

rewater

farming with recycled water



culture



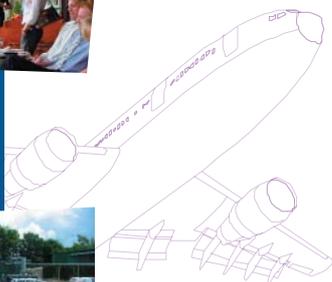
learn



travel



see



Last chance to visit recycled water use in Mexico, Singapore, Florida and California.

Recycled Water Tour 05 to Mexico, Singapore and the USA departs Australia on May 28. Limited places are still available for this all-inclusive study tour.

The Study Tour, managed by the Coordinator for Reclaimed Water Development in Horticulture project through Arris Pty Ltd, focuses on a range of water recycling technologies, regulatory frameworks, communication programs and innovative water and wastewater management options. This tour will give you access to several of the leading recycled water facilities in the "world" and the people that developed, operate and maintain them.

Departs Australia - 28th May 2005

Registrations close 22nd of April 2005

Cost Economy/Single \$11,722 ex. GST: Economy/ Twin Share \$10,900 ex. GST: includes: flights, buses, accommodation and food.

Official tour ends - 11th June 2005, arriving in Australia 13th June 2005

www.recycledwater.com.au/studytour05.html

Or.....

Participants can choose to stay on at their own cost for The World's Water Event - AWWA Annual Conference and Exposition, San Francisco, California, June 12-16, 2005. www.awwa.org/ace2005

For further information..

Brochure and registration forms can be emailed on request or downloaded at:

www.recycledwater.com.au

p: 08 8303 6706

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Could we grow seaweed with recycled water?

Modified from ABC News online
www.abc.net.au/news/newsitems/200503/s1315990.htm

In several areas of Australia, recycling our wastewater is complicated by the higher salinity of the recycled water when compared with traditional water supplies.

One farming option may be to concentrate these salts further and grow seaweed.

For example, a group of farmers in north-west Victoria have found a way to use salty ground water, which has ruined much of their pasture and wetlands, for profit.

Salinity is one of Australia's biggest environmental

problems and costs farmers tens of millions of dollars in lost agricultural production each year.

The township of Donald in north-west Victoria is one of the most salt affected farming regions in the state. Phil Dyson is a hydrogeologist who specialises in salinity and is helping local land owners trial seaweed as a new crop. "There's certainly a worldwide shortage of seaweed. The markets for the product are actually quite diverse," he said. "It's used as an additive in stock food; it's a binder in pet food and other human foods; it's in ice cream; it's something the abalone growers tell us they want as a fresh product for food. The one that we're looking at will produce an agar gel."

The project is the brainchild of marine biologist Ron Cordover who says there is potential for several aquaculture industries in salinity affected areas, but seaweed is low maintenance and low risk. "What the farmers wanted, of course, was a crop that was pretty forgiving and, once harvested, they could actually dry it out, put it in a bale and keep it in a barn until somebody comes and gets it," he said.

Paul Sheridan is one of two local farmers participating in the trial. "The Donald Land Care got the grant up and that was to build ponds for the feasibility of seaweed production. So on our land they have done two ponds, each at 100 square metres, and an evaporation pond as well," he said. He says the initial reaction from neighbours was low key, but the idea is now gaining popularity. "Initially, they thought we'd really lost the plot, but it's gaining a lot of interest now, and the general community's really interested and really behind the project," he said.

The first lot of seaweed has only recently been put in the ponds and is growing at about 3 per cent a day. That is not yet fast enough to set up commercial production, but the farmers of Donald are positive and already planning for a local processing plant.



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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

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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Water efficiency labelling

www.deh.gov.au/water/urban/scheme.html

The Parliament of Australia brought into operation the 'Water Efficiency Labelling and Standards Act (2005)' to provide for water efficiency labelling and the making of water efficiency standards and related purposes (Commonwealth of Australia, No. 4, 2005).

