



# rewater

farming with recycled water

## Cane farmers to benefit from recycled water scheme

By Kiri Henry  
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Gold Coast Water  
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Unpredictable climatic conditions are becoming the norm in South East Queensland. However, five cane farmers are heading into the next summer assured of a stable and constant crop – whether it rains or not. Class B treated recycled water will be supplied to the farmers in the Northern Gold Coast region from an upgraded Wastewater Treatment Plant (WWTP) at Beenleigh, providing a reliable supply of recycled water for the irrigation of local sugar cane crops.

The \$9.5 million Recycled Water Scheme, which is part of Gold Coast City Council's Northern Wastewater Strategy, is on target to supply cane farms with recycled water by November 2004. However, the benefits of the project are already being realised. With water being such a limited resource, Council adopted the Northern Wastewater Strategy as a long-term master plan for providing wastewater services in the region's booming northern suburbs. The population between Coomera and Beenleigh is expected to expand from 60,000 to 350,000 in 50 years.

The aim of the strategy is to utilise local wastewater as a valuable resource and manage it in a way that's sustainable and satisfactory to the community on economic, social and environmental grounds. Councillor Daphne McDonald, Chair of the Water Sustainability Committee, says that traditional

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A product of the Coordinator Reclaimed Water Development Horticulture project. Funded by Horticulture Australia Limited. *Know-how for Horticulture™*

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wastewater management methods make little use of recycled water as a resource, but it is a safe, useable source of water that will provide numerous benefits to the region.

The nutrients contained in recycled water, such as nitrogen and phosphorus, whilst beneficial for land plant growth, can create a number of problems for local waterways including increased algal growth.

"The scheme is significantly reducing the quantity of nutrients being discharged into our waterways," Cr McDonald said. "Since the project started, over 50 tonnes of nutrient have been taken out of the Albert and Logan River systems, representing about a 70% reduction in nutrients being discharged from the Beenleigh WWTP."

The improved treatment process at the Beenleigh WWTP is also reducing the reliance on chlorination for disinfection. Instead, it is using the more environmentally friendly ultraviolet (UV) disinfection. Cr McDonald said the supply of a more reliable, year round water source would be invaluable to the local sugar industry. "The scheme will provide farmers with greater certainty about water availability," Cr McDonald said. "Historically, crop yields throughout the area have been affected by dry weather. In some cases sugar cane cannot be harvested until the following year."

A new recycled water storage facility is due to be completed in November 2004 and will have a capacity to store 350 million litres, sufficient to bridge the gap between the regular availability of recycled water and the fluctuating demand by farmers.

## From the editor

ReWater has been developed in recognition of the growing interest in the use of reclaimed water in agriculture.

We would like ReWater to become a forum for you to communicate your thoughts about the beneficial use of reclaimed water.

If you would like to receive a copy of ReWater electronically, email us at [rewater@reclaimedwater.com.au](mailto:rewater@reclaimedwater.com.au)

If you have articles, ideas or would like to raise issues in the letters to the editor, submit them to the Coordinator for Reclaimed Water Development, Horticulture.

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## Third pipe recycling scheme - first of its kind in Victoria

By Mark Roberts - Principal Consultant - Sustainability & Environment, Coomes Consulting.  
Ph: (03) 9993 7907 [www.dpc.vic.gov.au](http://www.dpc.vic.gov.au)

The development of the Eynesbury Township will be the first new town developed in Victoria for a century. The town centre will be located in the heart of the Eynesbury Station and will have a population of approximately 9,000 people. The new population and commercial precinct will provide the necessary support for the agricultural growth of the Station.

The key elements of the project's philosophy includes :

- Establishing a "model" that demonstrates a clear expression of the principles of sustainability.
- Creating a sense of place and identity with 'New Urbanist' principles.
- Regenerating the agricultural productivity and potential of the property.
- Creating a settlement that works from the outset.
- Creating an agricultural environment that "engages" with the new community in a social, economic and physical sense.

