

# PROGRAM TUESDAY 8 MAY 2012

**KEY**

- Award Presentations and Affiliate Streams
- Changing Times

- History and Heritage
- Rural and Regional Water
- Water and People
- Water and Wastewater Systems and Processes

Workshop (Limited capacity)



0800 - 1000	Opening Ceremony and Keynotes, Bayside Auditorium B, Chair: Peter Robinson, Director, Australian Water Association.								
0800 - 0900	Opening Ceremony								
0900 - 0930	Kevin Young, Managing Director, Sydney Water, AUSTRALIA LOOKING BACK, THINKING FORWARD. Abstract No. KEY01								
0930 - 1000	Hugh Mackay, Social Researcher, AUSTRALIA ADVANCE AUSTRALIA... WHERE? THE FACTORS RESHAPING AUSTRALIA AND THEIR IMPLICATIONS FOR WATER MANAGEMENT. Abstract No. KEY02								
1000 - 1045	Morning Tea								
	Room 204A	Room 204B	Room 203	Room 102	Room 103	Room 104	Room 105	Room 201	Room 202
1045 - 1215	<b>Floods and Flooding</b> Chair: Lee Foster, Seqwater, QLD Assistant Chair: Sally Rewell, Sydney water, NSW Session Code: 01	<b>Strategic Approach to Water</b> Chair: Peter Burgess, PBWATER Pty Ltd, ACT Assistant Chair: Ruben Muller, Sydney Water, NSW Session Code: 02	<b>Balancing Science, Technology and Social Issues</b> Chair: Michele Akeroyd, Goyder Institute for Water Research, SA Assistant Chair: Nathalie Horsfield, AECOM, WA Session Code: 03	<b>Operation and Management - Wastewater</b> Chair: Iain Fairbairn, Sydney Water, NSW Assistant Chair: Jaques Ostrowski, Sydney Water, NSW Session Code: 04	<b>Wastewater Treatment - Membranes</b> Chair: Stuart Khan, University of New South Wales, NSW Assistant Chair: Anna Yeung, University of New South Wales, NSW Session Code: 05	<b>Water Treatment</b> Chair: Richard Stuetz, University of New South Wales, NSW Assistant Chair: Will Lawler, University of NSW Session Code: 06	<b>Undergraduate Water Prize Presentations and Judging</b> Chair: Richard Stuetz, University of New South Wales, NSW Assistant Chair: Will Lawler, University of NSW Session Code: 07	<b>Sydney Water presents: Future Sydney</b> - Meeting the challenge of urban growth in the Sydney Metropolitan area Facilitators: Adrian Miller   Manager Growth Strategy, Urban Growth, Sydney Water, NSW Session Code: WS01	
1050 - 1115	<b>Peter Donaghy, AECOM, QLD</b> MANAGEMENT OF RESIDUALS PRODUCTION DURING EXCESSIVE WET WEATHER EVENTS AT WATER TREATMENT PLANTS Abstract No. 001	<b>Paul Mulley, Sydney Water, NSW and Damien Connell, City West Water, VIC</b> PARTNERING TO BENCHMARK BUSINESS WATER EFFICIENCY AT A NATIONAL LEVEL Abstract No. 004	<b>Josh Tickell, NSW Public Works, NSW</b> BRACKISH GROUNDWATER DESALINATION: A VIABLE COMMUNITY WATER SUPPLY OPTION? Abstract No. 007	<b>Scott McPhee, Water Corporation, WA</b> CRITICAL CONTROL POINT MONITORING AND REPORTING FOR WASTEWATER SYSTEMS Abstract No. 010	<b>Geoffrey Frost, Parsons Brinckerhoff Australia, VIC</b> TREATMENT OF HIGH DOC/TDS INDUSTRIAL WASTEWATER BY NANOFILTRATION AND REVERSE OSMOSIS Abstract No. 013	<b>Craig Jakubowski, Hunter Water Australia, NSW</b> TREATED WATER STABILISATION FOR PH CONTROL IN TWEED SHIRE Abstract No. 016	<b>019 - UWPO1</b> 1050 - 1105 <b>Mathew Dimoski, University of Wollongong, NSW</b> CONTAMINATED GROUND WATER: MEASURES TO ELIMINATE EXPOSURE PATHWAYS IN A RESIDENTIAL/ COMMERCIAL DEVELOPMENT <b>019 - UWPO2</b> 1107 - 1122 <b>Joshua Putnam, University of New South Wales, NSW</b> OPTIMISING FLOC STRUCTURE AND STRENGTH IN COAGULATION FLOCCULATION OF ALGAL CELLS <b>019 - UWPO3</b> 1124 - 1139 <b>Ronnie Ling, University of Adelaide, SA</b> OPTIMUM USE OF SUBSIDIES FOR REDUCING DOMESTIC WATER CONSUMPTION <b>019 - UWPO4</b> 1141 - 1156 <b>Ana Martins, RMIT University, VIC</b> DEVELOPMENT OF A PORTABLE FLOW INJECTION ANALYSIS SYSTEM FOR THE DETECTION OF HERBICIDES USING CHEMILUMINESCENCE <b>019 - UWPO5</b> 1158 - 1213 <b>Raphael Flavigny, Murdoch University, WA</b> AMMONIA RECOVERY FROM WASTEWATER USING A MICROBIAL ELECTROLYSIS CELL	The workshop objective is to provide a forum for discussion and development of practical initiatives for Water Utilities to partner with the Development Industry to deliver Urban Growth that meets the vision of Future cities.  The Sydney Metropolitan Strategy aims to enhance liveability, strengthen economic competitiveness, ensure fairness, protect the environment, and improve governance. The strategy forecasts 769,000 new dwellings by 2036. Approximately 70% of the new dwellings are to be located in the existing urban footprint and 30% in new release area. The investment in water infrastructure to service that growth over the next 5 years is \$1 billion. 90% of that investment is required to service development in the new release areas. Developers are constrained in the rate at which they can bring lots to market due to the limitation of available infrastructure.	
1120 - 1145	<b>Richard Marks, KBR, SA</b> AUSTIN TEXAS WALLER CREEK TUNNEL FLOOD CONTROL TAX INCREMENT FINANCING AND ENTRAINMENT AIR BLOW BACK RISK MANAGEMENT Abstract No. 002	<b>Mark Sullivan, ACTEW Corporation, ACT</b> IN THE MIDDLE OF THE BASIN AND POLITICS: A CAPITAL STORY Abstract No. 005	<b>Andrew Bath, Water Corporation, WA</b> OUTCOMES FROM WA PARLIAMENTARY INQUIRY - RELEVANCE TO SOURCE PROTECTION, RECREATION AND SUSTAINABILITY Abstract No. 008	<b>Ramon Ganigue, Advanced Water Management Centre - University of Queensland, QLD</b> ONLINE CONTROL OF MAGNESIUM HYDROXIDE DOSING FOR SULFIDE MITIGATION IN SEWERS Abstract No. 011	<b>Amarnath Reddy, SeqWater, QLD</b> POST-CONSTRUCTION AUTOMATION OF MF/RO SYSTEMS WITHIN A LARGE ADVANCED WATER REUSE PLANT FOR INTERMITTENT OPERATION Abstract No. 014	<b>Emme Sawade, SA Water, AWQC, SA</b> DEVELOPMENT AND VALIDATION OF THE BIOLOGICAL FILTRATION POTENTIAL TEST FOR THE REMOVAL OF CYANOBACTERIAL METABOLITES Abstract No. 017			
1150 - 1215	<b>Simon Toze, CSIRO, QLD</b> PATHOGEN DECAY IN A RESERVOIR IMPACTED BY THE JANUARY FLOODS Abstract No. 003	<b>Dan Stevens, Opus International Consultants and Tracey Willmot, Dunedin City Council, NEW ZEALAND</b> DUNEDIN THREE WATERS - A TIME FOR CHANGE Abstract No. 006	<b>Jarrah Muller, Sinclair Knight Merz, SA</b> PROTECTING CONCURRENT USE OF THE DE GREY RIVER ALLUVIAL AQUIFER FOR MINING, ECOSYSTEMS AND WATER SUPPLY Abstract No. 009	<b>Ray Mizzi, Industrial Plant &amp; Service Australia Pty Ltd, WA</b> NEW ODOUR CONTROL TECHNOLOGY DEALS WITH DIFFICULT ODOURS - A CASE STUDY FROM ONE OF EUROPE'S LARGEST WWTP Abstract No. 012	<b>Craig Heidenreich, Allwater, SA</b> FULL SCALE MS2 TESTING OF THE GLENELG RWTP UF MEMBRANE PROCESS Abstract No. 015	<b>Lionel Ho, SA Water Corporation, SA</b> FATE OF CYANOBACTERIAL METABOLITES IN LAKE BURRAGOBRANG Abstract No. 018			
1215 - 1315	Lunch								