The objects of this Act are as follows:

- a) to conserve water supplies by reducing water consumption;
- b) to provide information for purchasers of water use and water saving products;
- c) to promote the adoption of efficient and effective water use and water saving technologies.

The act can be downloaded from: scaleplus.law.gov.au/html/comact/browse/TOCN2005.htm

Consumers and businesses will be able to make informed decisions about which products will help them save water with all washing machines, dishwashers, toilets, showers, some types of taps and urinals carrying a star rating on their water efficiency. The scheme will also set minimum water efficiency standards for toilets. Some of the major water savings include:

- new toilets must use less than 5.5 litres of water per flush.
- regular showerhead uses around 120 litres of water, compared to a water efficient showerhead, which uses only around 70 litres.
- water efficient washing machine that uses two-fifths the water of an inefficient washing machine.



Recycled water being tested for Aquaculture

Media release from Barwon Water, March 16, 2005

www.barwonwater.vic.gov.au/emplibrary/B40A1C57-E427-2CAE-2DBD22690626757B.pdf

Following signing of an agreement between Barwon Water, Peerless Holdings and the Department of Primary Industries (DPI), a feasibility study into aquaculture in recycled water at Black Rock water reclamation plant will commence in March 2005. Barwon Water will host the study using recycled water ponds to grow small fish for a variety of markets. The fish are not for human consumption, but may be used as ingredients in pet food, stock feed and even to feed larger commercially farmed fish. The research will be conducted by Primary Industries Research Victoria, DPI's Research and Development division, and funded by Peerless Aqua, the research arm of Peerless Holdings. Barwon Water will provide the ponds, water and associated infrastructure at the Black Rock water reclamation plant.

Barwon Water Chief Executive Dennis Brockenshire said that the project would explore exciting new uses for recycled water. "This research has the potential to open new doors for water recycling. We look forward to pioneering the field in Australia," Mr Brockenshire said. Peerless Holdings Director, Julius Rath, said that Australia currently uses thousands of tonnes of fin-fish for non-human markets, much of which is imported. If the aquaculture trial proves successful, it could result in using sustainable, locally grown fish rather than imported ones. Currently, Barwon Water commits more than 14 per cent of recycled water to a variety of users, including local vineyards, golf courses, and primary producers.

www.barwonwater.vic.gov.au (under environment)

Candidate species for the first stage of the project include carp, mullet, goldfish and black bream. If the results of the pilot trial are promising, research will be expanded to include more ponds and more species of fish.



WA Reuse scheme benefits local shires and the environment

Water Corporation Press Release. 03 March 2005
www.watercorporation.com.au/media/media_detail.cfm?id=321

With water shortages across the state, an increasing population and more wastewater being produced, the Water Corporation will continue to face supply and environmental hurdles which involve innovative solutions. One solution that continues to help the environment and protect future water resources is treated wastewater reuse schemes. This is particularly true in regional Western Australia.

"In an arid climate such as the West Pilbara - where the community is very aware of how precious water is - recycling treated wastewater becomes critical and benefits the community in many ways," said acting North West Regional Business Manager, Mrs Janice Landy. "Approximately half of the country towns in Western Australia utilise reuse schemes for oval and parkland irrigation."

"The schemes are an integral part of the Water Corporation managing the disposal of treated wastewater. They enable Local Government Authorities to utilise a more economical water resource for recreation irrigation," said Mrs Landy. "In some areas of the state, it is the only solution for some shires due to current water shortages." Many shires across the state have joined the Water Corporation in utilising treated wastewater for recreation irrigation - providing a win-win situation with economic and environmental benefits achieved by both parties.

"The Shire of Roebourne has been working with the Water Corporation over many years on a reuse scheme which now supplies treated wastewater to many public recreation areas throughout Karratha," said Mrs Landy. "Without this vital partnership and the successful reuse of this water resource, I strongly believe that Karratha would not have the excellent recreation areas and playing fields it boasts today." Like many country plants, the two Karratha wastewater treatment plants utilise evaporative ponds to treat the wastewater. Prior to reuse, the Shire of Roebourne must chlorinate and filter the treated wastewater.

