

20th International

# RIVER SYMPOSIUM

and Environmental Flows Conference

18-20 September 2017

Brisbane Convention and Exhibition Centre  
Brisbane, Australia

## PROGRAM



MANAGED BY

 INTERNATIONAL  
RiverFoundation

[www.riversymposium.com](http://www.riversymposium.com)

# WELCOME



Welcome to the 20th International *Riversymposium* and Environmental Flows Conference. This is a dual milestone with the 10 year anniversary of the inaugural Environmental Flows event from which came the Brisbane Declaration on environmental flows, a real outcome from 2007. We have designed this year's event to be engaging, challenging, and ultimately we want it be useful in achieving a future where we manage our river basins in a more sustainable manner.

Here at the International RiverFoundation we seek to encourage the restoration, protection and sustainable management of the world's rivers. Water is crucial for all life—and we need healthy rivers, lakes and wetlands for sustainable development. Our role is to promote and support effective management of these resources by facilitating knowledge sharing, education and best practice river basin management, and by recognising and rewarding those making a difference through our awards.

This year's Gala Dinner will be special as an opportunity to reflect on the 20 year-journey the *RiverSymposium* journey and to celebrate this year's award winners. We will be announcing the winners of the Thiess International *Riverprize* and Vera Thiess Fellowship (thanks to ongoing support from the Bert and Vera Thiess Foundation) plus the Emerging River Professional Award, sponsored by OceanaGold.

I must express our deep gratitude to our event sponsors and supporters. As a small NGO we simply could not run such a significant event without your generous support. In particular we must acknowledge the efforts of Brisbane City Council and the Australian Department of Foreign Affairs and Trade (DFAT) for their assistance this year.

We are also holding a number of International RiverFoundation specific Special Sessions on topics including winning the Thiess International *Riverprize* and our Twinning initiatives, so I hope you can participate in these sessions. All the best from the IRF staff, volunteers, and our dedicated International *Riversymposium* Organising Committee; we hope you thoroughly enjoy your *Riversymposium* experience.

## Ian Atkinson

CEO, International RiverFoundation



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*Dedicated to a better Brisbane*



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Department of Foreign Affairs and Trade





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### 2017 PLANNING COMMITTEE

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International RiverFoundation

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Australian Rivers Institute  
Griffith University

Dr Natalie Baker  
Brisbane City Council

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Sustainable Water Future Programme

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**Australian Government**  
Department of Agriculture  
and Water Resources



# PROGRAM



## SUNDAY 17 September 2017

5:30-19:00 Women in Water, Arbour Lounge, BCEC. CHAIR: Eva Abal

## MONDAY 18 September 2017

7:00	Registration open						
7:45	Main plenary doors open						CHAIR: Ian Atkinson
8:25	International RiverFoundation welcome						
8:30	Welcome to Country						
8:40	Gregory Andrews, Threatened Species Commissioner						
8:50	Hon Dr Minister Steven Miles, Minister for Environment and Heritage Protection and Minister for National Parks and the Great Barrier Reef Senator Anne Ruston, Assistant Minister for Agriculture and Water Resources						
9:00	Prof LeRoy Poff, USA, 25 mins						
9:30	Brisbane Declaration v2.0 – Panel, 25 mins						
10:00	Morning tea						
ROOM:	Plaza Auditorium	P9	P10	P6	P7	P8	P11
	<b>Theme 1: E-flows restoration and implementation</b>	<b>Special session</b>	<b>Theme 3: Integrated river basin management: restoration</b>	<b>Theme 4: Inclusiveness</b>	<b>Theme 5: Community engagement and leadership</b>	<b>Special session</b>	<b>Special session</b>
CHAIR:	Dr Nikky Grigg		IWC student	Mr Olita Ojongo	Siwan Lovett		
10:30	<i>Avril Horne, Australia.</i> Environmental water allocation mechanisms: Release rules or active and variable management	Australian Water Partnership: Lessons from Australian efforts to support river basin water reform projects in Asia	<i>Simon Williams, Australia.</i> The Snowy River flows again: Ecological process the basis for flow based river rehabilitation in the Snowy River	<i>Suparana Katyaini, Indonesia.</i> Deliberations on gender inclusive transboundary water governance: Women's voices from Brahmputra River	<i>Johan Kaspers, Netherlands.</i> Experience the River Waal	Water Stewardship: A market-driven solution to shared catchment water challenges	Emerging Water Professional Workshop (invitation only)
10:45	<i>Angus Webb, Australia.</i> Principles for monitoring, evaluation and adaptive management of environmental flows		<i>Jim Wilcox, USA.</i> Restoring ecosystem services in the Sierra Nevada, California	<i>Niken Nur Widyakusuma, Indonesia.</i> Women in river school: Women informal education for sustainable river development	<i>Sheikh Rokonzaman, Bangladesh.</i> River Olympiad: The youth engagement for river protection		
11:00	<i>Jeff Opperman, United States.</i> Hydropower by design: System-scale solutions for sustainable energy, river conservation and environmental flows		<i>Kimberly Schonek, USA.</i> Verde river flow and habitat restoration initiative – Colorado River Program	<i>Paul Sayer and Katharine Knox, UK.</i> Exploring social justice in UK flood risk management: Present and future	<i>Astria Nugrahany, Indonesia.</i> Community engagement in watershed and river basin conservation practices in Jasa Tirta I Public Corporation (PJT I)		
11:15	<i>Bill Williamson, Australia.</i> A win win on the creation of new water for environmental flows		<i>Chris Spray, UK.</i> Building with Nature: Adapting to environmental change through innovative catchment management in the Tweed UNESCO HELP Basin, Scotland	<i>Melita Grant, Australia.</i> What does socially inclusive integrated water resources management look like?	<i>Mick Callan, Australia.</i> Environment & Waterways Alliance: A model of engagement		
11:30	<i>Genevieve Hubert, United States.</i> Ground-water mitigation banking; a tool for environmental flow restoration in the Deschutes Basin			<i>Kim Markwell, Australia.</i> Women in Water – real stories about the unique challenges for women in advancing through leadership positions	<i>Paul Hackney, Australia.</i> Returning swimming to Lake Parramatta – a 72 year journey		
11:45	Wrap up; Q and A; discussion			Wrap up; Q and A; discussion	Wrap up; Q and A; discussion		
12:00	Lunch River Stories. Peter Phillips – Patterns of carbon input into the Murray River during rising floodwaters RiverExpo & posters in Plaza Foyer						

ROOM:	Plaza Auditorium	P9	P10	P6	P7	P8	P11
	<b>Theme 1: E-flows restoration and implementation</b>	<b>Special session</b>	<b>Theme 3: Integrated river basin management: demonstrating benefits</b>	<b>Theme 4: Technology and innovation</b>	<b>Theme 5: Community engagement and leadership</b>	<b>Special session</b>	
CHAIR:	Genevieve Hubert		Johnny Sundstrom	Niilo Tara	Phil Smith	Ian Atkinson	
13:30	<i>Natasha Bellis, United States.</i> The evolution of environmental flows on Whychus Creek	University of Maryland Centre for Environmental Science: The River Basin Report Card game	<i>Kashif Shaad, Singapore.</i> Communicating freshwater health to facilitate IRBM – experiences from Dongjiang and Mekong River basins	<i>Brian Jackson, Australia.</i> HydroNET and real time radar rainfall data for improved hydrology, flood forecasting and flood warning	<i>Taroi Rawiri, NZ.</i> Capacity building to enable indigenous communities to engage in river restoration in the Waikato-Tainui rohe of the Waikato River, Aotearoa (New Zealand)	Riverprize: What does it take to win, and what are the benefits? International RiverFoundation	
13:45	<i>Lin Cheng, China.</i> Re-operation of the Three Gorges Dam for environmental flows		<i>Nyein Thandar Ko, Netherlands.</i> Changes in macroinvertebrates assemblages in regulated rivers in Myanmar: Macroinvertebrate as an indicator to study the potential impact of dams	<i>Matthew Brooks, Australia.</i> Creating stream gauging station catchment areas and routing networks using the geofabric	<i>Munyaradzi Chitakira, South Africa.</i> The dynamics of stakeholder participation in integrated water resources management: A case study of the upper Pungwe River basin, Southern Africa		
14:00	<i>Pia Weber, Australia.</i> Legal framework and policy tools to protect free-flowing rivers		<i>Gregorio Garcia, Philippines.</i> Convergence: the key to successful river restoration and management (case of the Pasig River, Philippines)	<i>Stefan Szykarski, Australia.</i> A combined hydrological-hydrodynamic data assimilation approach for improving river flow forecasting	<i>Prof Dr Suratman M.sc., Indonesia.</i> Volunteer's role of river restoration movement in Klaten Regency, Java, Indonesia		
14:15	<i>Elizabeth Anderson, USA.</i> Flow dependencies of people and links to ec hydrology: Lessons from the Amazon		<i>Tamara Boyd, Australia.</i> Tracking and reporting the long-term social and cultural benefits of waterway investment	<i>Jacques van Delft, South Africa.</i> Bloemwater Conduit Hydropower Plant	<i>Andrew Kelly, Australia.</i> The Yarra Riverkeeper, Yarra River Protection Act and Birrarung Council		
14:30	<i>Vanessa Ramos, Portugal.</i> The challenge of environmental flows in Portugal, under the Water Framework Directive		<i>Lori Gould, Australia.</i> RoCing RARC (Rivers of Carbon and Rapid Assessment of Riparian Condition)		<i>Sarah Clift, Australia.</i> Making the Parramatta River swimmable again: From pipe dream to reality		
14:45	Wrap up; Q and A; discussion			Wrap up; Q and A; discussion	Wrap up; Q and A; discussion		Wrap up; Q and A; discussion
15:00	Afternoon tea						
	<b>Theme 1: Eco-hydrology and monitoring</b>	<b>Special session</b>	<b>Theme 3: Integrated river basin management: planning</b>	<b>Theme 4: Technology and asset management</b>	<b>Theme 5: Community engagement and leadership</b>	<b>Special session</b>	<b>Special session</b>
CHAIR:	Lisa Walpole		Cesar Espana	Richard Marsh	Dr Tamara Boyd		
15:30	<i>Lauren Zielinski, United States.</i> Creating an integrated monitoring and evaluation system which informs adaptive management of environmental flows	International WaterCentre: Leadership workshop	<i>Brian Jackson, Australia.</i> The adaptive, operational management of the Crocodile River, Kruger Park, South Africa. An international water resources management experience with HydroNET.	<i>Oliver Maennicke, Australia.</i> Relaunching the WWF Water Risk Filter – Using spatial water risk assessment to inform water stewardship strategy on corporate, site and basin level	<i>Marisa Hossick, United States.</i> Environmental flow restoration, a compelling story. Keep it simple.	Listen to the river: Lessons from a global review of environmental flow success stories	GEF IW:LEARN Twinning opportunities
15:45	<i>Jaye Lobegeiger, Australia.</i> Use of a risk-based ec hydrological approach to inform sustainable water resource management: Case study using floodplain turtles as indicators		<i>Simon Hunter and Joanna Taylor, Australia.</i> Valley-wide floodplain management plans in NSW's northern Murray-Darling Basin: protecting and maintaining floodplain and wetland connectivity	<i>Jean-Michel Benier, Australia.</i> Defining waterways as segmented linear assets to support and enhance service delivery	<i>Kylee Carpenter, Australia.</i> "Does anyone here speak English?" – How the benefits of environmental flows get lost in translation		
16:00	<i>Gordon O'Brien, South Africa.</i> Framework for regional evaluations of E-flows in the Nile Basin		<i>Stephen Packer, Australia.</i> Writing a Water Quality Improvement Plan for the Mount Lofty Ranges – How to get improvement when there is no perceived problem?	<i>Nagarajan Ramakrishnan, India.</i> Assessment of river basin in semi-arid region, Peninsular India	<i>Natalie Stalenberg, Australia.</i> Navigating the waters towards greater support for environmental flows: Nature Foundation SA shares its story		
16:15	<i>Prafulkumar V Timbadiya, India.</i> Assessment of environmental flows for the Tapi River basin, India		<i>Carole Sweatman, Australia.</i> Integrated solutions takes an integrated team – reshaping catchment and river health investment and action in the wet tropics	<i>Partha Susarla and Kylie Crouch, Australia.</i> Maroochy River Wetland restoration: An affordable green infrastructure solution with benefits for environment, and habitat	<i>Siwan Lovett, Australia.</i> Why "mess is best" for inspiring community action		
16:30	<i>Robyn Watts, Australia.</i> Environmental flows and citizen action deliver localised environmental benefits during a large hypoxic blackwater event in the southern Murray-Darling Basin		<i>Kate Fitzpatrick, USA.</i> Basin planning in the Upper Deschutes River: Rebalancing water use in a changing climate		<i>Leonie Woodham, Australia.</i> Our water ways		
16:45	Wrap up; Q and A; discussion			Wrap up; Q and A; discussion	Wrap up; Q and A; discussion		
17:10	Welcome Function – Dr Deborah Nias, IRF Director as MC						
19:00	End of Welcome Function						