1315 - 1515	<b>Policy, Regulation and Legislation</b> Chair: Kate Miles, AECOM, NSW Assistant Chair: Sally Rewell, Sydney water, NSW Session Code: 08	<b>Strategic Approach to Water</b> Chair: Paul Freeman, Sydney Water, NSW Assistant Chair: Ruben Muller, Sydney water, NSW Session Code: 09	<b>History and Heritage</b> Chair: Key Price, Tetra Tech Australia, WA Assistant Chair: Nathalie Horsfield, AECOM, WA Session Code: 10	<b>Operation and Management - Water</b> Chair: Cheryl Marvell, Sydney Water, NSW Assistant Chair: Jaques Ostrowski, Sydney Water, NSW Session Code: 11	<b>Wastewater Treatment - Membranes</b> Chair: Andrew Kasarik, Sydney Water, NSW Assistant Chair: Bradford-Hartke, University of New South Wales, NSW Session Code: 12	<b>Water Treatment</b> Chair: Tony Cartright, Sydney Water, NSW Assistant Chair: Anna Yeung, University of New South Wales, NSW Session Code: 13	<b>AWA Program Innovation Award Finalist Session [1315 - 1415]</b> <b>AWA Infrastructure Project Innovation Award Finalist Session [1415 - 1515]</b> Chair: Bruce Pollard, ALS Environmental, VIC Assistant Chair: Will Lawler, University of NSW Session Code: 14	<b>Sydney Water presents: Water recycling - who really benefits? Who really pays?</b> Facilitators: Darryl Lloyd, Manager, Recycled Water Development, Sydney Water Corporation, NSW Session Code: WS03	<b>AWA WASH Specialist Network presents: Water safety planning - the planning is in your hands!</b> Facilitator: Asoka Jayaratne, Infrastructure Planning Division, Yarra Valley Water, VIC Assistant: Nat Newman, Australian Water Association Session Code: WS04
1320 - 1345	<b>Chris Davis, National Water Commission, ACT</b> NATIONAL PERFORMANCE REPORTS: RURAL WATER SERVICE PROVIDERS AND URBAN WATER UTILITIES Abstract No. 022	<b>Ian White, Brisbane, QLD</b> WHAT DO URBAN WATER RESTRICTIONS REALLY COST? Abstract No. 026	<b>Ross Young, GHD, VIC</b> A BRIEF HISTORY OF WATER RIGHTS: DID ALFRED DEAKIN GET IT RIGHT IN 1886? Abstract No. 030	<b>Darren Bailey, Hunter Water Australia, NSW</b> LESSONS - FOURTEEN YEARS OF TREATMENT OPERATIONS IN THE HUNTER Abstract No. 034	<b>Trang Trinh, University of New South Wales, NSW</b> FATE OF ENDOCRINE DISRUPTING CHEMICALS DURING WASTEWATER TREATMENT BY A MEMBRANE BIOREACTOR Abstract No. 038	<b>Kamal Fernando, NSW Public Works, NSW</b> LESSONS LEARNT FROM LAKE CARGELLIGO WATER SUPPLY Abstract No. 042			
1350 - 1415	<b>Amanda Chadwick, Independent Pricing and Regulatory Tribunal, NSW</b> CONTEMPORARY CHALLENGES OF THE ECONOMIC REGULATION OF THE WATER INDUSTRY Abstract No. 023	<b>Darren Broad, Optimatics, SA</b> OPTIMISING THE OPERATION OF SOUTH AUSTRALIA'S BULK WATER SUPPLY SYSTEM Abstract No. 027	<b>Mark Pekin, Australian Antarctic Division, TAS</b> WATER SUPPLY AT DAVIS, ANTARCTICA - A HISTORY OF HARDSHIP Abstract No. 031	<b>Glenn Fernandes, NSW Public Works, NSW</b> STRESS TESTING OF A WATER TREATMENT PLANT THROUGH PILOT PLANT SIMULATION Abstract No. 035	<b>Ashok Aryal, Curtin University, WA</b> APPLICATION OF BIOLOGICAL ACTIVATED CARBON TO REDUCE FOULING ON NANO FILTRATION MEMBRANE Abstract No. 039	<b>Julie Culbert, SA Water, SA</b> OCCURRENCE AND MANAGEMENT OF NITROSAMINES IN AUSTRALIAN DRINKING AND RECYCLED WATER Abstract No. 043	This panel session includes presentations from: <b>Ellen Schwab, Actew Corporation, ACT</b> COTTER DAM EDUCATION PROGRAM <b>Ion Maggs, Water Directorate and Local Government and Shires Association, NSW</b> WATER LOSS MANAGEMENT PROGRAM FOR REGIONAL NSW WATER UTILITIES <b>Angela Ganley, City West Water, VIC</b> STEAM SYSTEM EFFICIENCY PROGRAM <b>John Brennan, Water Corporation/ Department of Water/ ICLEI, WA</b> WATERWISE COUNCIL PROGRAM	<b>Presenters:</b> <b>Darryl Lloyd, Recycled Water Development, Sydney Water, NSW</b> <b>Andrea Turner, Research Director, Institute for Sustainable Futures, NSW</b> <b>Phil Pickering, Director, Marsden Jacobs Associates, NSW</b> <b>Rachel Watson, PhD Candidate, University of Technology, NSW</b>	<b>David Sutherland, Regional Coordinator, Asia Pacific Region, WHO, Bangkok, THAILAND</b> OVERVIEW OF WHO GLOBAL WSP INITIATIVE: WSP ACTIVITIES IN ASIA PACIFIC REGION <b>Mien Ling Chong, WSP Network Coordinator, WHO, Manila, Philippines</b> OVERVIEW OF WHO GLOBAL WSP INITIATIVE: ASIA PACIFIC REGION <b>Asoka Jayaratne, Water Quality Specialist, Yarra Valley Water, VIC</b> WSP CONCEPTS & TOOLS/ CASE STUDIES FROM URBAN WATER UTILITIES IN VIETNAM, INDIA AND PHILIPPINES <b>Kathryn Green, Power and Water Corporation, NT</b> CASE STUDIES FROM RURAL WATER SUPPLIES IN NEPAL AND NORTHERN TERRITORY Group Work APPROACH TO DEVELOP WSPS IN URBAN, RURAL AND COMMUNITY SETTINGS Group Work Presentations Q&A SESSION <b>Nicole Teo, SKM, Australia</b> NEXT STEPS
1420 - 1445	<b>Richard Priman, Department of Environment and Resource Management, QLD</b> A RATIONALE FOR ASSESSING AND RESPONDING TO URBAN WATER SECURITY RISKS - A THINK PIECE Abstract No. 024	<b>Graeme Dandy, University of Adelaide, SA</b> INTERACTIONS BETWEEN ENERGY, GREENHOUSE GAS EMISSIONS AND CLIMATE FOR URBAN WATER SUPPLY Abstract No. 028	<b>Yvonne Kaiser-Glass, Sydney Water Corporation, NSW</b> SYDNEY'S SWAMP SOURCED WATER SUPPLY (1788-1886) Abstract No. 032	<b>David Brooker, Mackay Regional Council, QLD and Chris Andrews, Taggle Systems, NSW</b> COST EFFECTIVE DOMESTIC AMR - AN AUSTRALIAN FIRST Abstract No. 036	<b>Katie Jones, Hunter Water Australia, NSW</b> LESSONS - MEMBRANE BIOREACTOR COMMISSIONING AND OPERATION Abstract No. 040	<b>Peta Thiel, Research Laboratory Services, VIC</b> BIODEGRADABLE DISSOLVED ORGANIC CARBON (BDOC) AND ASSIMILABLE ORGANIC CARBON (AOC) IN DRINKING AND RECYCLED WATER PLANTS Abstract No. 044			
1450 - 1515	<b>Freya Hartley, Sydney Water, NSW</b> EXAMINING THE LIKELY IMPACTS OF A CARBON PRICE USING SUPPLY CHAIN CARBON FOOTPRINTS Abstract No. 025	<b>Gordon Kennedy, USA</b> EVOLUTION OF ALTERNATIVE WATER SUPPLIES IN CAPE CORAL FLORIDA: IMPLICATIONS FOR A THIRSTY CONTINENT Abstract No. 029	<b>Joel Byrnes, AECOM, VIC</b> AUSTRALIA'S URBAN WATER INSTITUTIONS - A SHORT HISTORY Abstract No. 033	<b>Andrew Crawford, Water Corporation, WA</b> OPTIMAL SCHEDULING OF SOURCES IN AN INTEGRATED WATER SUPPLY SYSTEM Abstract No. 037	<b>Yogeshwar Gokhale, CH2M HILL, NSW</b> SAVINGS AND BENEFITS OF MBR ON THE HUNTER TREATMENT ALLIANCE Abstract No. 041	<b>Erik Tynes, GHD Pty Ltd, WA</b> FLUX BALANCED RO DESIGN FOR A HIGHLY VARIABLE FEED WATER Abstract No. 045	This panel session includes presentations from: <b>Chris Webb, Bulk Water Alliance, ACT</b> GOOGONG DAM SPILLWAY REMEDIATION <b>Linda Gyzen, AquaNet Sydney (a Division of Jemena Group), NSW</b> ROSEHILL RECYCLED WATER SCHEME <b>Christian Truscott, Logan Water Alliance, QLD</b> LOGAN WATER ALLIANCE <b>Michael Durkay, Department for Water, SA</b> UPPER SOUTH EAST DRYLAND SALINITY AND FLOOD MANAGEMENT PROGRAM <b>Tim Grogan, Aqua Guardian Group, VIC</b> AQUAARMOUR™ DEPLOYMENT - EVAPORATION AND ALGAL CONTROL <b>Peter Spencer, Water Corporation, WA</b> CALCITE FOR pH AND ALKALINITY CORRECTION		
1515 - 1600	Afternoon Tea								