"Both of Karratha's wastewater treatment plants are operating well within the design capacity, which means the quality of treated wastewater produced for the reuse schemes is good," said Mrs Landy.



"All reuse schemes, which run from Wyndham right through to Esperance, have to meet the National Water Quality Guidelines for Reclaimed Water Use which is closely monitored by the Health Department of Western Australia," said Mrs Landy. "There are strict guidelines as to when the Shire of Roebourne can water the oval with treated wastewater before use, usually between 10pm and 4am," said Mrs Landy. Occasionally, some odours will be experienced during irrigation cycles if the treated wastewater is stored too long in a water tank before use.

Background information

The Karratha wastewater treatment ponds use natural aerobic processes of sunlight and wind, in combination with naturally occurring algae and bacteria, to treat and stabilise the wastewater. When raw wastewater is discharged into a pond, the heavy solids settle to the bottom where they are decomposed by bacteria. Lighter suspended material pathogens and dissolved organics in the wastewater are broken down by bacteria. The more oxygen available to the bacteria, the more aggressive the treatment process.

The water obtains oxygen from wind across the surface and algae, which produces oxygen via the natural process of photosynthesis (turning carbon dioxide into oxygen using energy from sunlight). Each kilogram of algae in a healthy pond is capable of producing approximately 1.6 kilograms of oxygen on a normal summer day. Algae also use some of the nutrients (eg. nitrogen and phosphorus) in the wastewater. Some water is removed by evaporation from the pond surface using the wind and energy from the sun. After a 30 day retention period in the ponds, the raw wastewater is considered to be treated and is available for disinfection and use in reuse schemes.

Media Enquiries:

Contact: Kristy Willis, North West Region Communications Officer
 Telephone: (08) 9186 8260 or 0408 950 105

Greening Melbourne's western region



To assist industry and communities to use less drinking water in their day-to-day operations and activities, City West Water is planning to supply recycled water to a range of customers in the Werribee region. The Werribee Technology Precinct recycled water project, located 25 kilometres southwest of Melbourne, will bring real and lasting benefits to the Werribee Plains region through the use of Class A recycled water.



City West Water's Managing Director, Anne Barker said "As

a State Government owned water business, City West Water is committed to conserving Melbourne's precious water supplies for future generations, while meeting our customer's daily water needs. The supply of Class A recycled water helps us to do this and contributes towards the Victorian Government's water recycling target of 20% by 2010."

The Werribee Technology Precinct is home to some of Australia's leading research and learning institutions, including Food Science Australia, CSIRO Animal Health, Prince Henry's Medical Research Centre, Melbourne University's Veterinary College and Victoria University of Technology. The Precinct is also home to Melbourne Water's Hoppers Crossing Pumping Station and Silems Golf Park.

City West Water is planning to extend the existing Werribee Irrigation District pipeline, constructed by Melbourne Water, to supply commercial and non-commercial customers within the Werribee Technology Precinct. Uses by customers within the precinct include turf growing, irrigation of sporting fields, landscaping, washdown water and the irrigation of a golf course and driving range.

"As an alternative to drinking water, the recycled water supplied to the Werribee Technology Precinct area will provide a secure and reliable supply. Precinct tenants will be able to significantly reduce the amount of drinking water they use in their daily processes by using recycled water instead," Ms Barker explained.

"The amount of drinking water saved by this and other recycling initiatives across the Western Growth Corridor will benefit all Melbournians in their efforts to conserve our water supply for the future," Ms Barker said.

For further information regarding City West Water's recycling projects contact John McCoy, Manager, Water Recycling Projects on (03) 9313 8601.

Lord Mayor launches Australia's biggest natural water mining system

22/3/2005

Celebrating World Water Day, Lord Mayor Campbell Newman will today activate Australia's biggest natural water mining project at Rocks Riverside Park, QLD.

"This innovative water mining treatment process converts untreated wastewater, mined from a nearby rising sewer main, into high quality non-drinking water to irrigate five hectares of the 28-hectare parklands," Cr Newman said.