## TUESDAY 19 September 2017

7:00	Registration open						
8:30	Dr Bill Young, USA	CHAIR: Dr Selina Ward					
9:00	Dr Anne Poelina, Australia						
9:30	Mr Gerrard Albert, NZ						
10:00	Morning tea						
ROOM:	Plaza Auditorium	P9	P10	P6	P7	P8	
	<b>Theme 1: Social and cultural dimensions of e-flows</b>	<b>Theme 2: E-flows in the Murray-Darling</b>	<b>Theme 3: Integrated river basin management</b>	<b>Special session</b>	<b>Special session</b>	<b>RiverFoundation Twinning</b>	
CHAIR:	Nadine Kilsby	Pia Weber	Xuli Meng			Charlotte Spliethoff	
10:30	<i>Rebecca Tharme, United Kingdom.</i> Rivers, flows and people – journeying into the social dimensions of environmental flows	<i>Matthew Coleman, Australia.</i> Modelling an environmental watering strategy for the Murray-Darling Basin	<i>Ying Tian, China.</i> New approaches to river basin management for sustainable development in China	Achieving Sustainable Development Goal 6 at Home and Away	What is the value of Moreton Bay?	<i>Lucy Cameron, Australia.</i> An ear to listen and time to ponder: Experiences and insights from the Victorian Waterway Management Twinning Program	
10:45	<i>Sue Jackson, Australia.</i> Indigenous seasonal calendars as a source of knowledge for determining sustainable flow regimes	<i>David Bell, Australia.</i> Tracking the future – improving environmental watering in the Murray-Darling Basin	<i>Louise Burge, Australia.</i> National Agricultural Productivity & Reconciliation Ecology Centre			<i>Tara Davis, USA.</i> Opportunities in cross-cultural exchanges: Willamette River, USA and Rio Laja, Mexico	
11:00	<i>Sarah Laborde, Australia.</i> How fast does the Logone floodplain dry? Social and cultural relevance of rates of change in river discharge and floodplain water levels	<i>Ingrid Takken, Australia.</i> Modelling environmental water in source river system models: The River Murray system	<i>Wenxue Li, China.</i> To explore a new philosophy for governance on the floodplains of the Lower Yellow River under new circumstances			<i>Olita Ogorjio, Kenya.</i> Still twinning – the Tweed Kenya Mentoring Program	
11:15	<i>Sarah Baines, Canada.</i> Indigenous flows in the lower Athabasca River, Canada: A bridging dialogue to meaningfully impact water policy innovation	<i>Hilary Johnson, Australia.</i> Operational challenges and strategies for managing environmental water in the Murray-Darling Basin	<i>Erwando Rachmadi, Indonesia.</i> Integrating Water Resources Management in Bengawan Solo River Basin, Indonesia			<i>Brian Kemp, Canada.</i> Twinning success – working towards an integrated watershed management plan	
11:30	<i>Michael Douglas, Australia.</i> Food for thought: Water requirements and food production in northern Australia	<i>Michael Stewardson, Australia.</i> Delivering environmental flows at the basin-scale through active management of environmental water entitlements				<i>David Winfield, Australia.</i> River basin planning – drawing on the Australian experience to inform basin planning in India	
11:45	Wrap up; Q and A; discussion	Wrap up; Q and A; discussion	Wrap up; Q and A; discussion			Wrap up; Q and A; discussion	
12:00	Lunch Water Stories guided walk, WWF (12:15-13:15) RiverExpo & posters in Plaza Foyer						
	Plaza Auditorium	P9	P10	P6	P7	P8	P11
	<b>Theme 1: Social and cultural dimensions of E-flows</b>	<b>Theme 2: E-flows in the Murray-Darling</b>	<b>Theme 3: Integrated river basin management</b>	<b>Theme 4: Sustainable development goals</b>	<b>Theme 5: Community engagement and leadership</b>	<b>Special session</b>	<b>Emerging River Professional Award Finalists</b>
CHAIR:	Rebecca Tharme	Megan Holcomb	International WaterCentre	Russell Rollason	Johnny Sundstrom		Simon Ross
13:30	<i>Lauren Zielinski, United States.</i> Incorporating social indicators in the monitoring and evaluation of environmental flows	<i>Paul Frazier, Australia.</i> Monitoring the outcomes of environmental watering: Long-term intervention monitoring in the Gwydir River	<i>Reece Hill, New Zealand.</i> Prioritising soil conservation and water quality issues for the Waikato River and Waipa River Restoration Strategy, New Zealand	<i>Amanda Morgan, Australia.</i> Why knowledge and learning are essential to achieving SDG6	<i>Piet Filet, Australia.</i> Collaboration to build capacity, insight and desired water futures	COMPASS: A one-stop shop for accessing water resource information	<i>Lauren Zielinski.</i> Creating a monitoring and adaptive management framework for environmental flows
13:45	<i>Eloise Kendy, USA.</i> The social dimensions of Colorado river restoration: Insights for water policy at the U.S. Mexico border	<i>Andrew Herron, Australia.</i> When 1ML ≠ 1ML – Floodplain inundation to maintain environmental values	<i>Richard Cresswell, Australia.</i> Integrated agricultural and water modelling to guide healthy rivers in New Zealand	<i>Pema Dorji, Bhutan.</i> Comparative study of Environmental Impact Assessment (EIA) in Bhutan with best practices elsewhere	<i>Anaru Begbie, New Zealand.</i> Te la O te Awa/The current of the River – understanding the learning needs of Raukawa kaitiaki (guardians)		
14:00	<i>John Conallin, Netherlands.</i> Environmental flows in a rapidly developing world: What are the most appropriate approaches for embedding environmental flows? Are stakeholder centred approaches the key to implementation?	<i>Jessica Davison &amp; Helen Watts, Australia.</i> Incorporating research into the adaptive management of environmental flows	<i>J.M. Chandramali Jayawardana, Sri Lanka.</i> Effect of catchment disturbance on river health in two agricultural catchment in Sri Lanka	<i>Eva Abal, Australia.</i> Towards water and food security through energy efficiency: addressing the adaptation gap	<i>Nuki Nicholson, New Zealand.</i> Sharing traditional Indigenous knowledge of the Waikato River within the Te Arawa River Iwi Trust (TARIT) tribal area of Aotearoa (New Zealand)		<i>Tatenda Dalu.</i> 8. Ecological quality assessments of urban streams in the developing world
14:15	<i>Erin O'Donnell, Australia.</i> Environmental flows policies: A new framework for implementation	<i>Natalie Stalenberg, Australia.</i> When the river runs high: Two case studies illustrating how an environmental watering program responds to a high river	<i>Keri Neilson, New Zealand.</i> Waikato and Waipa River Restoration Strategy – an action plan for the restoration of New Zealand's longest river	<i>Barry Hart, Australia.</i> Water resources planning for northern Australia	<i>Shelley Scoullar, Australia.</i> Achieving multiple outcomes with local knowledge		<i>Dean Murruven.</i> Securing South Africa's strategic water source areas
14:30	<i>James Peters, Australia.</i> Incorporating Aboriginal cultural perspectives into water allocation planning and environmental flow delivery		<i>Shane White, Australia.</i> Impacts of blueberry horticulture on stream water quality	<i>Vanh Mixap and Yu Yu Htay, Cambodia.</i> Women's voices from the Mekong – How we are tackling SDG 5 and 6	<i>Jessica Blackman, Australia.</i> Green Heart Schools – Youth leadership and our water resilient future		
14:45	Wrap up; Q and A; discussion	Wrap up; Q and A; discussion	<i>Ben Stewart-Koster, Australia.</i> Feeling the pinch of hydrologic and climatic change: An expert based model to estimate risk factors in a combined aquaculture-agriculture system	Wrap up; Q and A	Wrap up; Q and A		

15:00	Afternoon tea					
	Plaza Auditorium	P9	P10	P6	P7	P8
	Theme 1: Social and cultural dimensions of e-flows	Theme 2: E-flows in Australia	Theme 3: Integrated river basin management	Theme 5: Public health	Theme 5: Community engagement and leadership	2017 Thiess International Riverprize finalists
CHAIR:	Sue Jackson	Emerging Water Professional	Carmina Capuzrivera	Emerging Water Professional	Emerging Water Professional	Ian Atkinson
15:30	<i>Anne Poelina, Australia.</i> Singing the Warloongarri River Law Song for Country – Enabling First Law and Legal Personhood for the Mardoowarra (Fitzroy River), West Kimberley, Australia	<i>Anne Jensen, Australia.</i> Where have all the flowers gone?	<i>Misko Ivezich, Australia.</i> Assessing stream condition to inform management to protect the Great Barrier Reef	<i>Rhys Anderson, Australia.</i> Urban swimmability: A driver for sustainable and liveable cities	<i>Carl Tippler, Australia.</i> Iconic species and ecosystem services – a case study form the Parramatta River Catchment, Sydney Australia	<i>Tim Troll, USA.</i> Nushagak & Kvichak Rivers, USA  <i>Steven Schauer, USA.</i> San Antonio River, USA  <i>George Oliver De La Rama, Philippines.</i> Pasig River, Philippines
15:45	<i>Erina Watene-Rawiri, New Zealand.</i> Indigenous priorities for river restoration in Aotearoa (New Zealand)	<i>Helen Keenan, Australia.</i> Developing a new environmental flow rule for Warragamba Dam: application of flow, ecological and economic modelling in the 2017 Metropolitan Water Plan	<i>Erin O'Donnell, Australia.</i> Environmental water managers: What happens when the environment has legal rights?	<i>Daniel Ahn, New Zealand.</i> A mass balance model of rubber crumb on sports fields and contribution to zinc contamination in Motions Creek (New Zealand)	<i>Simon Costanzo, United States.</i> Developing a basin health report card for the Orinoco River in Colombia: A stakeholder driven approach to environmental assessment, management and planning	<i>Luke Comins, UK.</i> River Tweed, United Kingdom
16:00	<i>Naomi Simmonds, New Zealand.</i> Descended from the waters of the Waikato and Waihou – self-determination and freshwater management in Aotearoa New Zealand	<i>Ivars Reinfelds, Australia.</i> Flow, fish and weeds: eco-hydraulic modelling to determine benefits from environmental flows for a major urban water supply, Warragamba Dam, NSW	<i>Lyndal Hasselman, Australia.</i> Watering the environment: Whose job is it anyway?	<i>Lydia Cetin, Australia.</i> Integrated catchment-river modelling of the urban parramatta river to support achieving swimmability targets	<i>Heath Kelsey, United States.</i> Shared visioning for positive change through stakeholder engagement in an evolved ecosystem health report card development process	
16:15	<i>Virginia Marshall, Australia.</i> Overturning aqua nullius	<i>Simon Fane, Australia.</i> Assessing the impacts on supply; optimisation modelling, economic analysis and community engagement to support a decision for new environmental flows in Sydney	<i>Ester Galende Sanchez, Ireland.</i> Integrating urban-rural communities through stakeholder analysis to implement mechanisms for rewarding hydrological ecosystem services: Case study of Lima, Peru	<i>Claire Robinson, United States.</i> Los Angeles, USA – A Metro “Tale of Two Rivers: The Los Angeles & San Gabriel Rivers Emerald Necklace”	<i>Natalie Holland, Australia.</i> The Murray-Darling Basin Balanced Water Fund – using markets and innovative financing to restore wetlands and floodplains in the Murray-Darling Basin	
16:30		<i>Suzanne Witteveen, Australia.</i> Victoria's state framework for environmental water outcomes	<i>Elsa Zavadil, Australia.</i> Waterway science conceptual models: From conceptual models to decision support system	<i>Jamie Ruprecht, Australia.</i> Boating management plans in the wake of rising powerboat ownership	<i>Deborah Nias, Australia.</i> Business, community and government partnerships for watering wetlands in the Murray-Darling Basin	
16:45	Wrap up; Q and A; discussion	Wrap up; Q and A; discussion	Wrap up; Q and A; discussion	Wrap up; Q and A; discussion	Wrap up; Q and A; discussion	
18:30	Gala dinner: Thiess International Riverprize and Emerging River Professional Award					
22:30	Close					



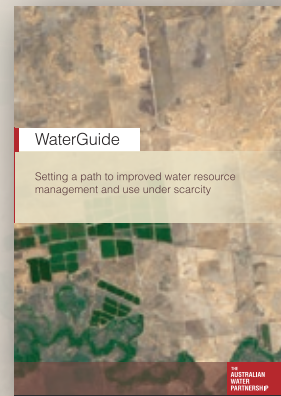
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**WaterGuide**

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NEWAH WASH Project, Nepal. Source: DFAT/Jim Holmes

**Water for Women**

Water for Women Fund is a new \$110.6 million over five years Australian aid program to improve the health, gender equality and well-being of Asian and Pacific communities through inclusive, sustainable water, sanitation and hygiene (WASH) programs. The Fund is part of Australia's commitment to the High Level Panel on Water.

