



# WISEwaterways

## A Workshop in Rural and Urban Stream Management Principles and Practices

29 October - 2 November 2018

Venue: George Kerferd Hotel, Beechworth

Presented by

North East Catchment Management Authority  
Department of Environment, Land, Water & Planning

Jacobs

La Trobe University

River Basin Management Society

Alluvium Consulting Pty Ltd

Charles Sturt University

Water Technology

Arthur Rylah Institute for Environmental Research

**Testimonial:** Dr Jamie Pittock

## Transforming River Management - What Works?

As a land of “drought and flooding rains” Australia has had more reason than most countries to experiment with innovative river management. However, despite considerable investments, our river management institutions have struggled to break out of the “hydro-illogical cycle” of short term fixes following extreme events, which then unravel. I venture to suggest that the Murray-Darling Basin Plan will need reform to avoid this fate.

In this presentation I will focus on what Australia can learn from other countries from my research on six rivers and nine jurisdictions. A key question is why did significant reform persist, or not, in these cases where societies implemented major changes? Further, how can we apply these lessons to emerging threats to river health, such as from societal responses to climate change?

### **Jamie Pittock**

Dr Jamie Pittock (BSc, Monash; PhD, ANU) is Associate Professor in the Fenner School of Environment and Society at The Australian National University.

He is also Director of International Programs for the UNESCO Chair in Water at ANU. Jamie worked for environmental organisations in Australia and internationally from 1989-2007, including as Director of WWF’s Global Freshwater Programme from 2001-2007.

His research from 2007 has focussed on better governance of the interlinked issues of water management, energy and food supply, responding to climate change and conserving biological diversity.

Jamie directs research programs on irrigation in Africa, hydropower and food production in the Mekong region, and sustainable water management in the Murray-Darling Basin.

He is a member of the Wentworth Group of Concerned Scientists, the board of Water Stewardship Asia-Pacific, and is a scientific adviser to WWF Australia.

Dr Pittock teaches courses on environment and society as well as on climate change adaptation.

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



**Dr Jamie Pittock**  
Associate Professor  
Fenner School of Environment  
and Society  
Australian National University

## Vision

To provide a forum for a comprehensive overview of rural and urban stream rehabilitation and management principles and practices.

## Aims

To provide an integrated approach to Stream Management including hydrology, water quality, ecology, riparian vegetation, geomorphology and rehabilitation techniques.

To provide extensive “hands on” experience through on ground group assignments.

## Background

In the nineteen years that the Workshop has been running, over 872 people have completed the program. The program has evolved over this time, reflecting the issues faced by water managers of today. Wise Water Ways is supported by industry speakers who are leaders in their field.

On completion of the Workshop and a short assessment task, students may be eligible to receive a subject credit towards either Charles Sturt University’s Graduate Certificate in River Restoration or Master of Water Resource Management or other relevant CSU course.

For more information go to:

<http://www.csu.edu.au/faculty/science/ses/courses> or contact the Course Director E: [FOS-Course@csu.edu.au](mailto:FOS-Course@csu.edu.au) T: 02 6051 9651.

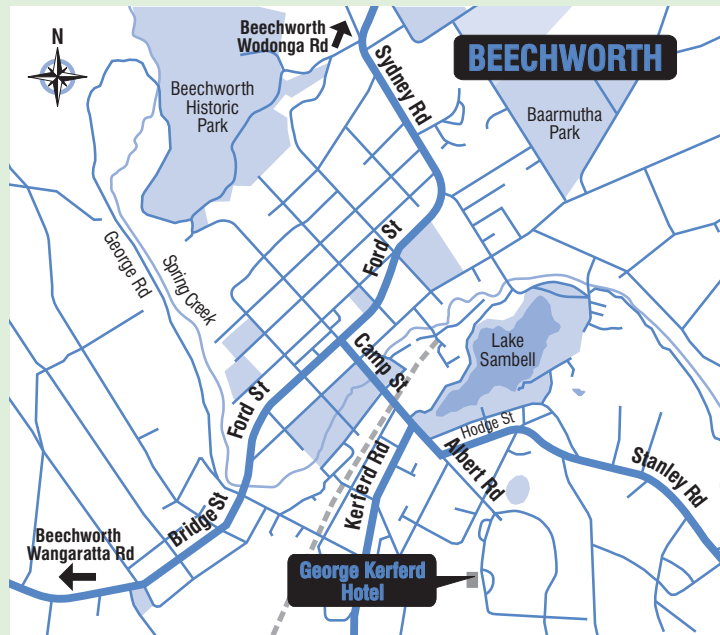
## Who Should Attend?

