

WATER LINES



Dr Andrew McCowan
Director

Welcome

I am delighted to welcome you to the first issue of our company newsletter Water Lines.

Since we began in June 2000, Water Technology has grown to become a leading provider of water related consultancy services both within Australia and overseas. Initially, much of our work was focussed on the application of state-of-the-art numerical models, flooding and coastal engineering investigations. Over time, however, we have steadily broadened our skills base to include stream and floodplain management, environmental flows, water quality investigations and stormwater management (including water sensitive urban design and stormwater re-use and recycling). This expansion has been achieved partly through selective recruitment of specialist engineers and scientists, and partly through strategic alliances with independent specialists.



Steve Clark
Director

New Brisbane Office

It is with great pleasure that Water Technology announces the establishment of a Brisbane office. After six years of operation and growth of our Melbourne based practice, we are now closer to our clients and industry partners in Queensland and northern New South Wales. With a Brisbane base we are ideally placed to offer our full range of services in this rapidly evolving market.

Water Technology, Brisbane, brings the same commitment to quality outcomes and technical excellence for our clients and the general community that has been the cornerstone of our success in Melbourne.

In a recent review of our Business Plan we identified five core values that form the basis of the way in which we want to work. These are:

Technical Excellence:

to be the best at what we do

Client Responsiveness:

to provide cost effective solutions in a timely manner

Sustainable Growth:

to meet industry demand

Staff Satisfaction:

to be a place where people want to work

Profitability:

to maintain a good return for our shareholders

To ensure these values are maintained, we will continue to be a leader in the application of high level numerical modelling tools, maintain our client focus, recruit the best available staff and promote on-going training and professional development.

Water Technology is wholly employee owned, with 50% of full-time professional staff being shareholders, and we are proud of an open culture whereby all staff can have a say in the way in which the company is run. With our people, tools and expertise, we believe we are well equipped to meet the challenges of the future.

I wish you all a Happy Christmas and a safe and prosperous New Year.

As many of you are aware, I am originally from South East Queensland. Having spent the last 10 years based in Victoria, providing consultancy services predominantly in southern Australia and China, I am returning to Brisbane where I commenced my career. As manager of the Brisbane office, I am enjoying re-establishing my links with the water and environment sectors in the region.

I would like to welcome Anita Huber to our Queensland operations. Anita has recently completed a research Masters in the hydrodynamics of lakes associated with mining operations at the University of Western Australia and we look forward to her commencing with us in December.

Water Technology's establishment of a permanent base in Brisbane is both exciting and challenging. My team and I are looking forward to developing further collaborative partnerships in the Queensland water and environment sectors.



Inside:

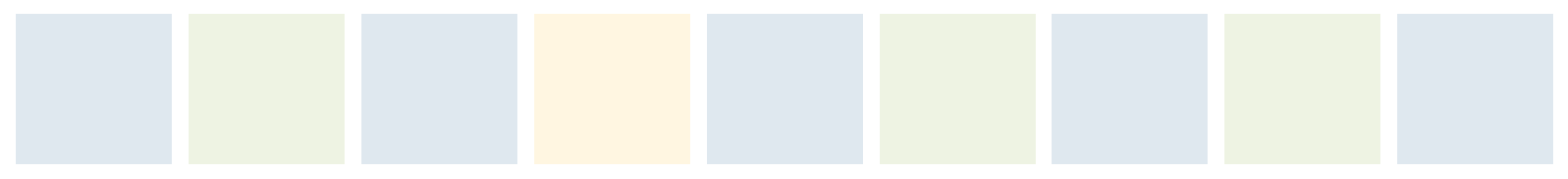
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Congratulations to:

- Ketah Jansons on the achievement of her Chartered Engineer status
- Chris Beardshaw recently completed his Master of Engineering Sciences

News:

- Tim Womersley returns from his travels (four months) on 18 December
- Andreas Kahl has returned to Germany and is now settled back in Darmstadt



Staff Profile



Steve Muncaster
Associate

Steve joined Water Technology in June 2002 and has project managed and provided technical input in numerous waterway and flood related projects.

With a research Masters Degree in design flood estimation, Steve has developed specialist skills in a range of hydrologic analysis tasks. To further enhance his skills, Steve is currently completing a Postgraduate Certificate in River Restoration and Management at Charles Sturt University. This course furthers Steve's knowledge in geomorphology and river restoration.

Community consultation is a key component in the successful engagement of a community in the waterway/floodplain management process. Steve has taken a leading role in the community consultation component by facilitating numerous information sessions and conducting community awareness campaigns.

As a senior member of the Water Technology team, Steve has played a leading role in the development of the business over the past four years.

ISO9001 Certification

Water Technology is a third party accredited Quality Endorsed Company to ISO9001:2000. We have a comprehensive quality system that sets out the process, responsibilities and review framework for critical project tasks and business activities.