The Water for Women Fund will work with Civil Society Organisations (CSOs) on innovative ways to improve water, sanitation and hygiene, focusing on women, girls and people with disabilities in the poorest human settlements.



## *Brisbane City Council warmly welcomes delegates to the 20th International Riversymposium.*

Brisbane is a clean, green and sustainable city, famous for its riverside location, subtropical climate and friendly relaxed lifestyle. Water is Brisbane's most precious natural resource and central to the city's identity and liveability.

Located in one of the fastest-growing regions in Australia with more than 1.2 million people, Brisbane is Australia's New World City. As a WaterSmart City, Brisbane is committed to the protection, enhancement and sustainable management of our waterways.

Brisbane City Council is a proud founding sponsor of the International Riversymposium.

For more information visit Council's display booth or go to [brisbane.qld.gov.au](http://brisbane.qld.gov.au) and search 'clean green sustainable'.



*Dedicated to a better Brisbane*



## WEDNESDAY 20 September 2017

7:00	Registration open					
8:30	2017 Thiess International Riverprize winner		CHAIR: Mr Johnny Sundstrom			
9:00	Dr Eloise Kendy, USA					
9:30	Mr David Papps, Australia					
10:00	Morning tea					
ROOM:	Plaza Auditorium	P9	P10	P6	P7	P8
	<b>Theme 1: Eco-hydrology and monitoring</b>	<b>Theme 2: Social and cultural flows, and e-flows in Victoria</b>	<b>Theme 4: Water security, climate change and natural disasters</b>	<b>Theme 4: Biodiveristy conservation</b>	<b>Theme 3: Policy, governance and leadership</b>	<b>Special session</b>
CHAIR:	Darren Ryde	Cate Brown	Nicky Grigg	Richard Marsh	Natalie Arnold	
10:30	<i>Amy Russell, Australia.</i> Making a big difference for a little fish (Murray hardyhead)	<i>Will Mooney, Australia.</i> 'This is our inherent right'. Reflecting on 10 years of advocacy for water justice: achievements, challenges and future directions	<i>Wade Hadwen, Australia.</i> It all comes out in the WaSH – the need for integrated water resource management to deliver climate-resilient and sustainable water and sanitation services	<i>Adrian Martins, Australia.</i> Partnership approach to freshwater turtle conservation in Northern Victoria	<i>Paula Hanasz, Australia.</i> International actors and transboundary water governance; the case of the Ganges-Brahmaputra problemshed	Queensland Reconstruction Authority: Building Queensland's flood resilience: seeking your input as we journey towards a catchment approach to flood risk reduction
10:45	<i>Janice Kerr, Australia.</i> Stable low-flow spawning fish habitat assessments: Calculating flow thresholds to inform the environmental assessment of state Water Plans (Qld)	<i>Jamie Woods, Australia.</i> Our water our way	<i>John McAneney, Australia.</i> Risk and Determinism – opposing paradigms driving gated spillway operations during major flooding	<i>Arturo Garcia, Mexico.</i> A north American migratory bird partnership: Restoration, monitoring, and community engagement in the Rio Laja, Mexico and Willamette Basin, USA	<i>Frederick Bouckaert, Australia.</i> The role of River Basin organisations in sustainable management of river basins: case studies from around the world	
11:00	<i>Paula D'Santos, Australia.</i> Let it flow – how environmental water can provide native fish benefits	<i>Joel Boyd, Australia.</i> River Yarns – a pilot project partnership for cultural flows in the Wimmera	<i>Priyantha Jayakody, Australia.</i> River transmission loss forecast using multiple variables	<i>Mark Drew, United States.</i> Sierra Meadow Strategy: A process and outcome centered on increasing pace and scale of meadow restoration	<i>Chathura Sanjeeva, Sri Lanka.</i> Capacity building for Young Water Professionals (YWP): Experience sharing from Sri Lanka	
11:15	<i>Phil Slessar and Mark Toomey, Australia.</i> Flows, habitat, connectivity and cooperation: Recovering native fish in northern Victoria	<i>Jane Walker, Australia.</i> Towards cultural flows – Glenelg River Aboriginal water values	<i>Lee Okjeong, South Korea.</i> Development of mega-storm generating tool	<i>Luke Kidd, Australia.</i> A spatio-temporal assessment of the impact of climate change on hydrological refugia in eastern Australia using the Budyko water balance framework	<i>Barry Hart, Australia.</i> Climate change and the Murray-Darling Basin Plan	
11:30	<i>Nicole McCasker, Australia.</i> A conceptual synthesis of flow-recruitment relationships for riverine fishes	<i>Rene Woods, Australia.</i> Understanding cultural flows: A coordinated research effort in pursuit of Aboriginal water rights	<i>Tsitso Mocumi, South Africa.</i> Ensuring provision of sustainable water services amidst the severe drought adversities	<i>Mary Bonet, Australia.</i> 'Corridors of effort' – Abercrombie River connections	<i>Justin Foley, Australia.</i> ACT Healthy Waterways – delivering citywide stormwater quality improvement	
11:45	Wrap up; Q and A; discussion	Wrap up; Q and A; discussion	Wrap up; Q and A; discussion	Wrap up; Q and A; discussion	Wrap up; Q and A; discussion	
12:00	Lunch River Stories – Brisbane City Council's Green Heart Schools Program and Student Environmental Leadership Network River Expo and posters					
	<b>Theme 1: Eco-hydrology and monitoring</b>	<b>Theme 2: Social and cultural flows, and e-flows</b>	<b>Theme 4: Water security, climate change and natural disasters</b>	<b>Special session</b>	<b>Theme 3: Policy, governance and leadership</b>	<b>Special session</b>
CHAIR:	Robyn Watts	Nadine Kilsby	Aoife Cleary		Natalie Baker	
13:30	<i>John Koehn, Australia.</i> How do we manage a long-lived, highly migratory, flow-responding fish at a basin scale?	<i>Cliff Kelly, New Zealand.</i> From the source: Tribal perspectives on the significance of water, water rights and water governance of Te Waihou and the Blue Spring	<i>Michael Wrathall, Australia.</i> Drought security assessments of regulated rivers in NSW	Australian Water Partnership: Delivering environmental water	<i>Matthew Davis, New Zealand.</i> Water rights and water markets in Chile revisited	Australian Department of Agriculture: Australia's integrated water reform approach
13:45	<i>Heather McGinness, Australia.</i> Waterbird recruitment and movement: Responses to flooding, stressors and threats	<i>Cate Brown, South Africa.</i> Good practice note: downstream flow regimes and environmental and social flows management plans for hydropower projects	<i>Yinsheng Zhang, China.</i> Impacts of snow/glacier variability over the hydrologic regimes in upper Indus River Basin.		<i>Robert Baldwin, Canada.</i> Creating a public-private relationship, to achieve maximum benefits in the Lake Simcoe watershed	
14:00	<i>Darren Ryder, Australia.</i> Food web responses to hydrologic regimes in floodplain rivers	<i>Fiona Spruzen, Australia.</i> Gaining water for the environment in Victoria – water recovery mechanisms	<i>John McAneney, Australia.</i> Is climate change responsible for the rising cost of natural disasters?		<i>Craig Wilson, Australia.</i> The efficient use of stormwater management investment to achieve positive water quality outcomes	
14:15	<i>Peter Pollard, Australia.</i> The fate of Dissolved Organic Carbon (DOC) in flowing freshwaters around the world: the devil is in the (microbial) detail	<i>Katie Burns, Australia.</i> Werribee River: Case study of an integrated approach to rural, urban and environmental water priorities	<i>Paul Sayers, United Kingdom.</i> Assessing future flood risk and opportunities for adaptation at UK scale.		<i>Jim Binney, Australia.</i> Waterways as natural capital underpinning communities and business: A case study on Gold Coast waterways	
14:30	<i>Angela Arthington, Australia.</i> Reflections on ELOHA – Ecological Limits of Hydrologic Alteration: Expanding its scope	<i>Caitlin Davis, Australia.</i> Making every drop count	<i>Ashish Sharma, Australia.</i> Urban flooding increasing, while the countryside dries up – the dichotomous impact of rising global temperatures		<i>Tony Weber, Australia.</i> The cost of saving an icon from pollution: integrating science & economics to estimate the cost of meeting targets to help save the Great Barrier Reef	
14:45	Wrap up; Q and A; discussion	Wrap up; Q and A; discussion	<i>David Barratt, Australia.</i> Development of a catchment post-emergency recovery plan for the Upper Murrumbidgee		Wrap up; Q and A; discussion	
15:00	Afternoon tea					
15:30	CHAIR: Roger Higgins Brisbane Declaration summary and next steps Emerging Water Professionals					
17:00	Close					

## THURSDAY 21 September 2015

8:00–15:00	The Scenic Logan River and Beaudesert Nutrient Offset Project
8:00–18:00	The value of Moreton Bay, North Stradbroke Island
8:45–12:30	Sustainable Delta Game – Adaptation Pathways

# KEYNOTE SPEAKERS



**Mr Gerrard Albert**  
Chair, Nga Tangata  
Tiaki o Whanganui Trust (New Zealand)

*Tupua Te Kawa – The journey to return the Whanganui River to the Whanganui River.*

Fought over, debated and litigated for more than a century and a half, the Whanganui River's post-colonial story represents a litany of missed opportunities by national and local law makers to respect the Te Ati Haunui a Paparangi primary relationship with the River as a living, integrated and indivisible whole.

Having been forced historically to prove their association through narrow compartmentalized and imported legal and philosophical constructs, in 2008 Te Ati Haunui a Paparangi unselfishly decided to utilize their Treaty of Waitangi settlement to share the tribe's innate relationship with the River with all communities. An innovative framework which returns governance of the Whanganui River to the Whanganui River itself via a first principle proposition called Tupua Te Kawa (the innate values of the River) was legislated in March 2017 and the Whanganui River became a legal person known as Te Awa Tupua (the 'Whole' River).

The River can now speak for itself and promote, advocate and defend its health and well being. 2017 is the first year of the first decade of the first century of implementation – where might this approach lead us, and what inspiration can it bring to other river communities globally?

**Program**  
9:30am Tue 19 Sep



**Dr Eloise Kendy**  
Senior Freshwater Scientist, The Nature Conservancy (North America)

*Just Add Water: Historic Return of the Colorado River to its Delta, United States and México*

Minute 319, a binational agreement between the United States and México, authorized environmental flows into the Colorado River Delta, including a high-profile pulse flow delivered in March through May 2014. Future environmental flows to the delta hinge on demonstrating the feasibility of delivering environmental water and documenting positive ecological responses of the delta's severely degraded riparian habitat.

The design of the flow's hydrograph, the novel utilization of irrigation infrastructure, the preparation and subsequent maintenance of selected restoration sites, and interdisciplinary monitoring at multiple scales combined to show that ecological restoration is possible, even with extremely small water volumes compared to historical flows. The overwhelmingly positive social responses to the flow are likely as pivotal to future flows as are the biophysical responses.