The Eynesbury development is a proposed residential and mixed-use development, located 40 kilometres west of Melbourne (Victoria) between the growth areas of Werribee to the southeast and Melton to the north.

The Eynesbury Station holdings is approximately 7,400ha. Of this, approximately 1,250ha is proposed to be developed. The key aspects of the site which will be maintained and enhanced are:

- The Greybox forest;
- The Werribee river and surrounds;
- Native grasslands; and
- Green Hill.

The Eynesbury Township development offers a unique opportunity to achieve and showcase "state of the art" sustainability practices. The development will consist of approximately 2,900 homes and apartments and will include a golf course, equestrian facilities, a four-star boutique hotel and other commercial township facilities.



There are no reticulated water or energy services currently on-site. The presence of the nearby Surbiton Park Wastewater Treatment Plant is advantageous for the Eynesbury Township development. This facility will provide a major source for both Class A and C recycled water. At this stage, construction of water mains for recycled water (Class A & C) and the dams required on-site to meet agricultural development has commenced.

The concept for the Eynesbury Township is based upon the objectives of: ensuring that the property as a whole remains in productive agricultural use; environmental and sustainability issues are incorporated and addressed; and the heritage and environmental assets of the property are protected and enhanced.

In a press release unveiling the plan, the Minister for Environment and Water, John Thwaites, said the Eynesbury Township, with up to 3000 houses and apartments to be connected to a third pipe recycling scheme, will be the first of its kind in Victoria.

"Significant amounts of water will be saved at Eynesbury – with recycled water used for toilet flushing, on gardens and for irrigation of open public spaces," Mr Thwaites said. "This gives householders a reliable supply, which will drought proof their gardens and reduce demand for drinking water by about 50 per cent. It will save nearly one billion litres of water per year".

Mr Thwaites also said a consultation process was underway with a view to making third pipe schemes using recycled water count towards reaching Victoria's 5 Star sustainable housing standard. Planning Minister, Mary Delahunty, said sustainable developments such as Eynesbury Township should be commended for their smart use of resources. "All homes in Eynesbury will have a 6 Star sustainability rating for energy and water. It's pleasing to see this development goes even further than Victoria's new 5 Star requirements," she said.

## NEWater - Potable reuse in Singapore

from [www.pub.gov.sg/NEWater\\_files](http://www.pub.gov.sg/NEWater_files)

The Singapore Water Reclamation Study (NEWater Study) was initiated in 1998 as a joint initiative between the Public Utilities Board and the Ministry of the Environment and Water Resources. The primary objective of the joint initiative was to determine the suitability of using NEWater as a source of raw water to supplement Singapore's water supply.

Singapore currently has two taps - Johar water and local catchment water - and uses 300 million gallons of water a day. By 2012 the demand on water supplies will have increased by one third. In 2011, the water supply that Singapore currently relies on from Malaysia will decrease and two new taps (NEWater and Desalted water) will be used to help supply demand. All four taps will produce the same quality of water. Test results on NEWater quality can be viewed on the NEWater website - [www.pub.gov.sg/NEWater\\_files](http://www.pub.gov.sg/NEWater_files)

NEWater is treated used water that has undergone stringent purification and treatment processes using advanced dual-membrane (microfiltration and reverse osmosis) and ultraviolet technologies. NEWater can be mixed and blended with reservoir water and then undergo conventional water treatment to produce drinking water (a procedure known as Planned Indirect Potable Use or Planned IPU).

Planned IPU as a source of water supply has been practiced in several parts of the United States for more than 20 years. At Water Factory 21, Orange County Water District, Southern California, high quality water reclaimed from treated used water has been injected into ground water since 1976. Similarly, at Upper Occoquan Sewage Authority (UOSA), North Virginia, high quality reclaimed water has been discharged into Occoquan Reservoir since 1978. Occoquan Reservoir is a source of water for more than a million people living in the vicinity of Washington DC.