"The first Australian-made project of this size, the facility requires no electricity. It is a low-cost, sustainable natural treatment process that delivers effluent for treatment via a natural filter system of 5,000 reeds, biological microbes and ultraviolet disinfection."

"With over 98 per cent of our potable water used for purposes other than drinking, it is time we adopted more sustainable water practices. With South East Queensland facing serious water sustainability concerns, this natural technology provides a high grade alternative water source to drinking water," Cr Newman said.

"This project is part of Council's commitment to a clean and green Brisbane and is now saving Brisbane 200,000 litres of drinking water per day. When fully operational in early 2006, it will save 360,000 litres of water each day," Cr Newman said.



Lord Mayor Campbell Newman shows the start and end product of Australia's biggest natural water mining system at Seventeen Mile Rocks, Brisbane.

Some reflects on urban use of reclaimed water

By Max Thomas

The State Government of Victoria deserves credit for its leadership in the move towards conservation and better management of water. Recycling of treated wastewater is one of the strategies being promoted. Incidentally, I prefer the term 'reclaimed water' compared with 'recycled water' because it indicates that resources have been applied to create a potentially valuable product.

The use of reclaimed water for irrigation of pasture and crops has been common practice in country Victoria for many years. This form of water reuse is done by skilled operators according to EPA guidelines designed to protect human and animal health as well as ground water, soils and waterways.

Agricultural use of reclaimed water has generally been successful, but careful selection of suitable land and skilled management are essential to avoid problems such as salinity that may cause serious economic loss and environmental damage. Poor land can be improved by good management; productive land can be ruined by bad management.

The Melbourne metropolitan area has many different types of soils ranging from heavy clay to rock and sand. The climate also varies with lower average rainfall on the western plains than near the hills in the east and southeast. This means that the amount of water to use and when to use it have to be adjusted, depending on the soil type and rainfall. Plants differ in the amounts of water they need and the timing and method of watering may also be important.

As water passes through our homes (and our bodies), it picks up bacteria, salt and nutrients, such as nitrogen and phosphorus. Wastewater is treated before it is used for irrigation. While this standard of treatment removes the health hazards, a higher and more expensive level of treatment is needed to remove nutrients. Removing salt is even more expensive.

The idea of using reclaimed water on parks and gardens may be attractive but it is not consistent with the present trend or ideal that prefers native vegetation for public open space. Presumably, the aims are to reduce maintenance costs and reduce or eliminate the need for watering while restoring wildlife habitat and bio-diversity. But in any case, most indigenous plants do not require a lot of nutrients, especially phosphorus.



The Port Phillip and Western Port catchments strategy states that "more than half the nitrogen and phosphorus from the Yarra catchment is sourced from urban areas" and that best practice standards will be needed to prevent nutrients from entering waterways. Indiscriminate and widespread addition of soluble phosphorus to the catchment cannot be expected to achieve this objective.

Depending on the location, watering a garden of 200 square metres in Melbourne would use between 60,000 and 100,000 litres of reclaimed water per year. This reclaimed water would contain up to 50 kg of salt and about 1 kg of phosphorus. Multiply these figures by any number of gardens by 10 years and the question arises: where will the salt and phosphorus end up? What will be the effects? Will we be able to do anything about them?

Damage to property and land including corrosion, soil salinity, ground water pollution and other environmental problems are all possible (unintended) consequences of using reclaimed water indiscriminately, as distinct from its use on selected sites with skilled management supported by regular monitoring. Such effects may not be immediately evident and would probably appear some distance from the cause. The social, legal, economic and political results could be formidable.

There are considerable benefits where reclaimed water can be used safely for purposes that do not require the use of high quality drinking water. However, an important question is; how costly - in terms of finance and energy - will it be to deliver the reclaimed water to where it can be used to best advantage? This is a classic resource management problem.

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It has been suggested that removing nutrients and even salts from reclaimed water would make it safe for widespread, uncontrolled use. With extra disinfection of the water this may be so but we would then be asking the somewhat ironic question: is reclaimed water too expensive and valuable to waste on parks and gardens? Perhaps this is an instance where the 'market' will intervene and save us from our own good intentions.