In November, a third party surveillance audit was conducted, and we are pleased to announce that Water Technology has again received endorsement of the QA system and processes. We are proud to attach the 5-ticks logo to our correspondence symbolising our commitment to quality and providing an added level of confidence to our clients and industry partners.



ISO 9001:2000 CEC22878

Shepparton-Mooroopna Flood Warning Project Commendation



The Shepparton-Mooroopna Flood Warning and Emergency Management Project recently received a commendation in the 2006 Safer Communities Awards Victorian Division. The project was undertaken in partnership with the Greater Shepparton City Council and Goulburn Broken CMA. A number of innovative products were developed to raise community awareness and improve the co-ordination of agencies responsible for flood warning and response.

Some 7,500 properties are affected in a 1 in 100 year flood event. This makes Shepparton-Mooroopna the fourth most flood prone locality in Australia.

For each flood affected property, a chart relating flood levels at a nearby stream gauge to flood behaviour at the property was developed. Such information enables the residents and business owners to understand the consequences of flood warnings at their property.

Similar flood charts could be quickly and cost effectively rolled out for other locations where flood mapping and floor levels are available. This represents an efficient means to further enhance community flood awareness.

Flood mapping is produced generally as a suite of hard copy maps and/or in a specific GIS format. These flood maps typically show flood extents, depths, flood hazard and properties affected. As part of the project, a web based flood mapping interface, Floodzone, was developed. This interface allows viewing of flood maps over the internet without the need for a particular GIS application. The interface provides a valuable tool in sharing of flood information between various agencies, particularly in co-ordinating flood response.

For further information please contact Steve Muncaster, shm@watech.com.au

Geomorphic Characterisation across the Murray Darling Basin



The Sustainable River Audit (SRA) is a program to systematically assess the river health across the Murray-Darling Basin (MDB). Within the SRA, the physical form theme aims to develop a set of indicators to assess the physical/geomorphic condition. Physical form is being assessed at both the valley scale and the reach scale. Further, the SRA has separated the development of characterisation, establishment of reference condition and assessment of condition.

The Murray Darling Basin Commission appointed a project team led by Water Technology consisting of Sandra Brizga (Sandra Brizga and Associates),

James Grove (Monash University) and Geoff Vietz (University of Melbourne) to undertake the characterisation of geomorphic features at a reach scale.

The project has examined the aspects (metrics) of physical form that have been included in numerous river health assessments and characterisation both in Australia and internationally. Typically, these previous assessments have employed field-based methods requiring a reasonable level of geomorphic interpretation. Such interpretation can introduce subjectivity to the characterisation framework. Ideally, the SRA requires the characterisation to be on a cost effective and objective basis with the ability to detect changes in geomorphic character over a 5 to 50 year timeframe. Currently, the selection of a suitable set of metrics is being undertaken.

A pilot study to refine the approach is planned early in the new year. Also, consultation with lead agencies will be conducted.

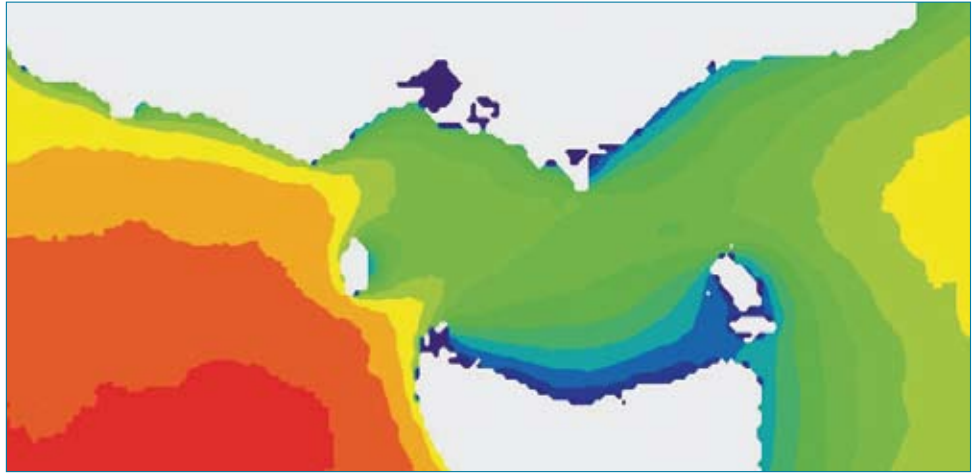
For further information please contact Steve Muncaster, shm@watech.com.au

Wave and Tidal Power along the Victorian Coastline

Ocean waves represent a considerable renewable energy resource. They travel great distances without significant losses and act as an efficient energy transport mechanism across thousands of kilometres. Waves generated in the Southern Ocean arrive at the southern coast of Australia without significant loss of energy. The highest concentrations of wave power can be found in the areas of the strongest winds, ie between latitudes 40 deg. and 60 deg. in both the northern and southern hemispheres. This means that locations such as the southern coast of Australia are highly favoured for the extraction of wave power.