## 'Guidelines for Water Reuse' released from the US EPA

[www.epa.gov/ORD/NRMRL/pubs/625r04108/625r04108.pdf](http://www.epa.gov/ORD/NRMRL/pubs/625r04108/625r04108.pdf)

This document is an update of the Guidelines for Water Reuse developed for EPA by Camp Dresser & McKee Inc.(CDM) and published by EPA in 1992 (and initially in 1980).

Water reclamation is a growing trend in the U.S. and around the world. In the U.S., there are several other water reclamation projects that are now being planned or under construction.

In 2001, The Public Utilities Board embarked on a new initiative to increase water supply from unconventional sources for non-potable use. The use of NEWater for wafer fabrication processes, non-potable applications in manufacturing processes as well as air conditioning cooling towers in commercial buildings would free large amount of potable water for other potable purposes.

The NEWater Factories at Bedok and Kranji Water Reclamation Plants were commissioned at the end of 2002. Following that, NEWater has been supplied to wafer fabrication plants at Woodlands and Tampines/Pasir Ris and other industries for non-potable use since February 2003. In January 2004, another milestone in the NEWater initiative was accomplished with the commissioning of the third NEWater Factory at Seletar Water Reclamation Plant, which began supplying NEWater to the wafer fabrication plants at Ang Mo Kio. The total capacity of the three NEWater factories is 92,000 m<sup>3</sup>/day.

The Public Utilities Board has also completed its evaluation of the Expert Panel's report and accepted the proposal to use NEWater for indirect potable use, which began in September 2002. This means mixing and blending NEWater with raw water in the reservoirs before undergoing conventional treatment at the waterworks for supply to the public for potable use. So far, The Public Utilities Board has introduced 13,800 m<sup>3</sup>/day of NEWater (about 1% of total daily water consumption) into Singapore's raw water reservoirs. The amount will be increased progressively to about 2.5% of total daily water consumption by 2011.



## Western water has potential to achieve 90% recycling

By Les McLean - Business Manager,  
Recycled Water Western Water  
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Commissioned in October 2002, the Sunbury - Melton recycled water pipeline has the ability to increase the percentage of water recycled at Western Water to over 90%. The \$3.5 million, 30km pipeline is Victoria's most innovative and complex recycled water scheme and the state's longest recycled water pipeline to date.

The project was developed by Western Water, together with the Shire of Melton and the Hume City Council, and recycles waste household water as a means of providing commercial operators a guaranteed, long term water supply. The aim of the project is to combine the region's availability of fertile land with a year-round supply of water that's not subject to seasonal rainfall fluctuations, management decisions of local water agencies, or stream flows. Therefore, providing potential investors with a solid base for competitive advantage.

Treatment Quality:	EPA Class B
Number of customers:	Currently 33, estimated at full capacity 50-100
Pipeline Length (main):	30 Kilometres

The project has already demonstrated a positive effect on agricultural land values in the area serviced by the pipeline. The cost of connection has proved to be insignificant when compared to the commensurate increase in property values for those properties connected to recycled water. Access to quality, reliable water supplies to previously dry land farming properties has attracted increased real estate activity in the local region. Past projects of this nature in other regions have seen irrigated land prices triple in value in a relatively short period of time.

The main external beneficiaries of the project are the agribusiness, recreational and municipal water users along with the region generally and state economy. Economic flow-on benefits include the 90 plus jobs expected to be created and the \$13m of economic activity created. Less obvious benefits include tourism potential created by the project and facilitation of the "green wedge" between the region and the growing boundaries of metropolitan Melbourne.

Unexpected benefits have occurred in the improvement of land management, with weed infested dry farm land being a problem for the region in the past. In addition, baseline soil tests are being conducted across the region, which in a large number of cases - has never been undertaken by agribusiness operators before. Opportunities have been created that previously did not exist without reliable, quality water supplies.