The pulse flow's unique binational character demanded exceptional collaboration and communication involving local, state, and federal government agencies; water managers; water users; scientists; and non-governmental organizations. The success of such a politically, operationally, and scientifically complex endeavor in the severely over-allocated Colorado River Basin bodes well for the future of environmental flows in its delta and in other water-stressed settings, worldwide.

**Program**  
1:45pm Tue 19 Sep  
9:00am Wed 20 Sep



**Mr David Papps**  
Commonwealth Environmental  
Water Holder (Australia)

As a member of the Basin community, the Commonwealth Environmental Water Holder is committed to being a 'good neighbour'. Operating effectively in a working river system where much of Australia's food and fibre is produced requires that the management of environmental water must co-exist with agricultural production in a mutually respectful and harmonious manner.

The Good Neighbour Policy is a set of practices that guide the management of Commonwealth environmental water. The Policy aims to promote mutually beneficial relationships with other water users and landholders, but always in a way that is consistent with statutory obligations.

The central principle of the Policy is to 'first, do no harm'. A precautionary approach is taken to managing environmental water, so that there is no material impairment of the interests of landholders and water users. All decisions are informed by comprehensive risk assessments, which draw on previous results captured through effective monitoring activities. In particular the CEWH has not and will not place water orders that would flood private land without the consent of the landholder. For example, orders are placed at below allowable delivery limits to provide a buffer in the case of unexpected inflows.

**Program**  
9:30am Wed 20 Sep





**Dr Anne Poelina**  
Managing Director, Madjulla  
Association (Australia)

*Guardians of the Mardoowarra  
(Fitzroy River)*

On October 2016 in Brisbane, at the Banco Courts, together with friends of the Mardoowarra, Dr Poelina brought the case to the Tribunal to ask the citizens of the court to recognise the Mardoowarra as a living ancestral being with a right to life... Like her sister the Whanganui River in New Zealand. The Whanganui River has stood strong, and with the help of her Indigenous guardians and the strength and wisdom of their legal and cultural governance, she has set international legal precedence across Mother Earth!

Following the Tribunal for Nature, Traditional Owners, Guardians of the Fitzroy River Catchment (in north-west WA), met on the 2nd and 3rd of November 2016 in Fitzroy Crossing on the banks of the river to send a message to the world, The Fitzroy River Declaration.

The 'Fitzroy River Declaration' aims to protect the traditional and environmental values that underpin the river's National Heritage Listing. The Fitzroy River Declaration 2016 sets a national standard for native title, as well as enshrining the UN Declaration on the Rights of Indigenous Peoples for self-determining our responsibilities as guardians of the Fitzroy River as being fundamental to the management of this globally unique river system. The Declaration sends a strong message to the Federal Government to endorse the EPBC Act (1999) draft Referral Guidelines for the West Kimberley National Heritage Places (2012) as the guiding principles for development within the Fitzroy Catchment.

**Program**  
9:00am Tue 19 Sep



**Prof N LeRoy Poff**  
Professor, Department of Biology,  
Colorado State University  
(Australia/USA)

*Environmental Flows: A Framework to  
Achieve Social-Ecological Sustainability  
in a Changing World*

The last 30 years have seen tremendous changes in the science, application and social acceptance of environmental flows. The 2007 Brisbane Declaration was a landmark in the development of the e-flows paradigm, formally recognizing the co-dependence of people and nature on renewable freshwater resources. In the 10 years since, progress in science, management, policy and legislation has elevated e-flows into a globally recognized platform to sustainably manage freshwaters for social and ecological benefit. But the effectiveness of achieving this potential is challenged by increasing demand for freshwater resources and by deep uncertainties about how global warming will affect the reliability of future water and hence potential conflicts among end users. Ecological scientists, water resources engineers and social scientists must innovate collaboratively to design science-based and socially-acceptable management schemes that can sustain human-dominated freshwater ecosystems in a changing world.

**Program**  
9:00am Mon 18 Sep



**Program**  
8:30am Tue 19 Sep



**Dr Bill Young**  
World Bank (USA)

*Water Security: Getting  
to Solutions for People,  
Economies and the  
Environment*



Water security can be considered of as the overarching goal of water management and can be split into two broad areas of focus or outcome: (i) management of water to harness its productive benefits and to promote human well-being, livelihoods, and socio-economic development in an environmentally sustainability manner, and (ii) management of water to protect societies, economies, and ecosystems from the destructive impacts of water including floods, droughts, pollution and water borne diseases.

While the concept of water security is being increasingly widely adopted and several definitions and metrics have been proposed, there is no agreed approach to quantifying and sensibly integrating all the aspects of water security across these two broad areas in a structured assessment. Furthermore, existing methods of assessing water security based on multiple metrics that enable comparisons between sectors and countries, have little diagnostic value and hence do not directly help identify interventions to improve water security.

Given the complexity and multi-sectoral nature of water security, researchers and practitioners are recognizing that water security is better analyzed using context-specific indicators. The World Bank is developing and trialing a goal-oriented framework for diagnosing water security that seeks to identify priority areas for intervention. The water security diagnostic framework will support structured and repeatable assessment of water security, but is not a prescriptive method and is not based on a single composite water security metric.

The diagnostic focuses on identifying the key constraints to water security by first assessing water-related outcomes for society, the economy and the environment. It is structured around answering three strategic questions for the domains of water resources management (To what extent are water resources being managed efficiently and sustainably?), water service delivery (To what extent are water services being delivered reliably, affordably and inclusively, and water-related risk mitigation (To what extent are water-related risks being recognized and mitigated?).

While the primary focus for the World Bank is country-level diagnostics, the framework is also being trialed for river basins and city-scale water systems. This presentation will describe the conceptual framework and its application at country, river basin and city scale. The presentation will highlight how water ecosystem outcomes can be integrated into a comprehensive water security analysis framework.

# SPECIAL SESSIONS

## Water Stewardship: A market-driven solution to shared catchment water challenges

**Mon 18 Sep 10:30am-12:00pm**

This session will illustrate the evolution of AWS Water Stewardship since the release of the International Water Stewardship Standard in 2014. It will show how the system is being applied to industrial pollution and supply chain management in China, how it is engaging small-holders in addressing non-point-source pollution of a Marine National Park in Victoria, how it is working with large and small land and water managers in the Murray-Darling Basin and, its potential for application to the Great Barrier Reef. AWS Water Stewardship is a voluntary system that engages corporate and private water users in addressing shared catchment challenges. It encourages continuous improvement in land and water management and collaboration between water users, governments, community groups and other water users. At a time when global water stress is increasing, it offers larger organisations a framework for managing water risk, smaller landholders a focus for action and governments an opportunity to engage water users in low-capital, efficient solutions.

**10:30am** Introduction (Michael Spencer, Chair, Alliance for Water Stewardship (AWS))

**10:40am** Voluntary water stewardship in China (Zhenzhen Xu, AWS Asia-Pacific)

**10:55am** Engaging small landholders on non-point-source pollution (Lance Lloyd, Western Port Biosphere)

**11:10am** Building water stewardship in the Murray-Darling Basin (Megan McLeod, AWS Australia)

**11:25am** Water stewardship framework for the Great Barrier Reef (Fiona Chandler, Alluvium)

**11:40am** Discussion: Common themes in the lessons learned?

## The river basin report card game – understanding stakeholder decision-making

**Mon 18 Sep 1:30-3:00pm**

An interactive role-playing game has been professionally designed to engage multiple stakeholders in using report cards to help inform decision-making in river basins. Participants role play as policymakers, natural resource managers, non-government organizations, companies, community representatives, or other stakeholders. Role-playing allows participants to experience different perspectives and competing demands as they make decisions for managing a fictitious river basin.

Decisions made impact the basin in different ways, which are reflected by report card scores for Water Quality & Quantity, Ecology, Health & Nutrition, Economy, Management & Governance, and Social & Cultural values. In-turn, report card scores will influence further decision-making throughout the game as players and teams compete to achieve the highest score individually and as a team.

Participants will gain a better understanding of how stakeholder-based report cards can be used to enhance river basin management.



## Riverprize – What does it take to win and what are the benefits?

**Mon 18 Sep 1:30-5:00pm**

International RiverFoundation awarded the first *Riverprize* in 1999 and since then, organisations from all parts of the globe have been vying for the coveted awarded. This session features advice and anecdotes from past *Riverprize* winners and judges on what it takes to win the prize, and how it has benefitted rivers, ecosystems and communities.

**3:30pm** Kelly Mayer and Kerrie Gallo, Buffalo Niagara Riverkeeper (USA) – Winners of the 2016 Thiess International *Riverprize*

As the most recent winners, Kelly and Kerrie will talk about their experiences and lessons learned. Winners of the inaugural Northern American *Riverprize* in 2015, they gained automatic entry to the 2016 Thiess International *Riverprize*, which was one of the most competitive in many years.

**3:50pm** Dr Deborah Nias, Murray-Darling Wetlands Working Group – Winners of the 2007 Australian *Riverprize*

Not only are MDWWG past winners of the Australian prize but Deb is Chair of the Australian Judging Panel. She brings perspectives from both sides of the judging table and insights into the non-cash benefits of winning such an award.

**4:10pm** Prof Bill Dennison from the University of Maryland Center for Environmental Science, USA

As a member of the International RiverFoundation Board, and Chair of the Thiess International *Riverprize* judging panel, Bill has a unique perspective on what it takes to win the *Riverprize*. In addition, the eligibility criteria for the award have changed in recent years and Bill will share the judges' perspective on what this means for future applicants.

**4:30pm** Q&A session with audience

## Listen to the river: Lessons from a global review of environmental flow success stories

**Mon 18 Sep 1:30-3:00pm**

How can environmental flow approaches move beyond scientific assessments and paper policies? How can we move beyond contested claims for water and hydropower to equitable trade-offs that allow for environmental flows? Is it realistic to expect that ensuring the right quantities of flow at the right times of year will become normal practice for water resource management and river basin planning?

This session will share insights from *Listen to the river*, a new WWF report exploring the political, institutional, economic and social processes that have led to successful environmental flow implementation in eight rivers around the world. The report sets out "common truths" that typically influence efforts to implement environmental flows. And it describes a typology of actions that governments, water users, NGOs and other can take to support protection and/or restoration of flows.

Building on the conclusions of *Listen to the river*, the session will seek new knowledge and ideas that WWF and other organisations can use to stimulate successful e-flow implementation elsewhere. Specifically, we will be seeking thoughts from panellists and the audience on measures that can be included the global action agenda for environmental flows that will be developed following the *Riversymposium*, in conjunction with the revised 2017 Brisbane Declaration.

**1:30pm** Welcome and introduction (Bill Young, World Bank)

**1:40pm** *Listen to the river*: A precis (Dave Tickner, WWF)

**1:50pm** Case studies: The Ganga, Yangtze and Mara Rivers (Nitin Kaushal, WWF-India; Robert Speed, Badu Advisory)

**12:10pm** Panel discussion: Who should do what, by when? Building a global agenda for e-flows (Frank Radstake, Asian Development Bank; Rebecca Tharme, Riverfutures; Nitin Kaushal; Robert Speed; facilitated by Bill Young)

**12:50pm** Conclusion: What next? (Bill Young, Dave Tickner)



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## Moving from the back seat into the driver's seat: steering your own development as an emerging leader

**Mon 18 Sep 3:30-5:00pm**

Do you want to strengthen your ability to drive positive change?

There is no shortage of complex challenges that need to be addressed that relate to water and waterways. For many of us, a 'business as usual' approach is not an option. We need the ability to drive processes of influence to deliver positive change in many settings. In other words, we need to build our capacity to play different types of leadership roles. Such roles may include being a thought leader, team leader, adaptive leader, boundary spanning leader, strategic leader or authorising leader.

Leadership development is a lifelong process, which ideally, should start early in a person's career and be actively managed by the leader themselves.

In this 90 minute workshop, Dr André Taylor (Leadership Specialist with the International Water Centre) will facilitate an interactive session where participants will learn about principles and methods of leadership development.

Specifically, participants will have the opportunity to do a self-assessment exercise to reflect on where they are currently positioned in the process of managing their own development. They will then work through a series of exercises to explore four key steps in managing their development as leaders. These steps are:

- adopting an appropriate mindset, including a 'leader identity';
- taking control of the leadership development process;
- learning about principles and methods of leadership development, with a focus on those that are high impact, low-cost and can use real work challenges as 'practice fields'; and
- using a leadership development plan to organise and structure activities.