*Max Thomas
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Telephone: 0407 312 203*

Editorial comment

Firstly, I thank Mr Thomas for his thought provoking letter. Mr Thomas has highlighted some of the environmental complexities of establishing an urban reuse scheme. Readers should be aware that many of the environmental concerns expressed by Mr Thomas should already be covered during the approval process of developing water recycling schemes. However, in some circumstances, this coverage could be improved. The Federal Government's Department of Environment and Heritage has recognised this and commissioned a revision of the National Guidelines for Recycled Water. These guidelines (currently in draft form) address all of the environmental questions raised by Mr Thomas by using a Risk Management and Hazard Analysis and Critical Control Point framework.

Mr Thomas' points on the cost of recycling are also interesting to reflect on.....

Dr Daryl Stevens. Telephone: 08 8303 6707



Australia

State Government Needs to Get Serious About Recycling Sewage: MP

From LAWLEX Water Newsfeed 1/4/05

The Sydney Morning Herald (SMH) reports that the State Government has refused to endorse a large-scale sewage recycling system that could save 450 billion litres of water. New technology reportedly meant that "the 450 billion litres of wastewater that is currently being pumped out to the ocean" could be treated and "used to replenish the environmental flows of rivers and sold to agricultural and industrial use". The ocean sewage treatment plan would reportedly cost about \$1.6 billion.

Federal Member for Wentworth Malcolm Turnbull has urged the State Government to take large-scale water recycling seriously. Mr Turnbull said, "if we were to recycle our sewerage, we could lift our water supply to more than 60% of capacity in the first year (up from 42% today) and up to 80% in the following year".

Water use on Australian farms

From AWA News week ending 3 April, 2005.

www.abs.gov.au/AUSSTATS/abs%40.nsf/mf/4618.0?OpenDocument

The Australian Bureau of Statistics (ABS) released Water Use on Australian Farms 2002-03 (cat. no. 4618.0); it estimates agricultural irrigation water use and management and includes information on water trading and irrigation finances, as well as climatic conditions from the Bureau of Meteorology. For questions on the publication contact Michael Vardon, email - michael.vardon@abs.gov.au

Water recycling for Sydney

From AWA News week ending 3 April, 2005.

www.waterworks.net.au

Information about large-scale water recycling for Sydney will be available on a new website from today. Waterworks, a division of Services Sydney, will provide consumers with news, opinions and facts about the city's current water debate.

Enquire Steve Chase: 0421 054 293.

Sewage recycling study underway

From ABC News online

www.abc.net.au/news/newsitems/200503/s1315471.htm

A feasibility study has begun into the possibility of piping Melbourne's sewage to the Latrobe Valley for recycling and reuse. Gippsland Water wants to treat the water and sell it to power stations that use large volumes of clean water. Project Director Brian Bayley says the clean water saved would boost environmental flows to rivers and add to town water reserves. He says the \$2 million study will take two years to complete. "We're working flat out to get this feasibility study going and we've got to determine if it's economically and environmentally viable to do it," Mr Bayley said. "It's an exciting and interesting scheme but there are quite a few hurdles to get over and a lot of work to be done. It's great to be part of it."

\$1M for Balonne water and sewerage upgrades

Environment, Local Government, Planning & Women

The Hon. Desley Boyle MP, 14 February 2005

<http://statements.cabinet.qld.gov.au/cgi-bin/display-statement.pl?id=5222&db=media>

The Beattie Government (Qld) is helping Balonne Shire Council be smarter about its water and wastewater. In Charleville today for Community Cabinet, Local Government and Planning Minister Desley Boyle announced more than a million dollars in funds towards three infrastructure projects in St George.

"I can announce today that the State Government will go halves with the council on its \$600,000 wastewater reuse project which involves treated effluent (recycled water) for watering crops," Ms Boyle said. "The Council will now be able to pump wastewater from the sewerage treatment plant in St George to irrigate crops on Blenheim Farm and the Police Paddock."