## New program targets better water and waste water use

From [http://fw.farmonline.com.au/news\\_daily.asp?ag\\_id=21707&s=10192](http://fw.farmonline.com.au/news_daily.asp?ag_id=21707&s=10192)

A new program at the University of Queensland (UQ) Gatton is providing resource managers from Australia and abroad with the knowledge needed to tackle the world's most challenging water and waste management issues.

Program coordinator Jim Sands said population growth and economic development was continuing to exert more pressure on scarce water supplies, prompting an urgent need to tackle issues such as salinity, water quality, organic waste management and water recycling.

He said the water and waste management program equipped graduates with the scientific, technological and problem solving expertise to introduce sustainable water use systems and safe organic waste usage in both urban and rural landscapes.

The issue is of equal interest overseas, with a group of 30 senior administrators from China's Henan province currently studying components of the program at UQ Gatton.

"There has been a lot of mistakes made in the past that today's generation now has to deal with," Mr Sands said. "Population and economic development pressures and the scarcity of fresh water supplies in many areas means we cannot continue making those mistakes. We have to develop and apply better ways of using those supplies not just once or twice but many times over."

"The study program we have developed is designed to provide current and future managers of our water and waste systems with the ability to fix the problems of the past and introduce new technologies to ensure we don't repeat them again."



## Australia

### Water charges in Qld could increase

Extract from AWA News Aug 1

[http://fw.farmonline.com.au/news\\_daily.asp?ag\\_id=21406&s=10192](http://fw.farmonline.com.au/news_daily.asp?ag_id=21406&s=10192)

Queensland's irrigation industry is steeling itself for the outcome of a state government-commissioned review on future water charges with some predicting hikes to 1000%.

### 45 GL/yr seawater Desalination

Extract from Awa News Aug 1

[www.watercorporation.com.au/water/water\\_sources\\_desalination.cfm](http://www.watercorporation.com.au/water/water_sources_desalination.cfm)

WA Premier Geoff Gallop announced a 45 GL/yr seawater desalination plant for Kwinana, costing \$346m and expected to be completed in two years. It will be the biggest desalination plant in the southern hemisphere. Earlier selection had narrowed the field of bidders to two: Australian Water Services and Veolia Water.

### Call to scrap salt-water plant

November 1, 2004

[www.news.com.au/common/story\\_page/0,4057,11250302%255E1702,00.html](http://www.news.com.au/common/story_page/0,4057,11250302%255E1702,00.html)

Will Sydney's water supply still drain away even if the NSW Government went ahead with plans for a desalination plant in the city? Is desalination environmentally friendly? Perhaps the focus for Sydney should be on recycling stormwater and sewage, more efficient toilets and permanent low-level water restorations.

### Recycled water use in airconditioning

From awa newsletter, 24 Oct.

Sydney Olympic Park has had permission from NSW Health to use recycled water in airconditioning cooling towers; in addition to an earlier permission for laundry use.

## Overseas

### Redwood City to Approve Agreement to Treat and Sell Recycled Water

Extract from AWA Water Journal, Aug 5 2004

[www.watereuse.org/newsletter/080504.htm](http://www.watereuse.org/newsletter/080504.htm)

The City Council in Redwood City (CA) approved an agreement on July 26, 2004 with the South Bayside System Authority to treat and sell recycled water, a San Mateo County Times article reported.

The \$44 million project could begin providing water to irrigate city and commercial landscapes as early as 2006, freeing up the City's Hetch Hetchy water allocation for drinking and other uses.