This workshop has been designed primarily for emerging leaders. It would, however, also be valuable to more experienced leaders who are keen to learn new ways to accelerate their own development or help others to do the same (e.g. mentees or staff).



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## Lessons from Australian efforts to support river basin water reform projects in Asia

**Mon 18 Sep 3:30-5:00pm**

This session aims to draw out some lessons from river basin management projects in three countries – India, Myanmar and Vietnam – involving collaborations between Australian and Asian experts. Australians participants will critically reflect on how successful their engagements have been for sharing Australian knowledge and experiences, and the role this has in supporting in-country reforms. They will highlight any tools or frameworks they are using to facilitate the exchange of knowledge. Their stories will be compared in discussion following the talks to see if there are any common lessons that might serve as advice for similar engagements in the future.

**11:00-11:05am** Introduction

**11:05-11:25am** Supporting policy and institutional reform for river basin planning in India (David Harriss, Access Water Management)

**11:25-11:45am** Water reform in the Ayeyarwady basin: supporting Myanmar to develop an integrated river basin planning process' (Tarek Ketelsen, AMPERES)

**11:45am-12:05pm** Building and managing modernised conjunctive groundwater/surface irrigation systems for high value agriculture in Vietnam (Rob Rendell, RM Consulting Group, and Greg Holland, Jacobs)

**12:05-12:30pm** Discussion: common themes in the lessons learned?



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## GEF IW:LEARN Twinning opportunities

**Mon 18 Sep 3:30-5:00pm**

GEF IW:LEARN – A global initiative to advance Twinning

Presenter: Charlotte Spliethoff – IRF Program Manager

IW:LEARN is the Global Environment Facility's (GEF) International Waters Learning Exchange and Resource Network. The IW:LEARN project was established to strengthen transboundary water management around the globe by collecting and sharing best practices, lessons learned and innovative solutions to common problems across the GEF International Waters portfolio.

As a global partner of the GEF, the International River Foundation (IRF) leads the IW:LEARN activity to organise twinning collaborations between GEF partners and IRF's partners and *Riverprize* alumni to collaborate and share knowledge and experiences globally.

This special session will introduce symposium delegates to the IW:LEARN program and identify the skills, knowledge and needs within the IRF network to start potential Twinning projects with GEF partners. Several topics will be address, including transboundary commissions, sustainable hydropower, private sector partnerships, governance, gender equality, flood risk management and water security.

## Achieving Sustainable Development Goal 6 at Home and Away

**Tue 19 Sep 10:30am-12:00pm**

Water is the life-blood of our planet: it is vital for human life. But today, over two billion people, in particular women and girls, face a daily struggle to find safe water to drink. They do not have access to sanitation services that would give them dignity and allow them to keep their communities and cities healthy and clean.

Prime Minister Turnbull is a member of the UN World Bank High Level Panel on Water (HLPW) established in 2016 to mobilize international support to achieve SDG 6 on water. This Session will discuss what Australia is doing to help our neighbours and how SDGs are being addressed by water managers in Australia.

**10:30am** Welcome and introduction

**10:40am** Water everywhere but will there be enough? Australia's international actions. (Michael Wilson, Assistant Secretary GFB, DFAT)

**10:55am** Ensuring equity and wellbeing; How should Australia respond? Dr Eva Abal (Adviser, Strategic Projects and Partnerships, International WaterCentre)

**11:10am** Managing water and waste in wetlands to achieve SDG 6 goals. (Kylie Crouch, Environmental Affairs Manager, Sustainable Infrastructure Solutions Unitywater; Partha Susarla, Strategic Planning Manager, Infrastructure, Planning and Development Branch, Sustainable Infrastructure Solutions BU; Unitywater)

**11:25am** Panel discussion

**11:45am** Wrap up

**12:00pm** Close



Australian Government

Department of Foreign Affairs and Trade

## What is the value of Moreton Bay?

**Tue 19 Sep 10:30am-12:00pm**

Moreton Bay contributes around \$5 billion in direct economic benefit and substantially more in providing ecosystem services to South East Queensland.

While valuing the Bay and estuaries, it is also important to understand and develop new tools and approaches to deliver a more holistic and cost effective approach to managing human impacts in the region to ensure the economic and social benefits and ecosystem services delivered by the Bay are not lost. The need to innovate around pollutants, nutrients and water quality is critical if the region is to house another 2 million people in the region by 2041.

**3:30pm** Paul McDonald, General Manager Services, Healthy Land & Water

**3:42pm** Cameron Jackson, Team Leader Environment & Water Quality, Queensland Urban Utilities

**3:55pm** Q&A Panel

**4:25pm** Workshop

**4:55pm** Infomercial: Stephan Gabas, Manager SAS Labs, QUU



## Emerging River Professional Award

**Tue 19 Sep 10:30am-12:00pm**

This session features presentations from the finalists in the 2017 Emerging River Professional Award, presented by the International RiverFoundation, and sponsored by OceanaGold Corporation.

**10:30am** Welcome, introduction and judging panel

**10:55am** Creating a Monitoring and Adaptive Management Framework for Environmental Flow (Ms Lauren Zielinski)

**11:10am** Q&A with Ms Lauren Zielinski

**11:15am** Ecological quality assessments of urban streams in the developing world (Dr Tatenda Dalu)

**11:30am** Q&A with Dr Tatenda Dalu

**11:35am** Securing South Africa's Strategic Water Source Areas (Mr Dean Muruven)

**11:50am** Q&A with Mr Dean Muruven

**11:55am** Conclusion



## COMPASS: A one-stop shop for accessing water resource information

**Tue 19 Sep 1:30-3:00pm**

COMPASS designed by Water Future and its partners including UNESCO, IIASA, Griffith University, CUNY provides a major opportunity to develop a systematic standardized and near real-time water intelligence product suite. It is a Comprehensive Assessment for the water resource system at a global and regional level which can be used for a variety of purposes. This includes infrastructure planning for domestic, industry and agriculture water use; monitoring progress in SDG implementation; and identify business opportunities and risks associated in water related sectors. COMPASS produces indicators and indices merging the latest satellite data with model outputs, in-situ observations, and socio-economic information and citizen-data resources to produce continuously updated monthly assessments.

The Session comprises presentations from the core team of COMPASS developers on the unique features of the COMPASS, its product suite and value to public and private sector.

Following the presentations, a panel discussion focussing on the following issues will be undertaken:

- Stock-take of existing global water assessments; what are the strengths and/or limitations of current assessments?
- How will such assessment help to cut costs in infrastructure building, planning in public and private sector?
- How will different stakeholders, including the business sector, be engaged in the process of formulating the co-design process of assessment?
- Discussion of key assessment methodologies and indicators, pertaining to the assessment of the Global State of Water, integration of socio economic and hydrological data, development of indices, and modelling to fill up the data gap.

Chair: Anik Bhaduri (Water Future)

Presentation: Charles Vorosmarty (Water Future), Simon Langan (IIASA), Stefan Uhlenbrook (UNESCO-WWAP), Stuart Bunn (Griffith University), David Hamilton (Griffith University), Karen Hussey (UQ).



# International RiverFoundation

The International RiverFoundation champions integrated river basin management for the restoration, protection and sustainable management of the world's rivers.

Water is crucial for all life—and we need healthy rivers, lakes and wetlands for sustainable development. We promote and support effective management of these resources by facilitating knowledge sharing, education and best practice river basin management, and by recognising and rewarding those making a difference.

We draw upon our large networks, and seek to build new ones, to revive the world's rivers through multi-sector partnerships around the world. We are committed to supporting positive ecological, economic and social outcomes through our programs, which aim to change the lives of individuals and communities.

[www.riverfoundation.org.au](http://www.riverfoundation.org.au)



## OUR PROGRAMS

### **Riversymposium**

A global forum for river managers, policy developers, scientists, consultants, students, NGOs, indigenous and community organisations and business & industry representatives.

### **Riverprize**

The world's foremost award in river basin management.

### **Twinning**

Twinning pairs Riverprize winners with communities who can benefit from their knowledge.

### **Scholarships, fellowships and grants**

- Ken Thiess Memorial Scholarship
- Vera Thiess Fellowship for Women
- Riversymposium sponsored delegates

### **Emerging River Professional Award**

Recognising those in the early stages of their careers in rivers.

### **Women and Water**

A forum to advance understanding of gender roles and their influence on managing the world's water

### **River Recovery**

Integrated, on-ground programs assisting communities to revive the health of their rivers and improve livelihoods

We envision  
a future in which people  
and ecosystems benefit  
from sustainably  
managed rivers

## Building Queensland's flood resilience: seeking your input as we journey towards a catchment approach to flood risk reduction

Wed 20 Sep 10:30am-12:00pm

### QRA Team

- Rachel Nibbs – General Manager, Resilience and Recovery
- Graeme Milligan – Executive Director, Resilience

### Panellists:

1. Paul Sayers
2. Philip Weller
3. Prof Chris Spray or Prof Bill Dennison
4. Winner ERPA – to be announced at Riverprize Gala Dinner, Tue 19 Sep

The Queensland Reconstruction Authority (QRA) is responsible for coordinating disaster recovery, resilience and mitigation policy in Queensland.

As the most flood prone state in Australia, the QRA is focussed on developing whole-of-government flood risk management and resilience policy for Queensland. The Queensland Flood Resilience Program has been established to deliver on this by introducing a catchment approach to flood risk reduction in Queensland.

International examples demonstrate the wide reaching benefits of a catchment approach. However, Queensland's vast landscape presents a unique set of challenges including widely dispersed communities and supporting infrastructure.

The International River Symposium presents an exciting opportunity for us to collaborate with experts from around the world. We invite you to be part of the conversation as we forge a new path for flood risk reduction in Queensland.

**10:30am** Welcome

**10:35am** Panel member introductions

**10:45am** Presentation – QLD Flood Resilience Program

**11:05** Question. Feedback from panellists and the floor

**11:50am** Panel member closing statements

**12:00pm** Thank you and session close

Queensland Reconstruction Authority (QRA)  
Special Session

## Delivering environmental water: The role of government, NGOs and the community

Wed 20 Sep 1:30-3:00pm

This session will highlight lessons learned from developing environmental watering arrangements in Australia, with a focus on bureaucratic challenges and involving the community in delivering environmental water. National, state, and local perspectives will be provided on the topic. Speakers will outline environmental watering arrangements in Australia, explain concepts that need to be understood by the bureaucracy and adjustments that need to be made to bureaucratic practices. Partnerships between water managers and the community have been vital to the successful delivery of environmental water, and have been developed at basin-wide, valley-specific, and local levels. Speakers will outline their experiences collaborating with communities at these three different levels. A panel discussion that follows will try to distil lessons learned that may have relevance to water managers working in a wide range of contexts who wish to involve the community in delivering environmental water.

**10:30am** Introduction (Nick Schofield, Australian Water Partnership)

**10:35am** Basin-wide participation of communities in environmental water delivery (David Papps, Commonwealth Environmental Water Holder)

**10:55am** Lessons from engaging with environmental water advisory groups in the state of New South Wales (Justen Simpson, New South Wales Office of Environment and Heritage)

**11:15am** Facilitating involvement of local communities in environmental water delivery within State and National frameworks (Natalie Stalenberg, Nature Foundation South Australia)

**11:35am** Questions and discussion: Principles for involving the community in delivering environmental water



## Australia's integrated water reform approach

Wed 20 Sep 10:30am-12:00pm

Australia has been implementing a program of reform to change the way water is used and managed across the country for over thirty years.