The course is aimed at people working, studying or who are interested in stream management, particularly those involved in practical natural resource works programs.

## The Region / Travel

Beechworth is situated in North East Victoria. It is approximately 3 hours drive from Melbourne. The nearest airport is Albury Airport (30 minutes drive). Hire cars are available from both airports and transfers from Albury Airport are by taxis. Beechworth is an ideal location for Wise Water Ways. Diverse vegetation, macro-invertebrates and geomorphic issues in the area provide a number of opportunities for managers to evaluate stream systems.

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



## Accommodation

Accommodation has been reserved for participants at The George Kerferd Hotel, Beechworth.

Special rates have been organised. They range from \$90.00 to \$180.00 per night. The rates include a fully cooked breakfast. Please see the back page of the registration form for further details.

Please contact the secretariat via email: [info@wisewaterways.org.au](mailto:info@wisewaterways.org.au) if you have any queries.

# Program of Activities

Sessions		Presenter
<b>Monday 29/10</b>	<b>Day One</b> <b>Introduction to Stream Management</b>	
12.30 – 12.45pm	<b>Welcome, Program and Assessment</b>	<b>Professor Andrew Boulton</b> <i>University of New England</i> <b>Lachlan Campbell</b> <i>North East Catchment Management Authority</i>
12.45 – 2.30pm	<b>Stream Rehabilitation Concepts</b> <ul style="list-style-type: none"> <li>• Steps for stream rehabilitation</li> <li>• Assessment</li> <li>• Investigations</li> <li>• Concepts</li> <li>• Design</li> <li>• Community consultation</li> <li>• Prioritisation</li> </ul>	<b>Dr Geoff Vietz</b> <i>Streamology Pty Ltd</i>
2.30 – 3.00pm	<b>Afternoon Tea</b>	
3.00 – 5.45pm	<b>Riparian Vegetation Field Demonstration</b>	<b>Jamie Kaye</b> <i>Water Technology</i>
7.00pm	<b>Keynote Address and Dinner</b> Transforming River Management - What Works?	<b>Dr Jamie Pittock</b> <i>Associate Professor</i> <i>Fenner School of Environment and Society</i> <i>The Australian National University</i>
<b>Tuesday 30/10</b>	<b>Day Two</b> <b>Assessment Techniques</b>	
8.30 – 9.00am	<b>National River Health Strategy</b> <ul style="list-style-type: none"> <li>• Policy - context, priorities</li> </ul>	<b>Paul Wilson</b> <i>Department of Environment, Land, Water and Planning</i>