[www.redwoodcity.org/publicworks/water/recycling/](http://www.redwoodcity.org/publicworks/water/recycling/)

### BBARWA Touts Its Recycled Water Program

Extract from AWA Water Journal, Aug 5 2004

[www.watereuse.org/newsletter/080504.htm](http://www.watereuse.org/newsletter/080504.htm)

Big Bear Area Regional Water Authority (BBARWA) is working closely with the City of Big Bear Lake's Department of Water and Power and the Community Services District to explore the feasibility of dramatically increasing the production of recycled water at their wastewater treatment plant beyond its use to irrigate alfalfa fields in Lucerne Valley, allowing the community to benefit in a significant way from a proven and cost-effective technology. [www.bbarwa.org](http://www.bbarwa.org)

### Recycled Water to Play Larger Role in South Orange County's Water Future

Extract from AWA Water Journal, Aug 27 2004:

[www.watereuse.org/newsletter/082704.htm](http://www.watereuse.org/newsletter/082704.htm)

In mid-August, the Board of Directors of the Metropolitan Water District of Southern California approved a project to upgrade two water recycling plants in south Orange County to ultimately treat and deliver nearly 3 billion gallons of water per year for landscape irrigation.

### Waco Considering Recycled Water for Irrigation

Extract from AWA Water Journal, Aug 27 2004

[www.watereuse.org/newsletter/082704.htm](http://www.watereuse.org/newsletter/082704.htm)

The City of Waco, Texas is considering using recycled water for irrigation purposes. The city wants to use treated effluent for irrigation and industries which could save homeowners from future rate hikes. The city says one industrial customer is already interested in buying treated wastewater.

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## **Victor Valley Wastewater Reclamation Authority Proposes Recycled Water Plan**

*Extract from AWA Water Journal, Aug 27 2004*

[www.watereuse.org/newsletter/082704.htm](http://www.watereuse.org/newsletter/082704.htm)

The Victor Valley Wastewater Reclamation Authority (California) released a Draft Environmental Impact Report on a plan to construct four regional plants to produce high quality recycled water that would offset drinking water used to irrigate lawns, parks, golf courses, and cemeteries, according to an August San Bernardino County Sun article.

## **Wildomar Begins Construction of Recycled Water Pipeline**

*Extract from AWA Water Journal, Aug 27 2004*

[www.watereuse.org/newsletter/082704.htm](http://www.watereuse.org/newsletter/082704.htm)

A \$39 million recycled water project that will pump approximately 36 million gallons of treated effluent each day through portions of Temecula, Murrieta, Wildomar, and Lake Elsinore (California) will be used primarily for agriculture, landscaping, and replenishing lakes and decorative ponds, an August NCTimes article reported.

## **Metropolitan Approves Water Recycling Projects**

*Extract from AWA Water Journal, Sept 17 2004*

[www.watereuse.org/newsletter/091704.htm](http://www.watereuse.org/newsletter/091704.htm)

The Board of Directors of the Metropolitan Water District of Southern California recently approved several water resources projects and programs including two projects that ultimately will provide more than a billion gallons of recycled water per year for landscape irrigation in South El Monte and Hemet.

## **Spain announce a desalination plants**

*Extract from AWA News 12 September*

[www.edie.net/news/news\\_story.asp?id=8844&channel=1](http://www.edie.net/news/news_story.asp?id=8844&channel=1)

Instead of re-routing the Ebro River, Spain has announced that desalination plants will utilise the vast natural resources provided by the Mediterranean Sea to provide irrigation and fresh water to Valencia and Murcia. Spain already has around 700 desalination plants and has been utilising the technology for over 30 years.

## **A tenth of the world's irrigated crops are watered by raw sewage**

*From New Scientist*

[www.newscientist.com/news/news.jsp?id=ns99996297](http://www.newscientist.com/news/news.jsp?id=ns99996297)

According to the first global survey of the hidden practice of 'wastewater irrigation', a tenth of the world's irrigated crops, usually in developing countries, are watered by raw sewage.