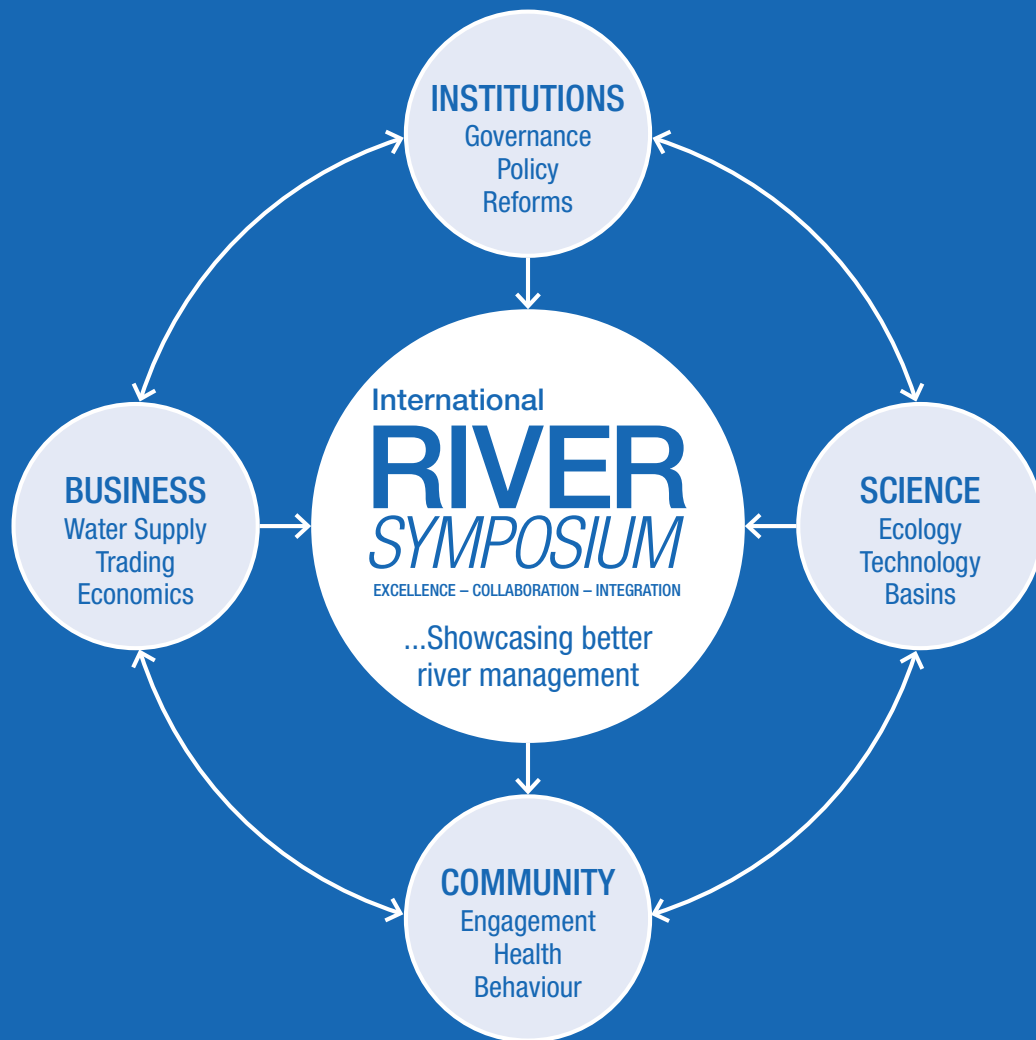
Australia's trans-boundary issues necessitated the development of a unique set of water governance arrangements that draws on the geographical strengths and jurisdictional responsibilities of all levels of government in Australia to work towards a common goal.

The session will focus on examples of this cooperation through the National Water Quality Management Strategy as well as socio-economic analysis to support implementation of Commonwealth water recovery programs in the Murray-Darling Basin.



**Australian Government**  
**Department of Agriculture**  
**and Water Resources**





## Water Stories: The global water crisis in pictures

15 – 26 September  
Brisbane Southbank  
Clem Jones Promenade  
lower boardwalk

A free, outdoor exhibition of large-scale photography featuring images and stories from six countries, across four continents, will be displayed from 15 to 26 September, at Brisbane Southbank.

Since 2011, American photographer Mustafah Abdulaziz has travelled the world for his long-term photographic project on water.

His powerful images display the ebb and flow of this vulnerable resource through the global water crisis and its effect on people, communities and landscapes around the world.

The international exhibition was first shown in Stockholm in August 2015, and has since travelled to London, Hong Kong, New York and Vancouver before arriving in Australia. The stories it features show how better management and protection of water sources can strengthen communities, and underpin development.

The project is a collaboration with Earthwatch, WaterAid and WWF, and is supported by the HSBC Water Programme.

### Program highlight



Guided tour of the  
Water Stories exhibition  
12:15-1:15pm Tue 19 Sep

“Water is borderless and transcendent, affecting our health and that of our planet while binding us emotionally to the places in which we exist...We are a part of something large and cyclic and it is important to remember that we are, as a species, not the centre of it all.”

– Mustafah Abdulaziz, Photographer



## Thiess International Riverprize

The Thiess International Riverprize is the world's foremost award in river basin management, generously sponsored by the Bert and Vera Thiess Foundation. It recognises and rewards organisations making waves in the sustainable management of the world's rivers, whether at the grassroots or transboundary level. The prize rewards inspiring initiatives that utilise Integrated River Basin Management to restore and protect rivers, wetlands, lakes and estuaries. Previous winners and finalists have received widespread recognition, built new partnerships, shared their knowledge and won other awards following Riverprize, becoming part of a network of river practitioners and experts from around the world.

### FINALISTS



#### Nushagak and Kvichak Rivers (Alaska, USA)

The Nushagak and Kvichak River catchments in Southwest Alaska are pristine and ecologically intact, with both catchments flowing into the Bristol Bay basin. They provide minimally disturbed habitat for a wealth of species including moose, caribou, brown bear, 150 species of birds, a rare freshwater seal population, and numerous fish species of which Pacific Sockeye Salmon are globally important. These species continue to support indigenous hunting and gathering societies that have occupied the region for at least 5000 years. The Bristol Bay Land Heritage Trust has protected these rivers and their basins by raising in excess of \$14.4 million to purchase fee or conservation easements to protect approximately 35,700 acres of land. Additionally, they have founded an educational program to teach river ecology to young adults; secured additional protection for salmon under Alaska law by documenting 400+ miles of previously unrecorded salmon streams; initiated reservations of water rights for fish on five major river catchments; collected, mapped and recorded, indigenous ecological knowledge about the Nushagak catchment; developed the Nushagak River Watershed Traditional Use Area Conservation Plan; developed a framework of standards for environmentally responsible mining; developed an application for identifying and prioritizing fish habitat for protection on private lands; and persuaded the Alaska Department of Natural Resources to restore protective land classifications on 4.3 million acres of state land in Bristol Bay.



#### San Antonio River (Texas, USA)

The San Antonio River flows from its headwaters in highly urbanized San Antonio, Texas, through a largely agrarian area to its confluence with the Guadalupe River where its freshwater inflows into San Antonio Bay support an endangered species, the Whooping Crane. The San Antonio River tells a compelling story of how collaborative efforts can result in a dramatic improvement in riverine health while providing for robust economic development. Since the late 1980s, point-source pollution issues were properly managed allowing for healthy aquatic and riparian habitat to return to once polluted areas. The community continued to support the river by constructing one of the largest urban ecosystem restoration projects in the nation. It was one of the first significant river rehabilitation projects using fluvial geomorphic and sediment transport principles on a river within a semiarid region. The project included restoration of 113 acres of aquatic habitat and 334 acres of riparian habitat, and while the restoration is still in its infancy, it is exceeding expectations in many ways demonstrating that urban ecosystem restoration can be successful. In 2015, UNESCO named the San Antonio Missions a World Heritage Site. The ecosystem restoration project was mentioned in the material supporting the World Heritage nomination and UNESCO's approval providing a clear indication of the international cultural and historical significance of the river. Annually, the San Antonio River Walk has 11.5 million visitors which stimulates an overall economic impact of \$3.1 billion and supports 31,000 jobs.

The winner of the Thies International Riverprize will be announced at the Riverprize Gala Dinner. 6:30pm Tue 19 Sep



### Tweed River (UK)

The Tweed catchment covers an area of 5000 sq km, straddling the border between England and Scotland. The Tweed is a river with an extremely rich and diverse natural, built and cultural heritage and is also one of the most productive salmon rivers in the UK. It is also designated a Site of Special Scientific Interest and a Special Area of Conservation under European legislation. Drainage, habitat loss, agricultural intensification, development, and invasive species are just some of the issues that have taken their toll on the condition of the Tweed river. Likewise, at the strategic level, cross border governance disparities and a complex web of environmental legislation and associated fiscal/regulatory mechanisms, complicated management further. Hence the development of the Tweed Catchment Management Plan (CMP) by the Tweed Forum, which aims 'to conserve, enhance and restore the total river environment through effective land and resources planning across the Tweed catchment'. It sets out a collective agenda for addressing the priority issues under key headings such as water quality, habitats, flooding and tourism. As rivers are very much a function of the land they flow through, the work of the Tweed Forum focuses as much on managing the land as the river itself; and ensuring the right measures take place in the right place, at the right scale. Riparian habitat enhancement, woodland and wetland creation, barrier removal, channel realignment, invasive species control, education and better coordination, are just some of the things that have led to significant improvements to the river (and its management) in the last 10 years.



### Pasig River (Philippines)

The Pasig River in the Philippines connects Laguna de Bay to Manila Bay, bisecting the capital city of Manila. The Pasig River Rehabilitation Commission (PRRC), established in 1999, is constantly conducting clean ups along the Pasig River system. In 2016 alone, PRRC collected 4,793,262.8 kilograms of solid waste from different locations along the river system. To date, PRRC has resettled 17,561 informal settler families living along the river system into decent socialized housing units in several relocation sites. Environmental Preservation Areas (EPAs) within the 10 and three meter wide public easement spaces along the banks of the river system are established. These currently developed EPAs serve as buffer zones between the river system and its adjoining areas. Dredging and desilting works are conducted to gather contaminated sediments and to maintain the navigability for ships and other watercraft. Bank riprapping and slope protection to prevent scouring and soil erosion are also implemented. The PRRC monitors water and sediment quality gathering data to assess the impact of various rehabilitation efforts and initiatives. The PRRC also identifies and conducts pilot studies and interventions that aim to improve the water quality of the Pasig River system. Most importantly, PRRC was able to recover, rehabilitate and develop 15 out of the 47 identified tributaries as of 2016. In 2017, PRRC is gearing to inaugurate at least three more project sites.

## Thies International Riverprize judges

**Prof Bill Dennison (Chair)**  
University of Maryland Centre  
for Environment Science

**Associate Professor Eva Abal**  
Global Change Institute,  
The University of Queensland

**Mr Bart Fokkens**  
European Centre for River  
Restoration

**Dr David Garman**  
University of Wisconsin Milwaukee

**Professor Ramesh**  
Ministry of Environment,  
Forest & Climate Change,  
Government of India

**Mr Alan Vicory P.E, BCEE**  
Principal at Stantec

**Dr Mike Walters**  
Lake Simcoe Region  
Conversation Authority

# AWARDS

## Emerging River Professional Award

The Emerging River Professional Award (ERPA), sponsored by OceanaGold Corporation, recognises, rewards and fosters those in the early stages of their careers in rivers. The award is presented to those who have demonstrated innovation, excellence and leadership in river, basin or river-dependent community management.

The ERPA is open internationally to all river professionals of all disciplines who have been working in their field for ten years or less, and have demonstrated exceptional and measurable achievements in rivers, basins or river-dependent communities.

### Emerging River Professional Award judges

**Professor Angela Arthington**  
Australian Rivers Institute

**Mr Frederick Bouckaert**  
International WaterCentre Alumni Network

**Dr Nicky Grigg**  
CSIRO

**Mr Bradley Moggridge**  
University of Canberra

**Mr Greg Scanlan**  
OceanaGold

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### FINALISTS



**Dr Tatenda Dalu**  
Rhodes University, South Africa

#### Ecological quality assessments of urban streams in the developing world

Water pollution is a critical management issue, with several urban area-draining rivers and streams being polluted by the disposal of untreated solid waste and wastewater discharge, storm water and agricultural runoff. This has implications for biodiversity, and many rivers in the developing world are now considered compromised. We investigated links between water and sediment physio-chemical variables and local benthic macroinvertebrate in an Austral temperate catchment subjected to both urban and agricultural pollutants in two different seasons. Also, we examined microplastic pollution dynamics and microplastic loads in chironomids in this catchment.

A combination of multivariate, remote sensing and biological indicator analyses were used to examine macroinvertebrate patterns. Variations in canopy cover, channel width, phosphates, pH, salinity, substrate embeddedness and turbidity had significant effects on macroinvertebrate community composition. Variation partitioning revealed that water quality was a better predictor of macroinvertebrate composition than sediment variables. Results showed that microplastic distribution was governed by substrate type, sediment organic matter and seasonal variation. The study showed that chironomids ingest microplastics and seasonal differences in sediment microplastic dynamics are reflected in chironomid microplastic abundance. These results provide us with baseline information on urban water pollution in a developing world context.