Media contact: Louise Foley or Carissa Mason 07 3227 8819

Push remains for Shoalhaven water recycling

From ABC News online

www.abc.net.au/news/newsitems/200503/s1328088.htm

Shoalhaven community groups, south of Wollongong, say they will continue to try and encourage the NSW Government to implement water recycling measures, rather than extracting water from the Shoalhaven River. A community forum at Bomaderry on Friday night heard concerns over the environmental impacts of pumping water from the river to supplement Sydney's water supply.

Forum organiser Chris Nobel says residents fear the river's health is already declining and says recycling

water is the better alternative to solving Sydney's water supply problems. "We have to have a greater vision and that's why I would...personally be supporting reuse of water-effluent reuse and water reticulation programs up in Sydney, they've been used down here too and they've been very successful around Callala Bay and so on," he said. "I think that's how we have to go, I mean Europe does this."

Reclaimed water for sale at GMMW

www.wmwater.org.au/MediaReleases/Dimboola%20Reuse.pdf

Grampians Wimmera Mallee Water is seeking expressions of interest from landowners and other organisations interested in utilising reclaimed water from the Dimboola wastewater treatment plant. Expressions of interest are being sought for the purchase of approximately 70 megalitres of reclaimed water per annum.

"While some discussions have previously been held with landowners and other interested persons, we are now formally calling for Expressions of Interest to ensure that all potential users are given the opportunity to register their interest in utilizing this valuable resource", said Chief Executive Officer, Peter McManamon.

The last decade has seen a marked change in attitude towards the management and use of water resources.

"Reclaimed water, or treated wastewater effluent, is now seen as a viable alternative water resource, rather than a waste product that has to be disposed of," Mr McManamon said.

CHW & EPA Victoria working together to reduce trade waste and improve water quality for recycling

www.chw.net.au/news/january_1_2005.htm

Central Highlands Water (CHW) and EPA Victoria are working together to reduce trade waste flows across the Central Highlands region.

The partnership involves Central Highlands Water working closely with industrial customers such as Masterfoods Australia New Zealand, Joe White Maltings, Bulace Dyeing, Hilton Fabrics and Sutton Tools to reduce and improve the quality of trade waste discharged to treatment plants.

Central Highlands Water Chairman, Mr John Barnes says Central Highlands Water and EPA Victoria are encouraging industry to use cleaner production methods to minimise trade waste volumes and improving quality. This will improve environmental outcomes and help water reuse in the Central Highlands region.

Overseas

Draft water proofing Adelaide strategy – A thirst for change

25 January 2005

www.cwmb.sa.gov.au/news/news.asp?ID=104

After spending the winter months developing a 20 year plan for the sustainable management of Adelaide's water resources, the Water Proofing Adelaide (WPA) project has recently released the results - a draft WPA strategy "A Thirst for Change".

"If fully implemented this 20 year plan will ensure that there is enough water for the next generation, and will also protect and improve the health of the River Murray and the Adelaide Hills catchments," said Dr Don Hopgood, Chair of the WPA Strategy Advisory Committee.

"This contrasts with a potential shortage of up to 37 gegalitres forecast at the time WPA was commissioned in 2003.

"We want to know what people of the Adelaide region think of this draft strategy and are inviting them to give us their comments."

A Thirst for Change sets Adelaide three big targets for 2025:

- a reduction in water use by households and industry by 35 gegalitres;
- double the reuse of wastewater; and
- reuse of ten times as much stormwater;

Disinfection facilities at the Kununurra Wastewater Treatment Plant, WA.

www.watercorporation.com.au/media/media_detail.cfm?id=292

The Water Corporation will invest \$300,000 in new disinfection facilities at the Kununurra wastewater treatment plant to sterilise treated wastewater prior to it being discharged into the M1 irrigation channel. "The M1 channel is used to supply water from the Kununurra Diversion Dam for irrigation purposes to customers on the Ivanhoe Plains," said North West Regional Manager, Terry Hambleton.

