognised for its innovative work, attaining top spot in the preliminary assessment of Land & Water Australia's last 1300 projects. Some of its other notable successes have been the world-acclaimed National Irrigation Benchmarking Program now being taken up by the World Bank and ICID; development and trialing of the Participative Action Management Model now being widely used in extension; undertaking ground-breaking work on Ecological Risk Assessment in the Ord, Fitzroy and Goulburn-Broken; as well as setting Water Use Efficiency firmly on the national agenda.

PRD in Top 100

Partial rootzone drying has been listed in the top 100 Australian innovations of the last century. The list was compiled by the Australian Academy of Technological Sciences and Engineering and the Powerhouse Museum and released late last year.

Partial rootzone drying, which was the brainchild of Dr Brian Loveys of CSIRO and has been nurtured over the last six years by NPIRD, was included as the 12th and most recent innovation in the agriculture and food category, which starts with "Federation wheat" in 1903.

Following the initial NPIRD funded two-year project Dr Loveys and his team have continued to develop the PRD technique with additional NPIRD funding, and close links with a new Horticulture Australia project. The research team is now studying a greater range of crops, i.e. grapevines, citrus, stonefruit and pears.

The technology realises in excess of 50% water savings for a range of irrigated products, as well as producing higher quality fruit. It's truly a quantum leap.

NPIRD partners

Land & Water Australia, CSIRO Land & Water, Department of Natural Resources and Mines (Qld), Department of Land and Water Conservation (NSW), Goulburn-Murray Water, NSW State Water, NSW irrigators, Southern Rural Water Authority, Sunraysia Rural Water Authority, Wimmera Mallee Water Authority, Water & Rivers Commission (WA), Ord Irrigation Cooperative, South West Irrigation, Agriculture WA.

Phase 3 projects – where are they up to?

We've had a number of requests about NPIRD projects so we have included in this update those Phase 3 projects that have been completed and those that are current.

Current projects

Socio economic issues affecting positive change in irrigation communities - Capital Ag, email <capitalag@bigpond.com>

Investigating the practicalities and potential for controlling evaporation losses from on farm storages – Col Christiansen, Queensland Department of Natural Resources and Mines, email <col.Christensen@dnrm.qld.gov.au>

Improving the water use efficiency of horticultural crops – Dr Brian Loveys, CSIRO Plant Industries, email <brian.loveys@csiro.au>

Rigorously determined water balance benchmarks – Dr Liz Humphreys, CSIRO Land & Water, email <liz.humphreys@csiro.au>

Developing a national electronic communications strategy and research skills database – Jeremy Cape, National Irrigation Science Network, email <jeremy.cape@csiro.au>

Sustainable management of the Burdekin Delta groundwater systems – Dr Keith Bristow, CSIRO Land & Water, email <keith.bristow@csiro.au>

Improved irrigation scheduling for crops underlain by shallow, fresh watertables – Dr Peter Thorburn, CSIRO, email <peter.thorburn@csiro.au>

Benchmarking irrigation service providers – John Mapson, ANCID, email <johnmap@g-mwater.com.au>

Determining whole-of-system water use efficiencies for NSW river valleys – Dr Nick Austin, NSW Agriculture, email <nick.austin@agric.nsw.gov.au>

Nutrient removal from rural drainage – Ross Plunkett, Goulburn Murray Water, email <rossp@g-mwater.com.au>

Stage 2. Assessment of ecological risk associated with irrigation systems in the Goulburn Broken, Ord and Fitzroy catchments

Enhancement of the water reform process: a socio-economic analysis of guidelines and procedures for trading in mature markets – Dr John Tisdell, Griffith University, email <j.tisdell@mailbox.gu.edu.au>

Development of guidelines of quantification and monitoring of seepage from earthen channels – Ian Moorhouse, Goulburn-Murray Water, email <ianm@g-mwater.com.au>

Developing the concept of satellite links in on farm irrigation R&D for improved R&D integration across Australia – Geoff Calder, South West Irrigation, email <gcalder@swia.com.au>

Improving water quality from subsurface drainage systems in irrigated agriculture (post graduate scholarship) – John Hombuckle