## **Websites to checkout**

### **WHO guidelines for drinking-water quality**

The 3rd edition of the WHO GUIDELINES for DRINKING-WATER QUALITY has been launched. This comprehensive and updated edition includes expanded coverage of risk assessment and management for microbiology and chemicals, as well as guidance on guidelines applications. Outline on [www.who.int/water\\_sanitation\\_health/dwq/guidelines/en/](http://www.who.int/water_sanitation_health/dwq/guidelines/en/) This title will be available from AWA's bookshop. No price yet, but they are taking orders, so please email: [bookshop@awa.asn.au](mailto:bookshop@awa.asn.au)

### **Water Challenges for South Australia in the 21st Century**

[www.thinkers.sa.gov.au/images/Cullen\\_final\\_report.pdf](http://www.thinkers.sa.gov.au/images/Cullen_final_report.pdf)

### **Domestic water use study in Perth**

[www.watercorporation.com.au/water/water\\_waterusestudy.cfm](http://www.watercorporation.com.au/water/water_waterusestudy.cfm)

### **Water Efficiency Labeling Scheme launched**

[www.deh.gov.au/minister/env/2004/mr19aug04.html](http://www.deh.gov.au/minister/env/2004/mr19aug04.html)

Australians are expected to save more water by 2021 than is in Sydney Harbour as the result of a water efficiency labeling.

## Reclaimed Water Irrigation Workshop

11-12 November 2004

Contact Lynne Harmer on 03 5833 9201

email [lharmer@unimelb.edu.au](mailto:lharmer@unimelb.edu.au)

Dookie Campus, The University of Melbourne

The workshop consists of presentations, a field trip and practical sessions. Topics include:

- Reclaimed water use – irrigation systems
- Reclaimed water quality issues
- Soil management and sampling – soil texture, soil colour and soil pH

## 4th National On-Farm Food Safety and Quality Assurance Conference

22–26 November 2004, Hobart, Tasmania.

[www.tqainc.com.au/conference.htm](http://www.tqainc.com.au/conference.htm)

The event this year will focus on Integrated Farm Assurance. There will be a range of events and workshops as well as formal conference proceedings, covering a range of topics:

- Food safety updates – allergens and prions
- OH&S – Managing Farm Safety
- Get down and dirty with Environmental Assurance (1 day workshop)
- Bioterrorism / Biosecurity
- GM jargon explained
- Recall – how to do it effectively
- **Reclaimed water – practices and practicalities**
- Industry QA updates (across range of industries)
- Auditor Competency update
- Supply chain management

## Young Professionals TECHNOtour in SA

5-8 December 2004

[www.awa.asn.au/events/technotours/](http://www.awa.asn.au/events/technotours/)

Registrations are now being taken for the YOUNG PROFESSIONALS TECHNO tour, 5-8 December in South Australia. Experience technology, trends and issues first hand in this small group tour. Site visits include Bolivar WWTP, Mawson Lakes residential development, salt interception schemes on the Murray, reclaimed water use and many more. Plenty of networking opportunities! Download flyer from:

[www.awa.asn.au/events/technotours/](http://www.awa.asn.au/events/technotours/)

## SuperSoil 2004

3rd Australian/New Zealand SOILS CONFERENCE

5-9 December 2004

The University of Sydney

SuperSoil 2004 Secretariat

C/- ICMS Pty Ltd

Level 3, 379 Kent Street

Sydney NSW 2000

Ph: +61 2 9290 3366

Fax: +61 2 9290 2444

email: [supersoil@icms.com.au](mailto:supersoil@icms.com.au)

[www.icms.com.au/supersoil](http://www.icms.com.au/supersoil)

Hosted by the Australian & New Zealand Societies of Soil Science Eastern Avenue Complex, University of Sydney, Sydney, Australia. The conference will include outstanding keynote speakers, a social program and field tours.

The Registration Brochure and Preliminary Program are available on the website. You can also register online.

## Integrated Concepts in Water Recycling

14-17 February, 2005

[www.uow.edu.au/eng/cme/research/ozaquarec/conferences.html](http://www.uow.edu.au/eng/cme/research/ozaquarec/conferences.html)

Wollongong, NSW, Australia

An international conference - Integrated Concepts in Water Recycling

## AWA Specialty Conference Desalination

23-25 February, 2005. Adelaide, SA.