Tidal power represents another sustainable renewable energy source. The potential for tidal power generation depends upon the tidal range, and the tidal current velocity. High flow velocities are generally associated with restricted entrances to large tidal embayments.

The Sustainable Energy Authority wishes to meet the sustainable energy challenge and bridge the emerging gap between the growing need for energy and what is available from sustainable sources. In partnership with the authority, Water Technology undertook extensive and detailed hydrodynamic and wave modelling



Wave Power in Bass Strait

to identify areas along the Victorian coastline where environmental conditions are sufficient to economically support wave and/or tidal power generation. This included wave and tidal modelling of Bass Strait, and tidal modelling of some of the major embayments along the Victorian coast, including Port Phillip, Western Port and Corner Inlet.

For further information please contact
Allan Charteris, abc@watech.com.au

Water Sensitive Urban Design Update

In light of the Government's target to reduce per capita drinking water consumption by 15% by 2010, it is likely that water efficiency management plans will be an increasingly important consideration for Victorian development. Given the current water restrictions in Victoria, Water Technology has been increasingly involved in designing 'fit-for-purpose' water use systems. This has focused on efficient water use by matching alternative sources (ie roof runoff, surface runoff and greywater) with appropriate uses.

Water Sensitivity Urban Design (WSUD), waterway management and on-going water quality monitoring are also important for residential and commercial developments. Over the past six months Water Technology has been involved in the preparation of surface water management plans for a number of coastal and residential projects including:

- Water quality investigations for the Martha Cove marina and canal estate development at Safety Beach
- Water quality investigations for the Copper Cove marina and canal estate development at Wallaroo in South Australia

- Water quality investigations of the proposed Wyndham Cove Marina at Werribee
- Queen Street Warragul Surface Water Management Strategy
- Canadian Heights Residential Community Surface Water Management Strategy
- Tarwin Street Warragul Surface Water Management Strategy
- Fairway Waters – Retirement village at Pakenham including extensive wetlands.

Extensive hydraulic modelling and water quality monitoring has also been successfully carried out to ensure the sustainability of a number of water bodies including marinas, constructed wetlands, ponds and small lakes.

For further information please contact
Ketah Jansons, kj@watech.com.au



Yangtze Project wins 2006 Excellence in Innovation Award



The Yangtze River Flood Control and Management Project recently won the Innovation Category of the South Australian Engineering Excellence Awards. This project, initiated by Australia's international aid agency, AusAID, was undertaken by SAGRIC International in partnership with the Changjiang Water Resources Commission.

The Yangtze River Flood Control and Management Project was initiated with an overarching goal "To reduce the loss of life, damage to property and social disruption caused by flooding in China through improved basin flood management systems."

The project involved the development of an integrated flood management system for the upper and middle reaches of the Yangtze River, with increased flood forecast accuracy, lead time and improved decision support.

Downstream of the famous "Three Gorges", the Yangtze River enters the middle reach. Some 80 million people live here among vast areas of cropland and major industrial development. For over 3000 years a complex system of levees has been constructed and continually raised in order to protect people and assets in these floodplains. While providing a measure of protection (1 in 15 year flood protection for less populated areas and 1 in 200 year flood protection for major cities such as Wuhan), there are risks associated with catastrophic failure should the levees be overtopped or fail.

Overtopping occurred in the disastrous 1954 flood and some 40,000 people perished in the middle and lower reaches of the Yangtze Basin. Following this flood, a series of substantial detention basins were constructed. When flood levels approach critical levels, the detention basins are deliberately flooded to reduce flood levels on the river and avert overtopping of the main levee systems. To function effectively, such a system requires accurate and timely flood forecasting information.

Since 2002, Water Technology staff (Steve Clark and Tim Womersley) have provided a substantial commitment to the project through long term deployments in Wuhan, China. As part of the overall Decision Support System, we have been responsible for procurement, establishment and implementation of hydraulic modelling systems. We have developed a range of one and two dimensional models of the Middle Reach of the Yangtze River for use in the Flood Forecasting and Options Analysis Systems.

For further information, please contact Steve Clark, steve.clark@watech.com.au, or visit the project website www.yangtze.sagric.com

The Team



From left to right:

Sarah Law, Andrew McCowan, Steve Clark, Steve Duggan, Steve Muncaster, Allan Charteris, Margaret Miller, Ben Tate, Claire Wade, Ketah Jansons, Warwick Bishop, Ben Hughes, Lesley Sincock, Chris Fagan, Chris Beardshaw, Simon McCowan

Absent:

Tim Womersley, Richard Connell, Anita Huber



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