Completed projects

<p>An information package on soil water monitoring</p>	<p><i>Dr Phil Charlesworth, CSIRO Land & Water</i></p>	<p>To develop an information package collating and summarising current scientific knowledge About soil water monitoring, including the range of devices available and their relative features.</p> <p>Published as an <i>Irrigation Insights</i> on NPIRD website www.npird.gov.au. Available through CSIRO Publishing and IAA.</p>
<p>Publish and distribute the Horticultural Refurbishment Best Practice Manual</p>	<p><i>John Mapson, Secretary, ANCID</i></p>	<p>To review and refine the implementation plan for the Horticultural Refurbishment Best Practice Manual and have this printed and distributed.</p> <p>Copies of the manual available through the IAA, email <pgarrad@netspace.net.au>.</p>
<p>Visiting Fellow, Bob Sojka, on the topic of Polyacrylamides (PAM) in Irrigated Agriculture</p>	<p><i>Dr Aravind Surapaneni, DNRE, Tatura</i></p>	<p>To evaluate the potential of PAM in Australia to minimise off- and on-site impacts of irrigated Agriculture on the environment and identify regions and industries that will benefit most from use of PAM.</p> <p>Report available on NPIRD website, <www.npird.gov.au></p>

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<p>A review of genetic algorithm (GA) technology for irrigation water ordering systems</p>	<p><i>Dr Q.J. Wang, DNRE, Tatura</i></p>	<p>To prepare a scoping report that: details the current state of research into GA technology; analyses the future applicability of GA for water ordering systems; quantifies likely demand from industry; recommends a way forward and future role (if any) for NPIRD; and considers private versus public benefit issue as it relates to any future project.</p>
		<p>The project was also to increase awareness in Australia of NPIRD investment in GA technologies to date.</p>
<p>National workshop on the management of nutrients and sediment in irrigation return water</p>	<p><i>Pat Feehan, Goulburn-Murray Water</i></p>	<p>To conduct a workshop on the issue of managing nutrients and sediment in irrigation return water and prepare a report that establishes the current state of knowledge and future R&D needs.</p>
		<p>Report available from Pat Feehan, email <patf@g-mwater.com.au></p>
<p>Identifying of risks and developing conceptual models. Phase 1 of project, assessment of ecological risk associated with irrigation systems in the Goulburn Broken, Ord and Fitzroy catchments.</p>	<p><i>Pat Feehan, Goulburn-Murray Water</i></p>	<p>To develop the likely ecological risks associated with irrigation systems in the Goulburn Broken, Ord and Fitzroy catchments as Phase 1 of a larger project to develop a generic ecological risk assessment framework.</p>
		<p><i>Dr L.J. Duivenvoorden</i></p>
		<p><i>Andrew McCrea, Water and Rivers Commission, WA</i></p>
		<p>For information contact Liz and Marray Chapman, email <rplan@benalla.net.au></p>
<p>Review of natural resource planning and implementation processes used in selected irrigation regions throughout Australia (mainly in the Murray Darling Basin) over the last 15 years</p>	<p><i>Snowy Mountains Electricity Commission</i></p>	<p>This joint project with Murray Darling Basin Commission examined land and water management and salinity management plan areas to: document processes used for plan development and approval and whether the processes changed as a result of monitoring; document how plans were implemented, financed and monitored; assess the relative performance of each model; report on consistence across plans; review methodology and calculations of salt loads and River Murray implications for each of the plans on the MDBC Salinity and Drainage Register; and document all findings and use them as the basis for a series of workshops to determine whether a consistent or better approach can be developed to document findings from each workshop.</p>
<p>Stage 1. Managing water allocation risk – an irrigator toolkit</p>	<p><i>Charles Thompson, Rendell McGuckian, Bendigo</i></p>	<p>To prepare kits for the dairy and rice industries that help irrigators make decisions about short and long term optimum water entitlement for their farms.</p>
		<p>Report available on NPIRD website <www.npird.gov.au>. For information about kits contact Charles Thompson, email <rendmcgk@bendigo.net.au></p>
<p>Best management practices for subsurface drainage design and management</p>	<p><i>Dr Even Christen, CSIRO Land & Water</i></p>	<p>Using information gathered in a national workshop to examine past methods in subsurface drainage and to determine current issues affecting subsurface drainage in the various regions across Australia, develop a manual of best practices for designing and managing subsurface drainage in irrigated areas.</p>