1600 - 1730	<b>Policy, Regulation and Legislation</b> Chair: Mark Bartley, DLA Piper, VIC Assistant Chair: Sally Rewell, Sydney Water, NSW Session Code: 15	<b>Strategic Approach to Water</b> Chair: Erin Cini, Element Solutions, NSW Assistant Chair: Ruben Muller, Sydney Water, NSW Session Code: 16	<b>Specific Water Basins</b> Chair: Tony Church, SKM, NSW Assistant Chair: Nathalie Horsfield, AECOM, WA Session Code: 17	<b>Operation and Management - Water</b> Chair: Karen Eaton, UGL Infrastructure, NSW Assistant Chair: Jaques Ostrowski, Sydney Water, NSW Session Code: 18	<b>Wastewater Treatment</b> Chair: Richard Stuetz, University of New South Wales, NSW Assistant Chair: Zerah Bradford-Hartke, University of New South Wales, NSW Session Code: 19	<b>Water Treatment</b> Chair: Ivan Reolon, Aquatec-Maxxon, University of New South Wales, NSW Assistant Chair: Anna Yeung, University of New South Wales, NSW Session Code: 20	<b>American Water Works Association and Australian Water Association presents: Managing the Perfect Storm: Rising costs, expanding infrastructure, but no price rises please</b> Moderator: Peter Moore, Water Corporation, WA Assistant Chair: Will Lawler, University of NSW Session Code: 21	<b>Australian Water Recycling Centre of Excellence presents: Overcoming barriers to the acceptance of potable reuse as an alternative water source</b> Facilitator: Gary Bickford, Director, Nestis Consulting, NSW Session Code: WS05	<b>AWA Asset Management Specialist Network presents: Practical Implications for the Water Industry of the ISO Standard Asset Management</b> Facilitator: Chris Adam, National Convenor, AWA Asset Management Specialist Network Assistant: Laura Evanson, Australian Water Association Session Code: WS06
1605 - 1630	<b>Frank Spaninks, Sydney Water, NSW</b> A NEW APPROACH TO FORECASTING DEMAND IN SYDNEY Abstract No. 050	<b>Owen Phillis, Melbourne Water and Neil Moody, Urban Water Solutions, VIC</b> SEWAGE RESOURCE MANAGEMENT - A MODELING TOOL TO INFORM THE STRATEGIC DECISION MAKING PROCESS Abstract No. 053	<b>Vincent Puech, SKM, VIC</b> WATER BALANCE TOOL DEVELOPMENT AND APPLICATION TO THE UPPER-CAMPASPE AND UPPER-LODDON CATCHMENTS Abstract No. 056	<b>Amanda Byrne, SA Water, SA</b> NETWORK IMPLICATIONS OF BLENDING DESALINATED WATER INTO A DISTRIBUTION SYSTEM: A MODELLING APPROACH Abstract No. 059	<b>Cindy Wallis-Lage, Black &amp; Veatch, USA</b> PHOSPHORUS RECOVERY WITH A NEW ULTRA-LOW ADSORPTION PROCESS Abstract No. 062	<b>Kathy Northcott, Veolia Water Australia, VIC</b> TROUBLESHOOTING BAC FILTER HEADLOSS ISSUES AFTER RAW WATER QUALITY CHANGES Abstract No. 065	This interactive discussion will explore further the current and emerging pressures on our water utilities. How are they responding, what options are open to them and what does the future hold. Panelists - AWWA <b>Craig Woolard, General Manager, Anchorage Water and Wastewater Utility, Anchorage, AK, USA</b> <b>Nilaksh Kathari, General Manager, Manitowoc Public Utilities, WI, USA</b> <b>Rich Nagel, General Manager, West Basin Municipal Water District Board, CA, USA</b> Panelists - AWA <b>Jon Black, Chief Executive Officer, Unitywater, QLD</b> <b>Eleanor Underwood, Chairman, Melbourne Water, VIC</b> <b>Kim Wood, Managing Director, Hunter Water, NSW</b> Session Code: 68	<b>Ian Law, IBL Solutions, Australia</b> WELCOME <b>Gary Bickford, Nestis Consulting, NSW Australia</b> WORKSHOP PURPOSE <b>Marsi Steier, Deputy Water Department Director, San Diego, USA</b> SAN DIEGO'S TOILET TO TAP EXPERIENCE <b>Catherine Ferrari, General Manager Communications, Water Corporation, WA, Australia</b> AUSTRALIA'S INTEREST IN THE DEVELOPMENT OF THE ISO STANDARD <b>Carly Price, Technical Analyst, IPART regulator's PERSPECTIVE</b> Group Work <b>Chris Adam, National Convenor, AWA Asset Management Specialist Network</b> WRAP UP AND CLOSE	
1635 - 1700	<b>Paul Byleveld, NSW Health, NSW</b> PUBLIC HEALTH ACT 2010 DRINKING WATER RISK MANAGEMENT IN NEW SOUTH WALES Abstract No. 051	<b>Storm Stickland, SEQ Water Grid Manager and James Moffatt, LinkWater, QLD</b> WATER SUPPLY RESILIENCE - A GRID FOR ALL SEASONS Abstract No. 054	<b>Anne Pye, Department of Natural Resources, Environment, the Arts &amp; Sport, NT</b> SUSTAINABLE GROUNDWATER MANAGEMENT IN THE ARID ZONE Abstract No. 057	<b>James Link, savewater! Alliance Inc. and Tony Campbell, Yarra Valley Water, VIC</b> EASYFILL™ - WATER TANKER BILLING AND MANAGEMENT SYSTEM - HOW TO IMPROVE HYDRANT PERMIT MANAGEMENT Abstract No. 060	<b>Humphrey Archer, Beva Infrastructure Ltd and Stuart Donaldson, Marlborough District Council, NEW ZEALAND</b> TURNING WINE INTO WATER - COPING WITH RAPID GROWTH IN WINERY WASTEWATER AT THE BLENHHEIM WASTEWATER TREATMENT PLANT Abstract No. 061	<b>David Leinster, Aquatec-Maxxon Pty Ltd, QLD</b> THE USE OF FENTON'S REAGENT TO REDUCE MEMBRANE FOULING IN POTABLE WATER REUSE PLANTS Abstract No. 066			
1705 - 1730	<b>Annalisa Contos, Atom Consulting, NSW</b> NOW YOU SEE IT: APPLYING BOW TIE ANALYSIS TO WATER QUALITY RISKS Abstract No. 052	<b>Jason Ruszczyk, Warrigah Council, NSW</b> MULTIPLE LINES OF EVIDENCE - INVESTIGATING ECOLOGICAL CONDITION TO IMPROVE STRATEGIC MANAGEMENT IN MANLY LAGOON Abstract No. 055	<b>Maree Abood, Office of the Hawkesbury-Nepean, NSW</b> PEOPLE AND THEIR RIVER: INTEGRATED MANAGEMENT OF THE HAWKESBURY-NEPEAN RIVER, NSW Abstract No. 058	<b>Andrew Chua, Water Corporation, WA</b> APPLICATION OF WASTEWATER PROCESS CONTROL TABLES TO MANAGE AND IMPROVE WASTEWATER OPERATIONS Abstract No. 061	<b>Ben van den Akker, Water Research Centre UNSW, NSW</b> VALIDATION OF A FULL-SCALE MEMBRANE BIOREACTOR FOR WATER RECYCLING AND CHARACTERISING PROCESS VARIABILITY Abstract No. 064	<b>Peter Baudish, SKM, NSW and Lee Foster, Seqwater, QLD</b> THE USE OF CFD MODELLING TO IMPROVE CONVENTIONAL WATER TREATMENT FLOW AND CHEMICAL MIXING Abstract No. 067			
1730 - 1830	Happy Hour - Ozwater Exhibition								

PROGRAM - TUESDAY

# PROGRAM WEDNESDAY 9 MAY 2012

## KEY

- Award Presentations and Affiliate Streams
- History and Heritage
- Water and People
- Changing Times
- Rural and Regional Water
- Water and Wastewater Systems and Processes
- Workshop (Limited capacity)



0810 - 1000										
Keynote Session, Bayside Auditorium B, Chair: Lucia Cade, President, Australian Water Association										
James Cameron, Chief Executive Officer, National Water Commission, AUSTRALIA AUSTRALIA'S WATER FUTURE - CHALLENGES AND OPPORTUNITIES. Abstract No. KEY03										
Herbert Dreiseitl, Atelier Dreiseitl, GERMANY ECOLOGICAL WATERSCAPES - THE ART OF CONSENSUS FOR SITE-RESPONSIVE INTERVENTIONS AND URBAN INVESTMENT. Abstract No. KEY04										
Xavier Lefaive, Principal Administrator, OECD Environment Directorate, FRANCE THE WATER OUTLOOK TO 2050. Abstract No. KEY05										
1000 - 1045										
Morning Tea										
Room 203	Room 204A	Room 204B	Room 105	Room 102	Room 104	Room 103	Room 201	Room 202		