"Customers are made aware that the water from the channel is for irrigation use only and under no circumstances should it be used for residential (potable) purposes such as showering, cooking and drinking. Water we supply to town customers for residential purposes is treated and rigorously tested, said Mr Hambleton. "We do not treat the water of the M1 channel so we could never condone this water being used for potable purposes."

Toilet-to-tap plan beats yuck factor

New York Times, Feb 2005.

Nearly five years ago, a \$US55 million water reclamation project that Los Angeles officials said would "drought-proof" the city was derailed by public outrage over the prospect of drinking water recycled from sewage. Orange County residents had no such qualms five months ago. The county broke ground on a \$487 million "toilet-to-tap" project scheduled to open in 2007, purifying enough sewage to serve 140,000 families.

Far from being repulsed at the thought of drinking reclaimed water, residents there are boasting they'll have dependable, cheaper water when imported supplies dry up and leave the rest of Southern California parched. While politics certainly played a role in the different outcomes - Los Angeles' project was quietly launched in the middle of a mayoral campaign and while support was building for San Fernando Valley secession - experts see Orange County's five year public-education as the determining factor in overcoming the inherent "yuck" factor in toilet-to-tap systems.

"We started telling people from the start that we're purifying sewage water," said Ron Wildermuth, the Communications Director for the Orange County Water District. "We have not had a group oppose the project after they've listened to the project and the alternatives." Orange County took its plan to the community, holding neighborhood pizza parties, water treatment plant tours and hundreds of public meetings where they explained how sewer water would be purified and then added to underground water supplies. Public television personality Huell Howser was also hired to narrate a video explaining how earthy-smelling wastewater will be transformed into distilled, crystal clear water.

Tampa bay water pursuing water supply plan with reclaimed water

www.watereuse.org/news/wrnews_040105.htm

Tampa Bay Water is pursuing a project that would augment the area's drinking water supply and lead to more reclaimed water for irrigation from south Tampa to Pasco County, according to a mid March Tampa Tribune article. Treated effluent from Tampa's Howard F. Current treatment plant would be discharged to the Tampa Bypass Canal, instead of Hillsborough Bay. Every gallon of treated effluent added to the bypass canal would allow Tampa Bay Water to take the same amount of drinking water, possibly adding as much as 17 million gallons a day to the region's water supply.

from page 10

Tampa, Hillsborough, and Pasco would use the treatment plant's wastewater to expand reclaimed water systems for lawn irrigation, reducing the amount of drinking water used to irrigate lawns, which accounts for 40 percent or more of household water use. The Florida Department of Environmental Protection will have to approve a permit for the project to be implemented.

For the full article, visit: tampatrib.com/floridametroneews/MGB0DGUD76E.html

Santa Rosa Considers Recycled Water Reservoirs for New Housing Development

www.watereuse.org/news/wrnews_040105.htm

By 2015, more than 1,600 new Rohnert Park (California) homes could be using recycled water to irrigate their front yards, making the project among the largest residential reuse projects in the state, according to an article in The Press Democrat. The lead developer of 1,610 homes planned along Rohnert Park's eastern border has requested approval from the Santa Rosa Board of Public Utilities to build three wastewater storage ponds capable of storing up to 10 million gallons of recycled water. If the \$18 million project is built, it would be the largest reuse project in Santa Rosa since the \$205 million Geysers' wastewater-to-electricity project went operational in December 2003.

The ponds, which would be filled during the winter, would be drained during the spring and summer to irrigate the front yards of 880 homes, the front and back yards of 730 multifamily units, and several acres of commercial development planned within the nearly 300-acre area.

For the full article, visit: www1.pressdemocrat.com/apps/pbcs.dll/article?AID=/20050316/NEWS/503160334/1033/NEWS01

Water reuse & recycling 2005

April 18-20, 2005. Carlton Crest, Sydney

<http://www.iir.com.au/conferences/>

Water reuse & recycling 2005 will examine the technical, environmental and political issues surrounding water reuse and recycling in Australia. It features expert speakers from across government, academic and industry sectors and will include best practice Australian case studies and the latest scientific research.