**Mr Dean Muruven**  
WWF International, Netherlands

#### Securing South Africa's Strategic Water Source Areas

WWF South Africa embarked on programme to secure South Africa's strategic water source areas, the 8% of the land area that generates over 50% of the surface water runoff. The programme was based on three pillars: sound science, influencing the seats of power and connecting people to our work. As a science based organization, WWF had little problem convincing the scientific community of the vital importance of this body of work. However, having a limited presence outside of the Western Cape and with South Africa's tragic past, conservation was still viewed as something for the privileged few. The real challenge that emerged was how to influence and shape the complex governance systems and create a narrative that demonstrated that securing these water sources was in the interest of the nation, to achieve a water secure future for all South Africans. As the first programme manager and having led the programme for 3 years, my entry will outline the approach taken to shift the existing paradigm and demonstrate how a programme of work that once had limited recognition has now been recognized by Ministers, Members of Parliament and is on the verge of becoming a movement within the WWF network.

The winner of the Emerging River Professional Award will be announced at the Riverprize Gala Dinner. 6:30pm Tue 19 Sep



**Ms Lauren Zielinski**  
United States of America

**Creating a Monitoring and Adaptive Management Framework for Environmental Flows**

East Africa is a water-scarce area with a rapidly increasing population. Determination of environmental flows is needed to ensure that the basic human needs and ecological integrity of freshwater systems are maintained. In 2015 and 2016, environmental flow recommendations were created for the Kenyan portion of the Mara River Basin. In order to facilitate implementation of these recommendations, a monitoring and adaptive management plan needed to be created, something that had never been done in the East Africa region. For my MSc thesis, I was selected to lead the effort for developing this plan and supporting its implementation. I researched existing structures from around the world and created an integrated way to monitor and manage environmental flows. This plan was developed in close coordination with the local office of the Water Resources Management Authority and included three distinct components: an objectives hierarchy, a multi-level monitoring plan, and adaptive management cycles. Using my experience from the Mara River, I then generalized the process into a framework that could be used to create such plans in other river basins in Kenya, with the potential to be utilized in other river basins in the region and around the world.

## 2017 Vera Thuess Fellowship for Women

The International RiverFoundation's Vera Thuess Fellowship for Women gives women the opportunity to gain valuable work experience through the IRF and its partners, with the goal of advancing women's participation in water and river management. This fellowship goes not only towards supporting the selected candidate in their career, but towards continuing the important work of bridging the gap in women's participation in river basin management.

Awarded in the name of the late Vera Thuess, a long-time supporter of the IRF, the Fellowship recognises Vera's and the Thuess family's long-time philanthropic support and commitment to forward-looking initiatives of the International RiverFoundation. Through the Fellowship, we honour Vera's legacy by supporting women's involvement in river basin and water management. We also acknowledge the inspirational role of the Thuess family, whose story began with five brothers who started a small earthmoving business that then grew into a globally respected establishment that overcame hardship, broke boundaries and forged new ground.

Unlike a traditional research fellowship, the selected candidate has a unique opportunity to gain valuable work experience with the IRF and its alumni and partners worldwide.



**Marie Aislinn Cabriole,**  
National Irrigation Administration (NIA),  
Philippines

Marie Aislinn Cabriole currently works in the National Irrigation Administration (NIA), Philippines, as its Operations Engineer, contributing to the country's irrigation development by monitoring and evaluating the status of the region. Marie studied a Bachelor of Science in Agricultural and Biosystems

Engineering at the University of the Philippines in Los Banos, and after graduating from university, she soon experienced the way female engineers were not given the same opportunities as their male counterparts have. Through the Vera Thuess Fellowship, Marie wishes to empower women in the water sector by collaborating with the Pasig River Rehabilitation Commission (PRRC, Philippines) to strengthen the role of women in the rehabilitation and management of Pasig River. Activities will be focused on community involvement, gender mainstreaming, water leadership, and sustainable river/urban communities, and Marie will collaborate with several other Thuess International Riverprize finalists in Australia, the USA, UK and Europe, to learn more about successful river management projects.

### The Vera Thuess Fellowship for Women judges

**Dr Deborah Nias,** Murray-Darling Wetlands Working Group (Chair)

**Mr Ian Atkinson,** International RiverFoundation

**Mr Faisal Elias,** Independent Consultant

**Ms Charlotte Spliethoff,** International RiverFoundation

# SOCIAL PROGRAM



**Women and Water**  
5:00pm, Sunday 17 September  
Venue: Arbour Lounge,  
Brisbane Convention  
and Exhibition Centre  
Tickets: AU\$75  
Dress: Smart casual



**Welcome Function**  
5:10pm, Monday 18 September  
Venue: Plaza Foyer,  
Brisbane Convention and Exhibition Centre  
Tickets: Complimentary for  
all conference delegates  
Dress: Smart casual



**Riverprize  
Gala Dinner**  
6:30pm, Tuesday 19 September  
Venue: Plaza Terrace Room,  
Brisbane Convention and Exhibition Centre  
Tickets: AU\$175  
Dress: Cocktail



# Australian Rivers Institute

*Developing sustainable  
solutions*

*Griffith University's Australian Rivers Institute (ARI) is turning the tide on the degradation of river, catchment and coastal ecosystems. The Institute is one of Australia's largest university aquatic ecosystem research groups, comprising 160 staff and postgraduate students. ARI brings together academics and researchers from across a broad range of disciplines including aquatic ecology, biogeochemistry, geomorphology, economics and law.*

The Institute undertakes relevant and vital research that addresses challenges in a changing world, and is committed to improving the health and long-term viability of the world's aquatic systems. ARI has a catchment-to-coast philosophy that underpins the Institute's holistic research approach, which also takes into account not just environmental impacts of aquatic health, but also social, political and economic ramifications.

ARI's mission is to do world-class science to improve understanding of catchment, river, estuarine and coastal ecosystems; to provide the knowledge to support rehabilitation, sustainable use and conservation of these systems; and to provide a creative, inclusive and collaborative environment that fosters the next generation of ecosystem scientists.

ARI researchers manage interdisciplinary research projects and creative collaborations that have been recognised internationally. The Institute also provides advice to governments, resource managers, the water industry and the community with informed research relating to the preservation and management of catchment, river, estuarine and coastal ecosystems.

ARI has exceptional facilities, with active early career researcher and higher degree research programs nurturing the next generation of researchers. The Institute seeks to combine outstanding scholarship with service to society through provision of training, knowledge and advice in relation to aquatic systems.

Through building strong partnerships with key stakeholders, ARI is dedicated to providing services that is well-connected, relevant and innovative in order to meet the diverse challenges of global change on aquatic systems. Griffith University is a founding member of the International Water Centre and ARI has direct involvement with a number of international water management committees, such as the Global Water System Project and Future Earth, ARI has cemented its reputation as a world leader in aquatic research and conservation.

 **GriffithARI**  
[catchmenttocoast.wordpress.com](http://catchmenttocoast.wordpress.com)  
[griffith.edu.au/ari](http://griffith.edu.au/ari)

# THRIVE: nature, water and wellbeing

A special and inspirational edition of *RipRap* magazine sharing stories about the people, places, science and management of environmental water in Australia.

There are many people featured in the magazine who are speaking at *Riversymposium*, and all have some hard copies of *RipRap* to give away, so make sure you attend their presentations!

**Jessica Davison** and **Helen Watts**—how environmental water research is supporting planning

**Paula D'Santos**—environmental flows for native fish

**Siwan Lovett**—why mess is best for community engagement

**Nicole McCasker**—flow and fish recruitment

**Heather McGinness**—results from waterbird satellite tracking

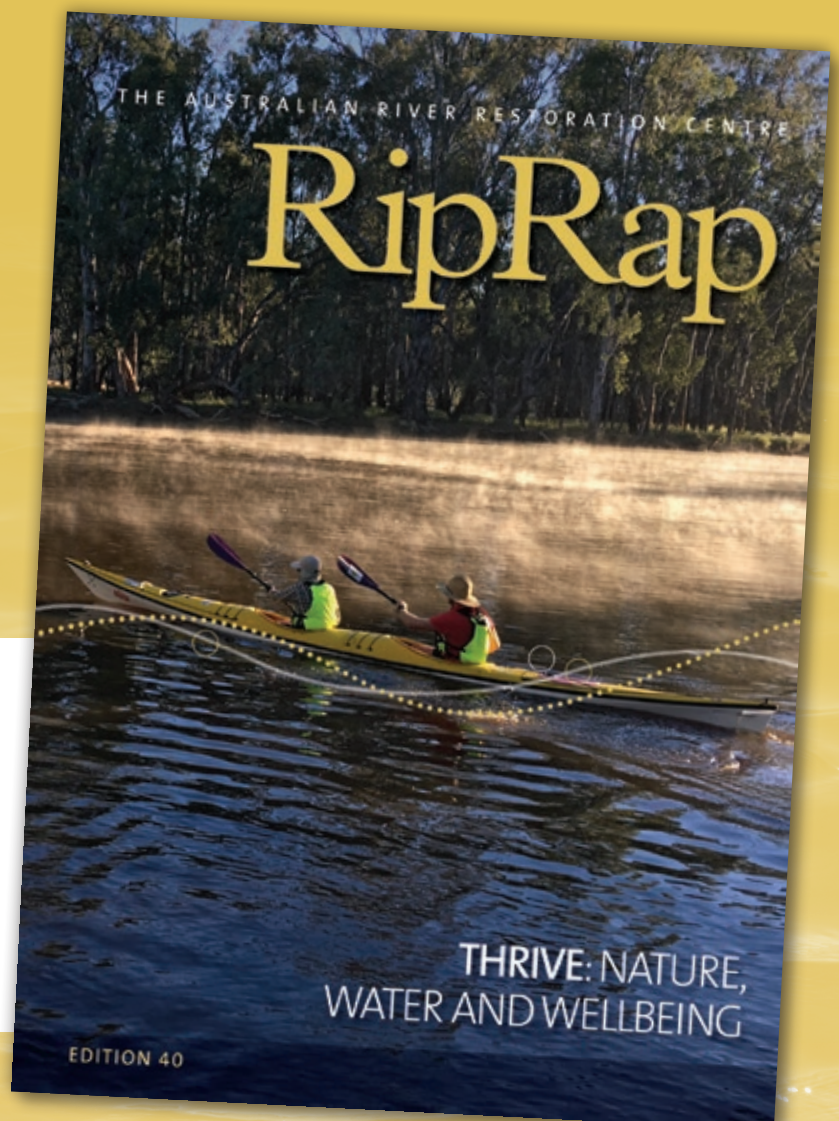
**Darren Ryder**—flow and floodplain production

**Phil Slessor**— fish recover in irrigation systems

Download your free copy  
of *RipRap* or purchase a copy  
at [www.rrc.com.au/riprap](http://www.rrc.com.au/riprap)



*RipRap* magazine is produced by the Australian River Restoration Centre and celebrates our wonderful riverine environments by featuring science and stories about different river management topics. The magazine is beautifully produced with fabulous images, robust content and practical insights from people who live, work and care about rivers, creeks, wetlands and billabongs.





## The Scenic Logan River and Beaudesert Nutrient Offset Project

8am-3pm Thursday 21 September

**Meeting point:** Brisbane Convention and Exhibition Centre, Glenelg St, South Brisbane

**Cost:** AU\$44 (Visit the registration desk to enquire about availability). All proceeds go towards the International RiverFoundation's Twinning Program.

Morning tea and lunch will be provided.

Queensland Urban Utilities' (QUU) regenerated, rehabilitated and protected a highly-degraded reach of the Logan River, preventing 5t of nitrogen and 11,000t of sediment entering the waterway every year. This Nutrient Offset solution was more economically and socially viable than sewage treatment plant upgrade. This Green Project triggered the government's "Offsets Mechanism" allowing corporations and governments to invest in green projects and improve river health.

The Project was the first in Queensland, with collaboration among QUU, Department of Environment & Heritage Protection (DEHP); SEQC Services and Alluvium Consulting. The 2013 green infrastructure project regenerated and rehabilitated two reaches of riverbank to reduce upstream pollution to 'offset' point-source discharges from the Beaudesert Sewerage Treatment Plant, saving over \$6 million in capital costs.