<p><b>1045 - 1215</b></p> <p><b>Community Consultation and Community Participation</b> Chair: Walter King, Vienna Waterworks, AUSTRIA Assistant Chair: Jo McNam, Hunter Water, NSW Session Code: 22</p>	<p><b>Climate Change - Adaptation</b> Chair: Therese Flapper, GHD, ACT Assistant Chair: Juan Pablo Alvarez, University of New South Wales, NSW Session Code: 23</p>	<p><b>Future Cities</b> Chair: Rod Lehmann, Water Strategies Pty Ltd, QLD Assistant Chair: Trevor Lynn, Emerson Stewart, NSW Session Code: 24</p>	<p><b>Operation and Management</b> Chair: Paul Macinante, SKM, NSW Assistant Chair: Sam Dransfield, Sydney Water, NSW Session Code: 25</p>	<p><b>Asset Management</b> Chair: Kim Falster, Downer Australia, SA Assistant Chair: Amos Branch, University of New South Wales, NSW Session Code: 26</p>	<p><b>Water Treatment</b> Chair: Peter McCafferty, ChemCentre, WA Assistant Chair: Amos Branch, University of New South Wales, NSW Session Code: 27</p>	<p><b>Water Services Association of Australia presents:</b> Updating the National Urban Water Reform Agenda Session Code: 28</p>	<p><b>AWA Water Law and Policy Specialist Network presents:</b> Sustainable Development in Water Management: Regulatory vs Market Approach Facilitator: Jennifer McKay, Director, Centre for Comparative Water Law and Policy, University of South Australia, SA Assistant: Nat Newman, Australian Water Association Session Code: WS07</p>	<p><b>AWA Water Efficiency Specialist Network presents:</b> The future role of water efficiency in Australia: developing and promoting a common approach Facilitator: Damien Connell, Contract Manager, Smart Water Fund, Melbourne, VIC, Australia Assistant: Ann Hinchliff, Australian Water Association Session Code: WS08</p>		
<p><b>1050 - 1115</b></p> <p><b>Paul O'Donohue, Central Highlands Water and Jessie Harman, University of Ballarat, VIC</b> DURABILITY OF WATER CONSERVATION BEHAVIOURS IN THE HOME: PERSISTENT OR TRANSIENT? Abstract No. 071</p>	<p><b>Selvaratnam Maheswaran, Sydney Catchment Authority, NSW</b> CLIMATE CHANGE IMPACT ASSESSMENT FOR SYDNEY'S WATER SUPPLY Abstract No. 074</p>	<p><b>Matthew Ferguson, Sydney Water, NSW</b> A 12-MONTH RAINWATER TANK WATER SAVINGS AND ENERGY USE STUDY FOR 52 REAL LIFE INSTALLATIONS Abstract No. 077</p>	<p><b>Stan McLeod, SA Water Centre for Water Management and Reuse, SA</b> EMERGING MONITORING TECHNIQUES FOR AMMONIA IN CHLORAMINATED WATER SUPPLIES Abstract No. 080</p>	<p><b>Paul Louws, Western Water, VIC</b> SEWAGE SPILL PREVENTION STRATEGY Abstract No. 083</p>	<p><b>Yaoda Yan, Hunter Water Australia, NSW</b> USE OF POWDERED ACTIVATED CARBON FOR THM CONTROL REVISITED Abstract No. 086</p>	<p>The purpose of this session is for the urban water industry to gather together to inform the National agenda by writing a new roadmap for where the industry should head over the next 10 years. This is critical in the context of the recent NWC and Productivity Commission reviews.</p>	<p><b>Jennifer McKay, Centre for Comparative Water Law and Policy, SA</b> OVERVIEW OF THE TWO POSSIBLE MODELS IN SUSTAINABLE DEVELOPMENT IN WATER MANAGEMENT: A MARKET DRIVEN APPROACH AND A REGULATORY DRIVEN APPROACH Barry Dennien, SEQ Water Grid, QLD CASE STUDY ON WATER RESTRICTIONS - MARKET DRIVEN POLICY: BENEFITS OF A PURELY MARKET DRIVEN APPROACH TO SUSTAINABLE DEVELOPMENT IN WATER MANAGEMENT SA Water Representative CASE STUDY ON WATER RESTRICTIONS - REGULATION OF SUPPLY DRIVEN POLICY: BENEFITS OF A REGULATORY APPROACH AND WATER RESTRICTIONS Catherine Ferrari, Water Corporation, WA CASE STUDY ON COMMUNITY ENGAGEMENT: NEW APPROACHES IN COMMUNITY ENGAGEMENT TO REDUCE WATER USE Group Work WORKING IN GROUPS, DELEGATES WILL DEBATE THE PRO'S AND CON'S OF BOTH MODELS - A MARKET APPROACH OR A REGULATORY ONE Group Work Presentations Jennifer McKay, Centre for Comparative Water Law and Policy, SA WRAP UP AND CLOSE</p>	<p><b>Damien Connell, Smart Water Fund, Australia</b> <b>WELCOME AND INTRODUCTION</b> Damien Giurco, Institute for Sustainable Futures, Australia EXPLORING THE ECONOMICS OF WATER EFFICIENCY Cilla De Lacy, WSAA, Australia WATER UTILITIES AND EFFICIENCY Reid Butler, BMT WBM (AWA Water Efficiency Network representative), Australia PRESENTATION OF THE AWA WATER EFFICIENCY POSITION PAPER THE FUTURE OF WATER EFFICIENCY Group Work BREAK OUT INTO 3 GROUPS TO IDENTIFY THE PRIORITY ACTIONS IN THE FOLLOWING AREAS: VALUING EFFICIENCY IN WATER SUPPLY/DEMAND MANAGEMENT; RETAINING WATER EFFICIENCY KNOWLEDGE AND SKILLS; EFFICIENCY AND RESILIENCE Group Work Presentations AWA Water Efficiency Network Panel WRAP UP AND CLOSE</p>		
<p><b>1120 - 1145</b></p> <p><b>Nadia Jebbour, Parsons Brinckerhoff, WA</b> SECURING SAFE DRINKING WATER FOR REMOTE INDIGENOUS COMMUNITIES IN WESTERN AUSTRALIA Abstract No. 072</p>	<p><b>Chris Herle, GHD Pty Ltd, QLD</b> ADAPTING TO CLIMATE CHANGE BY USING LOW ENERGY, FIT-FOR-PURPOSE WATER RECYCLING SYSTEMS Abstract No. 075</p>	<p><b>Steven Wallner, AECOM, VIC</b> SOUTHBANK: COSTS AND BENEFITS OF AN INTEGRATED SUSTAINABLE SERVICING STRATEGY Abstract No. 078</p>	<p><b>Russell Beatty, SKM, NSW</b> THE DEVELOPMENT OF A MODEL OF NIGHT WATER USAGE FOR SYDNEY Abstract No. 081</p>	<p><b>Tony Walls, School of Engineering, The University of Newcastle, NSW</b> A COLLABORATIVE INVESTIGATION OF THE MICROBIAL CORROSION OF CONCRETE SEWER PIPE IN AUSTRALIA Abstract No. 084</p>	<p><b>Jennifer Drayfus, SA Water, AWQC, SA</b> OPTIMISATION OF CONVENTIONAL TREATMENT FOR THE REMOVAL OF CYANOBACTERIA CELLS Abstract No. 087</p>					
<p><b>1150 - 1215</b></p> <p><b>Lynne Powell, Cairns Regional Council, QLD</b> INDIGENOUS PARTNERSHIPS - OPPORTUNITIES AND OBSTACLES Abstract No. 073</p>	<p><b>Mohamad Fared Murshed, University of South Australia, SA</b> RAPID TREATABILITY ASSESSMENT OF NOM IN THE RIVER MURRAY WATER DURING HIGH FLOW WATER PERIOD Abstract No. 076</p>	<p><b>Benjamin Taylor, University of Southern Queensland, QLD</b> ENHANCING RAINWATER HARVESTING WITH SHORT-TERM RAINFALL FORECASTS IN WATER SENSITIVE CITIES Abstract No. 079</p>	<p><b>Matthew Whitelaw, East Gippsland Water, VIC</b> TRACER STUDIES: AN EFFECTIVE TOOL FOR DETERMINING HYDRAULIC MIXING AND WATER AGE IN STORAGE AND DISTRIBUTION SYSTEMS Abstract No. 082</p>	<p><b>David Nicholas, Nicholas Corrosion Pty Ltd, NSW</b> THE EFFECTIVENESS OF LOOSE POLYETHYLENE SLEEVING FOR THE PROTECTION OF DIOL PIPELINES: A REVIEW Abstract No. 085</p>	<p><b>Noel Dow, Victoria University, VIC</b> POWER STATION WATER RECYCLING USING MEMBRANE DISTILLATION - A PLANT TRIAL Abstract No. 088</p>					
1215 - 1315										
Lunch										
