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8TH AUSTRALIAN STREAM
MANAGEMENT CONFERENCE

31 JULY - 3 AUGUST, 2016

2016 8TH AUSTRALIAN STREAM MANAGEMENT CONFERENCE

PROCEEDINGS OF THE 8TH AUSTRALIAN STREAM MANAGEMENT CONFERENCE

31 July – 3 August 2016
Leura, New South Wales

Edited by
Geoff J. Vietz, Alissa J. Flatley and Ian D. Rutherford

Proceedings presented by



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CONFERENCE CONVENOR



The River Basin Management Society (RBMS) is a representative body for professionals working in land, water and natural resource management in Australia.

The RBMS recognises, promotes and disseminates advances in the natural resource management industry as well as providing independent professional advocacy and comment. We encourage education, training, research and development for our members and the industry through funding and partnerships. We have been active since our establishment in 1986.

The RBMS aims to broaden the knowledge and experience of its members and to foster a better understanding between the many individuals and groups interested in land, water and natural resource management. By doing so, the RBMS hopes that more informed and balanced decision making will bring sustainable environmental benefit to Australia.

The RBMS keeps members updated on activities and new initiatives by:

- Sponsoring and facilitating seminars and field trips
- Holding reading groups on contemporary water developments and policies
- Convening awards nights and the Australian Stream Management Conferences
- Producing newsletters and engaging in social media

Memberships are available at www.rbms.com.au. Members receive discounted rates for admission to our events and priority access to our services. The RBMS committee is currently delivering regular events in and around Melbourne and Brisbane, with our online services available nationally.

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CONFERENCE ORGANISING COMMITTEE



Mark Stacey (Co-Chair)

Mark is an environmental scientist at Alluvium Consulting. His work focuses on the protection and rehabilitation of river and wetland systems, through application of skills in environmental water, geospatial science, data analytics and hydrology.

Mark is the current President of the RBMS (2015+).



Johanna Slijkerman (Co-Chair)

Johanna is an environmental scientist who specialises in riparian management. She has over thirteen years' experience working in private industry and for government in Victoria and Tasmania. She is currently employed by the Victorian DELWP on their riparian management program. Johanna served on the RBMS committee for seven years, most recently as Secretary from 2011 to 2016.



Dr Geoff Vietz (Editor)

Geoff is the Director at Streamology Pty Ltd and a part-time Research Fellow at The University of Melbourne. Geoff has been a waterway scientist for almost 20 years, working throughout Australia and internationally. His research and consulting focuses on geomorphology, ecohydraulics and river management more broadly. Geoff was President of RBMS from 2012 to 2013, and served on the RBMS committee for a further three years.



Associate Professor Ian Rutherford (Editor)

Ian is an Associate Professor in Geography at the University of Melbourne. His research focuses on fluvial geomorphology, but also encompasses broader water and river management, with a special interest in aquatic restoration. He has worked on the management of rivers in all Australian states, as well as through Asia, the US and Africa. Ian previously served on the RBMS committee for four years, and is a member of the Catchments Australia Foundation.



John Senior

John qualified as a civil engineer who joined the Melbourne & Metropolitan Board of Works shortly after graduation, and progressed through the successor bodies, now known as Melbourne Water and Parks Victoria. John is now semi-retired but remains an active member of the waterway management sector. John was also a founding member of the RBMS and served on the committee for 14 years as President (1994 to 1997), Vice President and long-term Secretary. He was the recipient of Honorary Membership of the RBMS in 1998 and is now a member of the Catchments Australia Foundation.



Lance Lloyd

Lance is an aquatic ecologist with over 30 years practical experience in freshwater, estuarine, coastal and inland environments. Lance is the Director of Lloyd Environmental Pty Ltd and a member of several ministerially-appointed panels, including chair of Victoria's Translocation Evaluation Panel. Previously Lance served on the RBMS committee for 14 years including time as President (1999 to 2001) and Vice President. He was the recipient of Honorary Membership of the RBMS in 2014 and is now a member of the Catchments Australia Foundation.

WELCOME

The 8th Australian Stream Management Conference has been convened by the River Basin Management Society (RBMS) in association with the Catchments Australia Foundation, organisations with a commitment to the integration of land and water management in Australia.

This conference, held in the Blue Mountains in 2016, comes twenty years after the inaugural Australian Stream Management (ASM) conference held in February 1996 and thirty years after the RBMS was founded in November 1986. The Conference provides a timely opportunity to reflect on our progress over these decades, and consider recent developments and challenges in stream management in this historical context.

The Conference brings together more than 200 delegates from more than 95 organisations, which span right across our sector, including community members, local government, state government, federal government, universities, research institutions, consulting firms and non-government organisations. The breadth and diversity of people and institutions involved in stream management reflects the maturity and sophistication of this young sector.

As with each of the last seven ASM conferences, 8ASM provides an opportunity to present peer-reviewed papers that, not only share knowledge with other delegates, but support research and management throughout Australia and beyond. All papers from all ASM conferences are available for free and unrestricted public access at this website: www.rbms.com.au. These papers continue to provide a valued resource for waterway management.

On behalf of the Organising Committee we thank you for your involvement in the conference and welcome you to the Blue Mountains.



Mark Stacey
Co-Chair
8ASM Organising Committee



Johanna Slijkerman
Co-Chair
8ASM Organising Committee