Contact Diane Wiesner at [dwiesner@awa.asn.au](mailto:dwiesner@awa.asn.au)

This conference will be followed by a 5-day technotour to Singapore, visiting the NEWater Recycled Water Plant and Educational Centre and regional desalination plants.

## OzWater Watershed. The turning point for water.

5-12 May, 2005. Brisbane, Qld.

[www.awaozwater.net/watershed/](http://www.awaozwater.net/watershed/)

Australian Water Association (AWA) Ozwater 05 Convention & Exhibition. The main Ozwater Watershed event will focus on the general water environment.

This will be held in Brisbane from Sunday, May 8 to Thursday, May 12, 2005. A separate specialist Ozwater Watershed event will focus on the tropical marine environment including impacts on the Great Barrier Reef. This will take place in Townsville from Thursday, May 5 to Saturday, May 7 (prior to the main event).

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## Experience water recycling in Singapore, Mexico, California and Florida

Study tour scheduled to depart Australia on the 28th of May 2005

### Singapore

- NEWater. Indirect potable reuse.

### Florida

- Agricultural (eg citrus, gladioli, nursery, row crops) reuse
- Golf courses and landscape irrigation with recycled water
- Rapid infiltration basins and wetlands
- Disney property, residential, dual reticulation reuse
- Cooling systems using recycled water, Mexico
- Industrial and municipal reuse, California
- Potable, industrial and agricultural reuse
- Indirect potable reuse

Tour ends at San Francisco, in time for the "Worlds Water Event".....

AWWA Annual Conference and exposition, June 12–16, 2005. Moscone Center—South Building San Francisco, California. [www.awwa.org/ace2005/](http://www.awwa.org/ace2005/) Registration will be online after December 20, 2004. This is a once-a-year conference and exposition that provides you the opportunity to network with industry peers, keep up-to-date on the latest industry trends, attend leading conference professional sessions and meet the industry's top companies.

The tour also includes local experts speaking at dinner on selected evenings.

Contact Jim Kelly at ARRIS for more details.

[www.arris.com.au](http://www.arris.com.au)

[jkelly@arris.com.au](mailto:jkelly@arris.com.au) Ph (08) 8303 6706

Approximate cost - \$11,000 ex gst. Includes all flights, buses, accommodation, meals, entry to all sites, detailed tour report Price quoted is for a standard booking, business class bookings may also be made on request. The AWWA conference is optional. All costs relating to the conference are not included in the tour. All prices are subject to fluctuation in currencies until booked and paid.

Full itinerary out soon!

## VEGENotes series now includes recycled water

During the past decade, vegetable growers and Horticulture Australia Limited (HAL) have invested more than \$20 million in the research and development program for the vegetable industry.

Research outcomes from related projects have been communicated to the growers in various forms. However, the Industry Development Officer (IDO) network identified dissatisfaction with these amongst growers. The primary problem being that the information is presented in a scientific format that doesn't encourage direct practical application. Growers want outcomes clearly detailed so as to allow practical applications.

VEGENotes aims to integrate HAL funded projects into a series of relevant fact sheets, covering topics ranging from pest and disease through to product marketing. The series forms a valuable high-quality resource manual, presenting technical information in an easy to read format. It is conveniently supplied in a 3-ring binder and is distributed to more than 7500 vegetable growers nationally.

The VEGENotes series now includes an edition dedicated to the irrigation of vegetable crops with recycled water.

<http://www.reclaimedwater.com.au/documents/RecycledWaterVegenote.pdf>



The delivery of research and development outcomes from this project to the horticultural industry is made possible by the Commonwealth Government's 50 % investment in all Horticulture Australia's research and development initiatives.

Edited and designed  
by Arris Pty Ltd



ACN. 092 739 574

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issn 1449-9800