<p><b>1315 - 1515</b></p> <p><b>Community Consultation and Community Participation</b> Chair: Corinne Cheeseman, Sydney Water, NSW Assistant Chair: Jo McNam, Hunter Water, NSW Session Code: 29</p>	<p><b>Sustainable Decision Making</b> Chair: John Howard, SA Water, SA Assistant Chair: Juan Pablo Alvarez, University of New South Wales, NSW Session Code: 30</p>	<p><b>Future Cities</b> Chair: Chris Davis, National Water Commission, NSW Assistant Chair: Trevor Lynn, Emerson Stewart, WA Session Code: 31</p>	<p><b>Operation and Management</b> Chair: Murray Thompson, AWA NSW Branch President, NSW Assistant Chair: Sam Dransfield, Sydney Water, NSW Session Code: 32</p>	<p><b>Asset Management</b> Chair: Peter Robinson, MWH Global, VIC Assistant Chair: Tung Nguyen, Water Corporation, WA Session Code: 33</p>	<p><b>Water Treatment</b> Chair: Lionel Ho, SA Water, SA Assistant Chair: Amos Branch, University of New South Wales, NSW Session Code: 34</p>	<p><b>Water Services Association of Australia presents:</b> The Future of Urban Water Customer Services Session Code: 35</p>	<p><b>Netherlands Water Partnership presents:</b> Dealing with floods: between prevention and preparedness. What can Queensland and the Netherlands learn from each other? Facilitator: Lennart Silvis, Director, Netherlands Water Partnership, The Hague, The Netherlands Session Code: WS09</p>	<p><b>Urban Water Security Research Alliance presents:</b> Collaboration in stormwater harvesting - moving from theory to practice Facilitators: Brian McIntosh, Senior Lecturer, Integrated Water Management, International Water Centre, QLD and Don Begbie, Director, Urban Water Security Research Alliance, QLD Session Code: WS10</p>		
<p><b>1320 - 1345</b></p> <p><b>Emily Callaway, CH2M HILL, USA</b> TALKING ABOUT THE WATER CYCLE: COMMUNICATION IN CONTEXT TO FACILITATE PUBLIC ACCEPTANCE Abstract No. 092</p>	<p><b>Mark Noonan, Sydney Catchment Authority, NSW</b> SPATIAL DECISION SUPPORT SYSTEMS FOR ASSESSING WATER QUALITY RISKS IN SYDNEY'S DRINKING WATER CATCHMENT Abstract No. 096</p>	<p><b>Joe Flynn, Global Water, SA</b> SMARTER WATER: ENSURING WATER SUSTAINABILITY VIA INFRASTRUCTURE, INCENTIVES AND INFORMATION Abstract No. 100</p>	<p><b>Kalan Braun, Australian Water Quality Centre, SA Water, SA</b> FLOW CYTOMETRY AS A MICROBIOLOGICAL MONITORING TOOL FOR TREATMENT AND DISTRIBUTION SYSTEMS Abstract No. 104</p>	<p><b>John Gabbedy, Degremont Thies Services JV, VIC</b> LIFECYCLE MANAGEMENT THROUGH THE DEVELOPMENT OF AN EFFECTIVE ASSET MANAGEMENT SYSTEM ON THE VICTORIAN DESALINATION PROJECT Abstract No. 108</p>	<p><b>Kelvin O'Halloran, Seqwater, QLD</b> MEETING THE PROPOSED NEW CHLORATE GUIDELINE OF 0.3MG/L Abstract No. 112</p>	<p>In a constantly changing world for the industry, water utilities must start thinking about what a contestable urban water market might look like and what services other than those that are traditional services they can offer. This workshop will explore international trends and opportunities for urban water utilities.</p>	<p><b>Lennart Silvis, Netherlands Water Partnership, Netherlands</b> <b>WELCOME</b> Leanne Reichard, Hydrologic BV, Netherlands THE DUTCH APPROACH: ROOM FOR THE RIVER Greg Claydon, QLD Department of Environment and Resource Management, Australia QUEENSLAND: BEING PREPARED Greg Claydon, QLD Department of Environment and Resource Management, Australia Nancy Esler, QLD Department of Environment and Resource Management, Australia Leanne Reichard, Hydrologic BV, Netherlands Winfried Pietersen, DHV, The Netherlands Lennart Silvis, Netherlands Water Partnership, Netherlands WRAP UP AND CONCLUSIONS</p>	<p><b>Facilitators (Brian McIntosh and Don Begbie)</b> WELCOME AND CONTEXT David Hamlyn Harris, Principal Engineer, Water and Environment, Director, Bligh Tanner, Brisbane Australia. MAJOR OPPORTUNITIES AND "HEADACHES" EMERGING IN STORMWATER HARVESTING: WATER SUPPLY Simon Toze, Principal Research Scientist, CSIRO Land and Water, Brisbane, Australia MAJOR OPPORTUNITIES AND "HEADACHES" EMERGING IN STORMWATER HARVESTING: HEALTH Fran Sheldon, Griffith University, Brisbane, QLD, Australia (IBC) MAJOR OPPORTUNITIES AND "HEADACHES" EMERGING IN STORMWATER HARVESTING: ECOLOGY Presenter to be Confirmed MAJOR OPPORTUNITIES AND "HEADACHES" EMERGING IN STORMWATER HARVESTING: URBAN PLACE Brian McIntosh, Senior Lecturer, Integrated Water Management, International Water Centre, QLD GROUP WORK BRIEFING All participants STORMWATER PLANNING ACTIVITY GROUP PRESENTATIONS AND PANEL REVIEW Facilitators (Brian McIntosh and Don Begbie) IMPLICATIONS, MESSAGES AND WRAP UP</p>		
<p><b>1350 - 1415</b></p> <p><b>Rachel Clarke, ACTEW Corporation, ACT</b> WATER FOR OTHERS: ENGAGEMENT OF NON-BENEFICIARIES IN A WATER PIPELINE PROJECT Abstract No. 093</p>	<p><b>Philippa Charlton, MWH, VIC</b> BREAKING THE WATER-ENERGY NEXUS Abstract No. 097</p>	<p><b>Jay Witherspoon, CH2M HILL, NSW</b> TRUE COSTS FOR GREEN BUILDING CERTIFICATION PROGRAMS FOCUSED ON DECISION MAKING AND APPROACHES FOR SUSTAINABLE WATER INFRASTRUCTURE Abstract No. 101</p>	<p><b>Kathryn Gamble, Sydney Water, NSW</b> VALIDATION OF A MOLECULAR METHOD TO CONFIRM CLOSTRIDIUM PERFRINGENS Abstract No. 105</p>	<p><b>Tony Cartwright, Sydney Water, NSW</b> FEEDBACK ON THE METHODOLOGY FOR INTRODUCING ASSET CONFIGURATION MANAGEMENT INTO A WATER AUTHORITY Abstract No. 109</p>	<p><b>Kalinda Watson, Griffith University- Smart Water Research Centre, QLD</b> DISINFECTION BY-PRODUCT (DBP) PRECURSOR REMOVAL: POWDERED ACTIVATED CARBON (PAC) TREATMENT AND ITS EFFECT ON DBP SPECIATION Abstract No. 113</p>					
<p><b>1420 - 1445</b></p> <p><b>Dena Fam, Institute of Sustainable Futures, NSW</b> SOCIAL LEARNING IS ESSENTIAL IN TRANSITIONING TO SUSTAINABLE WATER SERVICES Abstract No. 094</p>	<p><b>Udaya Kularathna, Melbourne Water, VIC</b> DECISION SUPPORT FOR MANAGEMENT OF MELBOURNE'S WATER SUPPLY SYSTEM Abstract No. 098</p>	<p><b>Louise Van den Broek, Western Water, VIC</b> TOOLERN - TOWARDS A WATER NEUTRAL SUBURB WITH LOW RAINFALL Abstract No. 102</p>	<p><b>Lee Foster, Seqwater, QLD</b> TASTE AND ODOUR, MANGANESE AND CYANOTOXIN RISK ASSESSMENT Abstract No. 106</p>	<p><b>Scott Gould, CSIRO Land and Water, VIC</b> COMPARISON OF ASSET FAILURE DATA FROM UTILITIES AROUND AUSTRALIA Abstract No. 110</p>	<p><b>Satiya Wati, SA Water, SA</b> CHLORINE DISINFECTION OF HUMAN PATHOGENIC VIRUSES IN RECYCLED WATERS Abstract No. 115</p>					
<p><b>1450 - 1515</b></p> <p><b>Sue Jenkins, Sydney Water, NSW</b> WHAT CUSTOMERS REALLY WANT - FINDINGS OF A VALUE SEGMENTATION STUDY Abstract No. 095</p>	<p><b>Christopher Dey, The University of Sydney, NSW</b> FULL CARBON AND ECOLOGICAL FOOTPRINTS FOR WATER ORGANISATIONS Abstract No. 099</p>	<p><b>Linda Gyzen, Jemena, NSW</b> ROSEHILL RECYCLED WATER SCHEME - A CASE STUDY FOR CENTRALISED RECYCLED WATER SUPPLY Abstract No. 103</p>	<p><b>Rolando Fabris, Australian Water Quality Centre, SA</b> FIVE-YEAR EXPERIENCE IN USING ON-LINE UV-VIS SPECTROLYSER FOR RIVER WATER QUALITY MONITORING Abstract No. 107</p>	<p><b>Aravinda Stanley, Sydney Water, NSW</b> INTEGRATION OF LEAKAGE MANAGEMENT INTO ASSET MANAGEMENT Abstract No. 111</p>						
1515 - 1600										
Afternoon Tea										