Ozwater

May 5-11, 2005. Townsville and Brisbane.

www.awaozwater.net

Nearly 200 booths will be on display at OZWATER 2005, Watershed, from May 8-11, in Brisbane. Of course, everyone in the business is there too, so it's a golden opportunity to catch up with clients and colleagues.

9th Annual Water Reuse Research Conference

May 23-24, 2005. Orlando, Florida.

www.WateReuse.org/Foundation/2005conf

The WateReuse Foundation's Research Conference will be held at the Wyndham Orlando Resort in Orlando, Florida on May 23-24, 2005. The theme for this year's conference, "Research: Reaching for Tomorrow Solutions", underscores the need for research to generate scientific breakthroughs in water reuse and desalination to meet the water supply needs of the 21st century.

The Conference is designed as a forum for the water community to interact, network, and discuss the results of the latest research on water reuse and desalination. The "single track" program provides a focused and unique opportunity for water reuse and desalination professionals to learn about new developments and trends emerging from current and ongoing research on innovative water reuse and desalination technologies, applications and projects.

The deadline for receiving the early registration rate is April 25, 2005.

The World's Water Event - AWWA Annual Conference and Exposition

June 12-16, 2005. San Francisco, California.

www.awwa.org/ace2005





20th Annual WaterReuse Symposium

September 18-21, 2005. Denver, USA.

www.WateReuse.org

WaterReuse Symposium, the world's premier conference devoted to water reuse and now expanded to include desalination, is also sponsored by the American Water Works Association and the Water Environment Federation.

The theme for the 2005 Symposium, which will be held at the Hyatt Regency in Denver on September 18-21, 2005 is "Water Reuse & Desalination: Mile-High Opportunities". The Symposium includes technical sessions on water reuse and desalination, workshops, networking receptions and technical tours of innovative water reuse projects.

For more information, please contact:

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On-site '05 Conference

September 26-30, 2005. Armidale, NSW.

www.lanfaxlabs.com.au/onsite05

The conference theme is "Performance Assessment for On-site Systems: regulation, operation and monitoring" and will be held at the University of New England, Armidale NSW.

International keynote speaker Dr Richard Otis, from Ayres Associates Wisconsin USA, will lead three other keynote speakers: Ted Gardner from Department Natural Resources and Mines, Queensland; John Lawrey from EWS Environmental in Melbourne, ex VicEPA; and Andrew Dakers from ecoEng Limited Christchurch NZ.

A total of 50 oral presentations, two workshops and trade displays will occupy three full and exciting days, and more than 220 delegates are expected to attend from all parts of Australia, New Zealand and several from USA.

A call for papers is presently open to persons wishing to disseminate their research across the profession and to a captured audience of like minded people. Details of

the conference and a printable brochure are available at: www.lanfaxlabs.com.au/onsite05

or by emailing the coordinator, Dr Robert Patterson: rob@lanfaxlabs.com.au

Wastewater Reclamation and Reuse for Sustainability

November 8-11, 2005. Jeju, Korea.

IWA Speciality Conference wrtc.or.kr/wrrs2005

Water is essential to human life as well as to wild lives. However, with the great increase of water demand, the shortage of water resources poses significant threats in many countries. Thus, water reuse draws a great attention as a potential breakthrough against water problems. This conference aims to bring together international experts in the field of water reclamation and sustainable reuse to exchange their experience and knowledge. It will provide an excellent atmosphere for promoting the latest ideas and cutting-edge technologies, together with the opportunity to review quickly the most recent developments in water reuse technology for water environment.

Topics of interest include but are not limited to:

1. Biofilm and Membrane Bio Reactor (MBR)
2. Filtration Technology (Membrane, GAC/PAC, Sand, etc.)
3. Natural System Technology (SAT, Lake/River Bank Filtration)
4. Micropollutants Measurement and Control
5. Disinfection and Oxidation for Pathogens and Micropollutants
6. Health and Risk Assessment
7. Treatment Process Monitoring
8. Regulation, Policies, and Planning
9. Case Studies
10. Desalination

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.

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