The site survived flood as well as drought and gained the acceptance of landholders and the scientific community.

## The value of Moreton Bay, North Stradbroke Island

8am-6pm Thursday 21 September

**Meeting point:** Brisbane Convention and Exhibition Centre, Glenelg St, South Brisbane

**Cost:** AU\$110 (Visit the registration desk to enquire about availability). All proceeds go towards the International RiverFoundation's Twinning Program.

Delegates are requested to bring:

- water bottle
- enclosed walking shoes
- jacket
- sun cream and hat
- umbrella or rain jacket

Moreton Bay is a Ramsar listed site and receives the waters of a number of catchments including the Brisbane River. This tour will showcase the economic, environmental and social values of Moreton Bay and North Stradbroke Island and the significance of environmental management to protect these values and opportunities.

North Stradbroke Island (traditionally known as *Minjerribah*) has a remarkable cultural heritage and is one of the world's largest sand islands. It features the perched lakes of Brown Lake and Blue Lake and a large ground water resource that is used as part of South East Queensland's water grid. The island is also a popular recreational destination.

Delegates will have the opportunity to travel across Moreton Bay to North Stradbroke Island to visit popular recreational sites and hear from leading experts at the Moreton Bay Research Centre.

### More information

Phone Brisbane City Council:

07 3403 8888

Email the Project Team:

NEWS-Contact@brisbane.qld.gov.au



8:00am

**Brisbane Convention and Exhibition Centre, Glenelg St, South Brisbane**

Delegates will board the bus to Cleveland, before transferring on to a Ferry for North Stradbroke Island.

11:00am-12:00pm

**Brown Lake**

Learn about the cultural significance and ecology of this natural perched lake of pure rainwater tinged brown by the native teatrees.

Morning tea will be provided.

12:00-1:30pm

**Moreton Bay Research Station**

The Moreton Bay Research Station (*pictured below*) is a University of Queensland facility on North Stradbroke Island providing a centre for study and management of Moreton Bay and its surrounding terrestrial habitat.

Take a tour of the facility OR hear from economic and environmental experts about Moreton Bay.

Lunch will be provided.

1:30-3:40pm

**North Gorge**

Take a guided walk along the headland and learn about the cultural heritage of the area and appreciate how pristine the island is. Enjoy the spectacular coastal views and keep your eyes open for the migrating humpback whales!

Afternoon tea will be provided.

6:00pm

**Brisbane Convention and Exhibition Centre, Glenelg St, South Brisbane**

Tour concludes.

# Sustainable Delta Game – Adaptation Pathways

**Location:** QUT Gardens Point Campus, 2 George Street  
Z Block, Level 6, Rm 606 (adjacent to the lifts)  
**Cost:** FREE (limited capacity – visit the registration desk to see whether places remain available)

Morning tea and lunch are not provided, but a café is available nearby to purchase food and beverages during the break.

Water management is increasingly challenged by pressures such as population growth, sea level rise and climate change. Given the uncertainties about the future, how do you create a sustainable water management plan? Different stakeholders have different perspectives and priorities. How do you gain insight into this and create a plan that can count on broad support? Only by engaging stakeholders in exploring different adaptation pathways together can you prepare for an uncertain future.

Why not tackle this serious topic with a game? A game allows all involved parties to come together for a discussion within a safe environment. It's only a game after all. Play with the different stakeholders around the table, or use role play techniques to give a voice to all involved parties. Are the ideas and wishes around the table really so different or

can they complement each other? Together we can find ways to make smarter investment decisions given the different requirements and an uncertain future.

The goal of the Sustainable Delta game is for two teams to develop and implement a Sustainable Water Management Plan for the coming 100 years in the fictional setting of the Tainui Harbour. This is an urban coastal harbour similar to those found in New Zealand. Key (conflicting) issues include coastal inundation, port and transport capacity, nature and the environment.

This game has been played over 50 times in different settings, with water managers, spatial planners during project workshops and with students at international conferences all over the world.

Players feedback include remarks on how they aimed to be proactive, but in the end seemed to only react to events and how experiencing uncertainty due to climate variability in the game opened their eyes. "We are reactive if we do not understand the system well. This is what we see in reality as well." By discussing and exchanging views and ideas participants learn to find an integrated solution to a complex and uncertain problem.

This workshop is facilitated by Deltares.

## Program highlight

8:45am-12:30pm  
Thu 21 Sep



# Sustainable Water Courses for Water Professionals

## The Water, Agriculture & Environment Program

The University of Melbourne, Australia's number 1 university, recognise that the management of water for human and environmental purposes is one of the world's most pressing challenges.

Australia, in particular Victoria, has a well-known reputation as a world leader in water research and management. These courses will expose participants to best practice in Victoria with field trips and instructional workplace visits.

Under the guidance and leadership of Michael Stewardson from the University of Melbourne has gathered a world class team of researchers, academics and industry partners to develop and deliver courses that combine policy and science relevant to the high demand for water and water security. Our suite of water management courses includes\*:

1. Managing Irrigation Systems
2. The Science and Management of Environmental Water
3. Water Markets and Allocation
4. Water Intelligence
5. Water Reform

\*The first two courses are currently being offered in 2018. Further courses on other aspects of Sustainable Water Management are in development.

# FURTHER INFORMATION

## WiFi

Free Wifi is available at BCEC for delegates to check emails and for web browsing.

## Mobile phones

As a courtesy to fellow delegates and speakers, please ensure mobile phones are switched to silent during conference sessions.

## Delegate feedback

Please take the opportunity to complete the evaluation form in your delegate satchel. We seek to continue building the International Riversymposium as a major national and international annual event highlighting the importance of river health. We appreciate your feedback and treat information collected with the utmost confidence. Please return your completed form to the registration desk prior to the closing plenary on Wednesday.

## Abstracts

For environmental purposes, the quick reference guide and abstracts have not been printed in the program book. They are available on the app or on the Riversymposium website ([www.riversymposium.com](http://www.riversymposium.com))

## Smoking

All buildings within the BCEC are smoke-free environments. Australian law dictates that smoking is prohibited within 5m of the entrance of a public building. Smoking zones are marked accordingly.

## Dress code

Casual business attire is appropriate for the conference sessions and the welcome reception. The Riverprize gala dinner is cocktail dress. A jacket may be required for air-conditioned session rooms and evening social functions.

## Climate

Brisbane has a subtropical climate with warm or hot weather for most of the year. In summer (Dec – Feb), maximum temperatures average around 30°C. The city experiences its highest rainfall in summer which sometimes brings thunderstorms and occasional floods. This is also the most humid time of the year in Brisbane. Autumn (Mar – May) signals the end of hot summer temperatures and the start of cooler crisp days and nights. While still experiencing warm days, the average daily temperature is between 15-25°C. Winter (Jun – Aug) time is generally dry and mild. Most winter days are sunny with average temperatures of around 17°C. The average monthly rainfall over the year is around 96 mm. Spring (Sep – Nov) is one of the best seasons to be in Queensland with warm, sunny days tempered by cool sea breezes. The climate is similar to autumn, with average temperatures around 15-25°C. The evenings are pleasant but can be cool. It's a good time of year to enjoy days at the beach or take a sightseeing cruise on the Brisbane River. The Brisbane Festival, the city's major arts festival, runs from mid-September to early October.

## Special diets

All special dietary requirements have been passed on to the venue and will be catered for accordingly. Delegates who have advised special dietary requirements should identify themselves to the serving staff at functions. Please note, we cannot guarantee 100% nut-free ingredients as some ingredients from external suppliers and may contain traces of nuts. If you have not advised us of your requirements, please see the registration staff as soon as possible. Special meals cannot be guaranteed for delegates who have not pre-booked at least 72 hours prior to a meal.

## Tickets

Attendance at social events including Women and Water, the Riverprize Gala Dinner and the post-conference study tours is by ticket only. If tickets are misplaced, please advise staff at the registration desk. A limited number of function tickets will be available for purchase onsite from the registration desk. Please check with the registration staff as to the availability of tickets.

## Cancellation policy

The conference reserves the right to cancel or vary optional activities if minimum numbers are not reached. Regrettably, optional social functions and additional ticket cancellations cannot be refunded if participation is cancelled less than fifteen (15) days prior to the event.

## Disclaimer

The International RiverFoundation act only as organisers of these activities and do not accept responsibility for any act or omission on the part of the service providers. No liability is accepted for any inaccuracy, misdescription, delay, damage, death or personal injury.

## Locality and transport information

Brisbane prides itself on being green, so it's no wonder that getting around South East Queensland using public transport is easy. On the TransLink website you'll find timetables, maps and destinations, plus everything you need to know about catching a bus, train, ferry and tram including information about late night services and safety and security.

## go Card

Want to know the easiest way to get around town? Pick up a TransLink go card and travel seamlessly on all TransLink bus, ferry and rail services across South East Queensland. The perfect travel companion, go cards are available from Queensland Rail stations, online, over the phone or selected retailers. Top up the card balance like a prepaid mobile phone whenever it suits. Find out more on the TransLink website.



### Conference managed by:

International RiverFoundation  
Locked Bag 2009, South Brisbane  
QLD 4101 Australia

### Conference office / registration:

Registration takes place from  
7:00am daily on the Plaza Level  
of the Brisbane Convention and  
Exhibition Centre

Save the date...

# 21st International RIVER SYMPOSIUM

Rivers  
for all

Adelaide  
October  
2018



## Free transport

Hail a bus for free in the inner city. The City Loop and Spring Hill Loop bus services circle the city every 10 minutes and stop at destinations in the CBD and Spring Hill precincts between 7am to 6pm weekdays. Glide between Brisbane's inner-city precincts by hopping on the free CityHopper ferry service, which travels along the river from North Quay to Sydney St, New Farm. For any inquiries regarding public transport, please contact Translink on 13 12 30 or visit the website.

## Ferries

Let the river be your guide. Brisbane's ferries, affectionately known as CityCats, are one of the most enjoyable ways to explore The City. Glide along the river with CityCat and CityFerry services, perfect for sight-seeing and accessing key city spots. Tickets can be bought on board the services, at most newsagents and selected retail outlets, or make use of a go card. Hop on board the free CityHopper ferry service to get around inner-city precincts for free. For any inquiries regarding public transport, please contact Translink on 13 12 30 or visit the website.

## Buses

Explore Brisbane's neighbourhoods through a comprehensive bus service that runs throughout the city, connecting the outer and inner suburbs to the CBD, major shopping centres, entertainment and dining precincts, railway stations and ferry terminals. Take advantage of special NightLink bus services running after midnight on Fridays and Saturdays for late-night travellers. Or get around the inner city with the free City Loop and Spring Hill Loop. Plan your trip now on Translink's journey planner. For any inquiries regarding public transport, please contact Translink on 13 12 30 or visit the website.

## Trains

Brisbane's speedy network of electric trains has the Greater Brisbane region covered and provides direct access to the city, quirky neighbourhood precincts and outer suburbs. There is also a handy Airtrain service that is completely integrated into the Queensland Rail suburban network, with regular trains running from Brisbane Airport directly to Brisbane City and the Gold Coast. Travel on a single ticket from any station in South East Queensland to Brisbane Airport. For any inquiries regarding public transport, please contact Translink on 13 12 30 or visit the website.

## Taxi

Taxi ranks are available at the Brisbane international and domestic airports, as well as throughout The City and inner-city precincts. Jump in a taxi to be assured of a quick and efficient way of getting around. A standard taxi will cater for four passengers or fewer. For wheel-chair access or to transport five to 10 passengers, it's best to order a maxi-taxi. Contact Black & White Cabs on 133 222 and Yellow Taxi 13 19 24.

## Driving

You are permitted to drive in Queensland if you hold a valid Australian or foreign licence. If your licence is in a language other than English, you should carry an English translation of it when driving.

## Bikes

Make the most of Brisbane's wonderful outdoor climate by biking around town. There are extensive bicycle paths running throughout the city and pedal-power offers a healthy and inexpensive way of getting around. Hire a Brisbane City Council CityCycle bike at key inner-city destinations and set off to explore. Courtesy helmets are available with many of the bikes at stations across the network. To join the CityCycle program, visit the website or call 1300 229 253.

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