<p><b>1600 - 1730</b></p> <p><b>Community Consultation and Community Participation</b> Chair: Simon Webber, ACTEW Corporation, ACT Assistant Chair: Jo McNam, Hunter Water, NSW Session Code: 36</p>	<p><b>Sustainable Decision Making</b> Chair: Peter Maddy, Sinclair Knight Merz, VIC Assistant Chair: Juan Pablo Alvarez, University of New South Wales, NSW Session Code: 37</p>	<p><b>Future Cities</b> Chair: Peter Moore, Water Corporation, WA Assistant Chair: Trevor Lynn, Emerson Stewart, WA Session Code: 38</p>	<p><b>Operation and Management - Bulk Water</b> Chair: Graham Attenborough, Sydney Catchment Authority, NSW Assistant Chair: Sam Dransfield, Sydney Water, NSW Session Code: 39</p>	<p><b>Asset Management</b> Chair: Carmine Cicciocioppo, Osmollo, SA Assistant Chair: Tung Nguyen, Water Corporation, WA Session Code: 40</p>	<p><b>Water Treatment</b> Chair: Jaques Ostrowski, Sydney Water, NSW Assistant Chair: Amos Branch, University of New South Wales, NSW Session Code: 41</p>	<p><b>Water Services Association of Australia presents:</b> The Customer Session Code: 42</p>	<p><b>Sucrosolutions for Water presents:</b> Improve Safety, Increase Sustainability and Innovate Strategically Facilitator: Julie Towardos, Project Manager - Water, Sugar Australia, VIC Session Code: WS11</p>			
<p><b>1605 - 1630</b></p> <p><b>Martin Anda, ENV Australia Pty Ltd and Murdoch University, and John Brennan, Water Corporation, WA</b> RESIDENTIAL WATER USE EFFICIENCY IN WA: RESULTS FROM NORTHWEST TOWNS AND PERTH BEHAVIOURAL CHANGE PROGRAMS Abstract No. 120</p>	<p><b>Pierre Mukheibir, Institute for Sustainable Futures, NSW</b> ADAPTIVE PLANNING FOR RESILIENT URBAN WATER SYSTEMS UNDER AN UNCERTAIN FUTURE Abstract No. 123</p>	<p><b>Phillip Jordan, SKM, QLD</b> AN INTEGRATED DEMAND AND SUPPLY MODELLING FRAMEWORK FOR INTEGRATED WATER RESOURCES PLANNING Abstract No. 126</p>	<p><b>Chris Hepplewhite, ACTEW Corporation, ACT</b> FILLING A RESERVOIR: MORE THAN JUST WAITING FOR RAIN Abstract No. 129</p>	<p><b>Sejla Alimanovic, CH2M HILL, VIC</b> INNOVATIVE INLET WORKS COVER TECHNOLOGY FOR ODOUR MANAGEMENT Abstract No. 132</p>	<p><b>Russell Yap, UNSW, NSW</b> THE SELECTIVITY OF PH REGULATED ALUM COAGULATION IN DISSOLVED AIR FLOTATION OF ALGAE LADEN STABILISATION POND EFFLUENT - A CASE STUDY Abstract No. 135</p>	<p>What do different generations and customer segments value about urban water services? How does a water supplier cater for these differing expectations? This workshop will explore which existing services offered by urban water utilities are valued and what customer expectations could be in the future.</p>	<p>Presenters: • Phil de Groot, Operations Manager, Fleurieu Region, Trifly Group, SA • Stewart Burn, Senior Principal Research Scientist, CSIRO Land and Water, VIC • Geoff Hamilton, Director, GH Consultant Engineers, QLD • Rakesh Patel, Process Engineer, Unifed Water, Ballarat Region, VIC • Josephine Gualtieri, Technical Manager, Sucrosolutions for Water, VIC Find out how you can lower your nitrogen outflow and lower the safety risks at your plants with a sucrose solution. Sucrose has been used as the premier carbon source of many wastewater treatment plants the Australian Wastewater Industry for several years. Plants have switched from more dangerous carbon sources to sucrose whilst other plants have been created to dose the sucrose solution.</p>			
<p><b>1635 - 1700</b></p> <p><b>Emma Wiggan and Amy Bromhead, Priority Sewerage Program, NSW</b> DELIVERING KEY SOCIAL AND ENVIRONMENTAL BENEFITS THROUGH EFFECTIVE COMMUNITY CONSULTATION Abstract No. 121</p>	<p><b>Tim Clune, North East Region Water Corporation, VIC</b> ONE RESOURCE - ADAPTING TO A NEW SERVICE DELIVERY PARADIGM Abstract No. 124</p>	<p><b>Lizzie Adams, Umow Lai, VIC</b> TOWARDS WATER NEUTRALITY IN COMMERCIAL OFFICE BUILDINGS Abstract No. 127</p>	<p><b>Jason Martin, Sydney Catchment Authority, NSW</b> SCARMS - CASE STUDIES OF APPLICATION OF SYDNEY CATCHMENT AUTHORITY'S RESERVOIR MANAGEMENT SYSTEM Abstract No. 130</p>	<p><b>Baher Zaghlool, CPG Australia, VIC</b> DURABILITY AND BEARING CAPACITY OF SHALLOW CROSSINGS OF MELBOURNE'S TRUNK SEWERS Abstract No. 133</p>	<p><b>Dylan Thorpe, Arup, VIC</b> ZERO LIQUID DISCHARGE SOLAR DESALINATION PILOT PLANT EVALUATION Abstract No. 136</p>					
<p><b>1705 - 1730</b></p> <p><b>Tim Bartrand, Tetra Tech, USA</b> COMMUNITY PARTICIPATION IN DEVELOPMENT OF DECENTRALIZED GREEN INFRASTRUCTURE Abstract No. 122</p>	<p><b>Jacqueline Grove, Warringah Council, NSW</b> ADOPTING BEST PRACTICE WATER QUALITY MONITORING TO REDUCE PUBLIC HEALTH RISKS: THE CASE OF MANLY DAM Abstract No. 125</p>	<p><b>Helena Amaro, Sydney Water, NSW</b> THE SMART HOME OF THE FUTURE Abstract No. 128</p>	<p><b>Ian Monks, City West Water, VIC</b> MASS BALANCE SIMULATION OF RCW SCHEME Abstract No. 131</p>	<p><b>Andrew Kasmarik, Sydney Water Corporation, NSW</b> INTRODUCING LEAKTIGHT SEWERS TO SYDNEY WATER Abstract No. 134</p>	<p><b>Andrew Groth, Siemens Water Technologies, NSW</b> OPTIMISATION OF PRE-COAGULATION AND POWDERED ACTIVATED CARBON FOR SUSTAINABLE MEMBRANE MICROFILTRATION OPERATION Abstract No. 137</p>					

0830 - 1000	Keynote Session, Bayside Auditorium B, Chair: Paul Freeman, Director, Australian Water Association									
0830 - 0915	Paul Greenfield, Chair, ANSTO, QLD, AUSTRALIA INHERENT CHALLENGES TO ACHIEVING SUSTAINABILITY IN THE WATER SECTOR. Abstract No. KEY06									
0915 - 1000	Rich Nagel, General Manager, West Basin Municipal Water District, USA. Abstract No. KEY07									
1000 - 1045	Morning Tea									
	Room 109	Room 204A	Room 204B	Room 102	Room 103	Room 104	Room 105	Room 201	Room 202	Room 203
1045 - 1215	<b>Disaster Recovery</b> Chair: Annalisa Contos, Atom Consulting, NSW Assistant Chair: Matthew Renshaw, AECOM, NSW Session Code: 43	<b>Skills Development and Education</b> Chair: Grant Leslie, Water Services Association of Australia, NSW Assistant Chair: Lauren Dragicevich, AECOM, NSW Session Code: 44	<b>Climate Change - Mitigation</b> Chair: Angus Simpson, The University of Adelaide, SA Assistant Chair: Mukhlis Mah, University of New South Wales, NSW Session Code: 45	<b>Recovery of Nutrients and By Product Manufacture</b> Chair: Bill Barber, AECOM, NSW Assistant Chair: Zenah Bradford-Hartke, University of New South Wales, NSW Session Code: 46	<b>Wastewater Treatment</b> Chair: Christopher Saint, Centre for Water Management & Reuse, SA Assistant Chair: Juan Pablo Alvarez, University of New South Wales, NSW Session Code: 47	<b>Wastewater Treatment - Biosolids</b> Chair: Paul Keighery, Parsons Brinckerhoff, NSW Assistant Chair: Bei Wang, University of New South Wales, NSW Session Code: 48	<b>Refiltration and Collective Systems</b> Chair: David Cox, WSAA, NSW Assistant Chair: Chitwan Jawanda, Sydney Water, NSW Session Code: 49	<b>Urban Water Security Research Alliance presents: Using Ozone and Biofiltration for Producing Recycled Water</b> Facilitator: Don Begbie, and Stephen Kenway, Urban Water Security Research Alliance, Australia Session Code: WS13	<b>National Water Commission presents: Australia's Groundwater Challenge - past, present, future</b> Facilitator: Adam Sincock, Senior Manager Groundwater, National Water Commission, ACT, Australia Session Code: WS14	<b>IWA Cities of the Future Working Group presents: Cities of the Future: From principles to best practice</b> Session Code: WS15
1050 - 1115	<b>Andy Gibson, AECOM, NEW ZEALAND WHAT LIES BENEATH</b> Abstract No. 141	<b>Petra Kelly, Australian Water Association NEW DIRECTIONS AND OPPORTUNITIES IN WATER SECTOR TRAINING</b> Abstract No. 144	<b>Graham Costin, ActewAGL, ACT CUTTING CARBON: THE ENVIRO-NORMAL APPROACH</b> Abstract No. 147	<b>Matthew Ferguson, Sydney Water, NSW SYDNEY WATER'S BIOSOLIDS STRATEGY REVIEW FRAMEWORK: SITES, PROCESS STREAMS AND MARKETS</b> Abstract No. 150	<b>Alexandra Keegan, Australian Water Quality Centre, SA Water Corp, SA SEASONAL CHANGES IN FILAMENTOUS BACTERIA IN ACTIVATED SLUDGE AT SOUTH AUSTRALIAN WWTP'S</b> Abstract No. 153	<b>Faisal Geheshah, RMIT University, VIC ENHANCEMENT OF BIOGAS PRODUCTION POTENTIAL (BPP) OF SLAUGHTERHOUSE (SH) AND MEAT PROCESSING (MP) WASTES USING PRE-TREATMENTS</b> Abstract No. 156	<b>Graeme Hamer, CH2M HILL, NSW WATER INDUSTRY COLLABORATION TO IMPROVE SEWER VENTILATION KNOWLEDGE AND PLANNING</b> Abstract No. 159	<b>Don Begbie, CEO, Urban Water Security Research Alliance, Australia WELCOME</b> Dr Julien Reungoat, Research Fellow, University of Queensland, Australia REMOVAL OF ORGANIC MATTER AND MICRO-POLLUTANTS USING THE OZONE/ BAC PROCESS FOR RECYCLED WATER PRODUCTION. John Mieog, Planning and Process Technical Specialist, Melbourne Water, Australia OZONE AND BIOLOGICAL FILTRATION FOR THE PRODUCTION OF HIGH QUALITY FIT-FOR-PURPOSE RECYCLED WATER. Joe Lane, University of Queensland, Australia LIFE CYCLE IMPACTS OF TREATMENT PROCESSES Group and Panel Discussion IDENTIFY (A) KEY KNOWLEDGE GAPS (B) BARRIERS TO ADOPTION AND (C) NEXT STEPS Dr Judy Blackbeard, Melbourne Water, VIC SESSION RAPPORTEUR	<b>SESSION 1: AUSTRALIA'S HIDDEN WATER RESOURCE - CURRENT GROUNDWATER MANAGEMENT AND ACTIVITIES</b> Chris Davis, Commissioner, NWC, Australia WELCOME Matt Kendall, General Manager, Sustainable Water Management Group, NWC, Australia KEYNOTE ADDRESS: NATIONAL GROUNDWATER ACTION PLAN Rick Evans, Sinclair Knight Merz, Australia MANAGING CONNECTED GROUNDWATER RESOURCES Mike Williams, NSW Office of Water, NSW A STATE GROUNDWATER MANAGEMENT PERSPECTIVE Neil Power, Chair, National Groundwater Working Group, Australia RECENT IMPROVEMENTS IN GROUNDWATER MANAGEMENT PANEL DISCUSSION / Q&A	This workshop will explore the urban water governance, collaboration, engagement, decision making and master planning strategies that have been used in cities that have implemented these principles. Workshop participants will hear from panel speakers and be actively involved in: 1. Bringing together examples of what has, and has not, worked in implementing integrated water management in Australian and international cities, and 2. Using these examples to benchmark best practice. The workshop outcomes will contribute to best practice guidelines for urban planners and water managers that will be presented at the 2012 IWA World Water Congress in Korea as a part of the IWA's Cities of the Future program. This workshop is hosted by the IWA Cities of the Future working group and is supported by Melbourne Water and GHD
1120 - 1145	<b>Michelle Colwell, Gippsland Water, VIC JUST LIKE A CHOCOLATE MILKSHAKE AND IT'S CRUNCHY - MAINTAINING WATER SUPPLY AFTER CONSECUTIVE FIRE AND FLOOD</b> Abstract No. 142	<b>Jenny Tibbitts, Sydney Catchment Authority, NSW CAPTURING KNOWLEDGE, GROWING OUR FUTURE</b> Abstract No. 145	<b>Angela Ganley, City West Water, VIC WATER AND ENERGY EFFICIENCY THROUGH STEAM SYSTEMS</b> Abstract No. 148	<b>Graeme Anderson, Black &amp; Veatch Australia, QLD PHOSPHORUS FOOTPRINTING FOR SUSTAINABLE DECISION MAKING</b> Abstract No. 151	<b>Ross Phillips, John Holland Water &amp; Enviro, NSW EPDM SEAL DEGRADATION AT THE MURRUMBA DOWNS ADVANCED WATER TREATMENT PLANT</b> Abstract No. 154	<b>Franz Jacobsen, engys, QLD CFD MODELLING OF A MESOPHILIC SLUDGE DIGESTER</b> Abstract No. 157	<b>Andrew Downing, Melbourne Water and Neil Moody, Urban Water Solutions, VIC QUANTIFYING SEWER POLLUTANT LOADS FROM GROUNDWATER INFILTRATION VIA CONTINUOUS SEWAGE QUALITY MONITORING</b> Abstract No. 160	<b>Ray Rootsey, The University of Queensland, QLD TAKING CONTROL OF ODOURS AND CORROSION IN SEWERS</b> Abstract No. 161	<b>Don Begbie, CEO, Urban Water Security Research Alliance, Australia (Chair) WRAP UP AND CLOSE</b>	
1150 - 1215	<b>Mark Newland, Tenix Australia Pty Ltd, WA FLOOD RECOVERY OF THE FAIRFIELD WATER RECYCLING FACILITY</b> Abstract No. 143	<b>Michelle Hill, qldwater - Queensland Water Directorate, QLD THE WATER WORKFORCE OF THE FUTURE: WHAT IT LOOKS LIKE AND HOW WE GET THERE</b> Abstract No. 146	<b>Yingyu Law, Advanced Water Management Centre, The University of Queensland, QLD FULL SCALE MONITORING OF FUGITIVE NITROUS OXIDE AND METHANE EMISSIONS FROM A WASTEWATER TREATMENT PLANT IN AUSTRALIA</b> Abstract No. 149	<b>Robert Humphries, Water Corporation, WA IDENTIFYING EMERGING AND PROSPECTIVE ENERGY HARVESTING AND EFFICIENCY TECHNOLOGIES FROM WASTEWATER</b> Abstract No. 152	<b>Hilary Nath, University of Waikato, NEW ZEALAND ELECTROCHEMICAL DEGRADATION OF SYNTHETIC INDIGO CARMIN DYE USING A PERFORATED ELECTRODE FLOW THROUGH CELL</b> Abstract No. 155	<b>Yuanmei Sha, RMIT University, VIC EFFECT OF INOCULUM/SUBSTRATE RATIO ON MESOPHILIC ANAEROBIC DIGESTION OF WASTE-ACTIVATED SLUDGE IN BATCH MODE</b> Abstract No. 158	<b>Ray Rootsey, The University of Queensland, QLD TAKING CONTROL OF ODOURS AND CORROSION IN SEWERS</b> Abstract No. 161	<b>Don Begbie, CEO, Urban Water Security Research Alliance, Australia (Chair) WRAP UP AND CLOSE</b>		
1215 - 1315	Lunch									
1315 - 1515	<b>Non Conventional Systems</b> Chair: Darryl Day, Power and Water Corporation, NT Assistant Chair: Matthew Renshaw, AECOM, NSW Session Code: 50	<b>Sustainable Decision Making</b> Chair: Cilla deLacy, Water Services Association of Australia, Assistant Chair: Assistant Chair: Lauren Dragicevich, AECOM, NSW Session Code: 51	<b>Climate Change - Impacts and Adaptation</b> Chair: Liz Floyd, Bayside Personnel, NSW Assistant Chair: Mukhlis Mah, University of New South Wales, NSW Session Code: 52	<b>Water for Irrigation / Water Markets</b> Chair: Barry Sanders, AWA Past President, WA Assistant Chair: Zenah Bradford-Hartke, University of New South Wales, NSW Session Code: 53	<b>Wastewater Treatment</b> Chair: Grahame Simpson, Queensland Urban Utilities, QLD Assistant Chair: Juan Pablo Alvarez, University of New South Wales, NSW Session Code: 54	<b>Stormwater Management</b> Chair: Tim Summers, AECOM, NSW Assistant Chair: Bei Wang, University of New South Wales, NSW Session Code: 55	<b>Refiltration and Collective Systems</b> Chair: Mark Trembath, Xylem - Water Solutions, NSW Assistant Chair: Chitwan Jawanda, Sydney Water, NSW Session Code: 56	<b>Water Quality Research Australia presents: What's bugging you? - The emergence of Pathogen X</b> Facilitator: Jan Bowman, Principal, Janette Bowman Consultancy, Melbourne, VIC Session Code: WS16	<b>National Water Commission presents: Australia's Groundwater Challenge - past, present, future</b> Facilitator: Adam Sincock, Senior Manager Groundwater, National Water Commission, ACT, Australia Session Code: WS14	<b>IWA Cities of the Future Working Group presents: Cities of the Future: From principles to best practice</b> Session Code: WS15
1320 - 1345	<b>Rob Salisbury, Manidis Roberts, NSW COMPLEX, SMART, SUSTAINABLE: THE GOOGONG TOWNSHIP INTEGRATED WATER CYCLE</b> Abstract No. 162	<b>Kate Miles, AECOM, NSW and Clint Cantrell, AECOM, NEW ZEALAND AN EFFICIENT AND EFFECTIVE WASTEWATER OVERFLOW FRAMEWORK FOR THE AUSTRALIAN WATER SECTOR</b> Abstract No. 166	<b>Greg Greene, Sydney Catchment Authority, NSW CLIMATE CHANGE IMPACT ASSESSMENT - THE SYDNEY CATCHMENT AUTHORITY'S APPROACH</b> Abstract No. 170	<b>Bronwyn Puttyfoot, ALS, VIC THE IMPACT OF WASTEWATER IRRIGATION ON SOILS IN THE ACT</b> Abstract No. 174	<b>Alice Connell, TRILITY, SA CONTROLLING AN ENVIRONMENTAL NUISANCE: ODOUR</b> Abstract No. 178	<b>Alexa McAuley, Equatica, NSW ARE WASTEWATER OVERFLOWS A SIGNIFICANT CONTRIBUTOR TO URBAN WATERWAY POLLUTANT LOADS?</b> Abstract No. 182	<b>Bei Wang, University of New South Wales, NSW VOLATILE ORGANIC COMPOUND (VOC) EMISSIONS FROM SEWER NETWORKS IN SYDNEY</b> Abstract No. 186	<b>Jan Bowman, Principal, Janette Bowman Consultancy, Australia WELCOME AND RULES OF ENGAGEMENT</b> • Dr Joan Rose, Homer Nowlin Chair of Water Research, Michigan State University, Michigan, USA • Dr Mark O'Donohue, CEO, Australian Water Recycling Centre of Excellence, Brisbane, Queensland, Australia • Dr David Cunliffe, Principal Water Quality Advisor, SA Health, Adelaide, SA, Australia • Dr Martha Sinclair, Senior Research Fellow, Monash University, Melbourne, Victoria, Australia • Dr Andrew Bath, Manager, Water Quality Operations, Water Corporation, Leederville, WA, Australia • Mr Phil Callan, Principal Executive Officer, NHMRC, Canberra, ACT, Australia PANEL DEBATE AUDIENCE Q&A	<b>SESSION 2: RISING TO THE GROUNDWATER CHALLENGE - EMERGING PRIORITIES AND FUTURE DIRECTIONS</b> Craig Simmons, National Centre for Groundwater Research and Training (NCGRT), SA BUILDING GROUNDWATER CAPACITY Peter Baker, Chief Scientist, DSEWPAC, Australia MINING AND COAL SEAM GAS Tony Boston, Bureau of Meteorology, ACT NATIONAL GROUNDWATER INFORMATION SYSTEM Peter Hyde, Murray-Darling Basin Authority (MDBA), Australia GROUNDWATER UNDER THE MURRAY-DARLING BASIN PLAN PANEL DISCUSSION/ Q&A Chris Davis, Commissioner, NWC, Australia SUMMARY AND CONCLUDING REMARKS	This workshop will explore the urban water governance, collaboration, engagement, decision making and master planning strategies that have been used in cities that have implemented these principles. Workshop participants will hear from panel speakers and be actively involved in: 1. Bringing together examples of what has, and has not, worked in implementing integrated water management in Australian and international cities, and 2. Using these examples to benchmark best practice. The workshop outcomes will contribute to best practice guidelines for urban planners and water managers that will be presented at the 2012 IWA World Water Congress in Korea as a part of the IWA's Cities of the Future program. This workshop is hosted by the IWA Cities of the Future working group and is supported by Melbourne Water and GHD.
1350 - 1415	<b>Liz Pattison, Parsons Brinckerhoff, WA WATER QUALITY MANAGEMENT FOR REMOTE INDIGENOUS COMMUNITIES</b> Abstract No. 163	<b>Toby McGrath, KBR, QLD NATURAL ASSET MANAGEMENT PLANS: A NEW APPROACH TO PROTECT DRINKING WATER QUALITY</b> Abstract No. 167	<b>Sabir Hussain, University of South Australia, SA QUANTIFYING THE IMPACT OF CLIMATE CHANGE ON WATER QUALITY IN THE LOWER RIVER MURRAY, SOUTH AUSTRALIA: A CASE STUDY (1997-2010)</b> Abstract No. 171	<b>Robran Cock, TRILITY Pty Ltd, SA WASTEWATER REUSE SCHEMES: A CASE FOR A HORSES FOR COURSES APPROACH TO TECHNOLOGY AND CONTRACTING</b> Abstract No. 175	<b>Michael Short, The University of NSW, NSW APPLICATION OF A NEW MICROARRAY TOOL FOR OPTIMISING PROCESS PERFORMANCE OF ACTIVATED SLUDGE</b> Abstract No. 179	<b>John Tetteroo and Vijesh Chandra, GHD Limited, NEW ZEALAND WORKING TOWARDS A BEST PRACTICE MODEL FOR AUCKLAND TRANSPORT'S ROAD STORMWATER NETWORK</b> Abstract No. 183	<b>Vincent Pilot, Parsons Brinckerhoff Australia, WA THE USE OF CAISSON TANKS FOR WASTEWATER EMERGENCY STORAGE AT CONSTRAINED SITES</b> Abstract No. 187			
1420 - 1445	<b>Sean Tucker, GHD Pty Ltd, VIC SEWAGE PRESSURE PUMP OPTIMISATION: THE GENESIS OF AN INTEGRATED DECENTRALISED PRESSURE SERVICING SYSTEM</b> Abstract No. 164	<b>Glenn Wilson, Yarra Valley Water, VIC INTEGRATED WATER MANAGEMENT PLANNING IN MELBOURNE, AUSTRALIA - MANAGING COMPETING OBJECTIVES</b> Abstract No. 168	<b>Shane Ruschensky, SKM, NSW BATHURST CLIMATE CHANGE AND WATER SECURITY PLAN - CONSULTATIVE INTEGRATED RESOURCE PLANNING</b> Abstract No. 172	<b>Scott Lawson, GHD, ACT GROUNDWATER TRADING - WHAT'S THE BIG DEAL?</b> Abstract No. 176	<b>Anub Nair, RMIT, VIC INHIBITION OF ANIONIC AND NONIONIC SURFACTANTS TO ACTIVATED SLUDGE OXYGEN UPTAKE RATE</b> Abstract No. 180	<b>Lan Dinh, City West Water, VIC STORMWATER QUALITY SAMPLING FOR EFFECTIVE SCHEME MANAGEMENT</b> Abstract No. 184	<b>Paul Edwards, Urban Water Solutions, VIC DESIGNING MORE EFFICIENT PRESSURE SEWERS</b> Abstract No. 188			
1450 - 1515	<b>Lee Forbes, KBR, USA NATURAL CHANNEL DESIGN - A CASE FOR A NEW PARADIGM IN OPEN CHANNEL MANAGEMENT STRATEGIES FOR AUSTRALIA</b> Abstract No. 169		<b>Stuart Khan, University of New South Wales, NSW WATER QUALITY IMPACTS OF EXTREME WEATHER RELATED EVENTS: FINDINGS FROM AUSTRALIA</b> Abstract No. 173	<b>Joel Byrnes, AECOM, VIC WATER OPTIONS CONTRACTS - BRINGING IRRIGATORS AND ENVIRONMENTAL MANAGERS TOGETHER</b> Abstract No. 177		<b>Faisal Ahammed, University of South Australia, SA APPLYING WSUD PRINCIPLES TO MANAGE STORMWATER IN DHAKA, BANGLADESH</b> Abstract No. 185	<b>Ali Torbaty, Parsons Brinckerhoff, NSW MODELLING OF AIR TRANSPORT VIA SEWER DROP SHAFTS</b> Abstract No. 189			
1515 - 1630	Closing Session, Bayside Auditorium B									
1515 - 1600	Mary Ann Dickinson, President and CEO, Alliance for Water Efficiency, USA WATER EFFICIENCY IN NORTH AMERICA: THE GOOD, THE BAD AND THE UGLY. Abstract No. KEY08									
1600 - 1630	CLOSING CEREMONY									
1630	Farewell Drinks, Bayside Foyer, Level 1									