# Program of Activities

<p>9.00 – 9.50am</p> <p>9.50 – 10.20am</p> <p>10.20 – 11.10am</p> <p>11.10 – 12.00pm</p>	<p><b>Stream Assessment Techniques</b></p> <ul style="list-style-type: none"> <li>• Introduction and overview</li> <li>• Assessment of hydrology, vegetation and physical condition</li> </ul> <p><b>Morning Tea</b></p> <ul style="list-style-type: none"> <li>• Water quality</li> <li>• Role of macro-invertebrates</li> </ul>	<p><b>Paul Wilson</b>  <b>Dr Ewen Silvester</b>  <i>Associate Professor</i>  <i>La Trobe University</i>  <i>Albury Wodonga Campus</i>  <b>Dr Paul McInerney</b>  <i>Centre for Freshwater Ecosystems</i>  <i>La Trobe University</i></p>
<p>12.00 – 12.45pm</p>	<p><b>Fish Habitat</b></p> <ul style="list-style-type: none"> <li>• Fish ecology - flows, habitat, water quality, barriers, large woody debris</li> <li>• Fish migration triggers and patterns</li> </ul>	<p><b>Zeb Tonkin</b>  <i>Arthur Rylah Institute for</i>  <i>Environmental Research</i></p>
<p>12.45 – 1.30pm</p>	<p><b>Lunch</b></p>	
<p>1.30 – 5.30pm</p>	<p><b>Demonstration of Field Data Collection and Aboriginal Heritage Identification</b></p> <ul style="list-style-type: none"> <li>• Aboriginal Heritage Assessment</li> <li>• Field surveys (level and staff)</li> <li>• Macro-invertebrate sampling</li> <li>• Vegetation assessment</li> <li>• Physical condition assessment</li> </ul>	<p><b>Jamie Kaye</b>  <b>Chris Dwyer</b>  <b>Luke Brock</b>  <i>Department of Environment, Land,</i>  <i>Water and Planning</i>  <b>Dr Paul McInerney</b></p>
<p>7.00pm</p>	<p><b>Dinner and Entertainment</b></p>	
<p><b>Wednesday 31/10 Day Three Processes</b></p>		
<p>8.30 – 9.10am</p>	<p><b>Rural and Urban Hydrology</b></p> <ul style="list-style-type: none"> <li>• Principles of hydrology, rainfall and runoff budgets</li> <li>• How urban and rural land uses change hydrology</li> </ul>	<p><b>Ben Tate</b>  <i>Water Technology</i></p>
<p>9.10 – 10.00am</p>	<p><b>Stream Hydraulics and Sediment Movement</b></p> <ul style="list-style-type: none"> <li>• Hydraulic characteristics of natural and modified waterways</li> <li>• Sediment budgets and sediment transport through stream systems</li> </ul>	<p><b>Ben Tate</b>  <b>Dr Geoff Vietz</b>  <i>Streamology Pty Ltd</i></p>

# Program of Activities

10.00 – 10.30am	<b>Morning Tea</b>	
10.30 – 11.00am	<b>Working with Waterway Geomorphology</b> <ul style="list-style-type: none"> <li>• Geomorphic principles for working with waterways</li> <li>• Practical applications of your geomorphic knowledge</li> </ul>	<b>Dr Geoff Vietz</b>
11.00 – 11.45am	<b>Environmental Flows</b> <ul style="list-style-type: none"> <li>• Water resource allocation</li> <li>• Environmental flows importance and assessment methodology</li> <li>• Streamflow management</li> </ul>	<b>Professor Robyn Watts</b> <i>Charles Sturt University</i>
11.45 – 12.30pm	<b>Riparian Vegetation</b> <ul style="list-style-type: none"> <li>• The role of filter strips, organic carbon, shading, biodiversity and revegetation</li> <li>• Woody weed identification - ecology, dispersal and management issues</li> <li>• Rehabilitation of riparian zones</li> </ul>	<b>Jane Roberts</b> <i>Ecological Consultant</i>
12.30 – 1.15pm	<b>Lunch</b>	
1.15 – 5.30pm	<b>Project Data Collection and Field Work</b>	
6.30pm	<b>Pub Meal with a Side-serve of Science with Professors Gerry Quinn and Andrew Boulton - optional</b>	
<b>Thursday 1/11</b>	<b>Day Four</b>	<b>Community Engagement and Rehabilitation Techniques</b>
8.30 – 10.00am	<b>Community Engagement</b> <ul style="list-style-type: none"> <li>• Community engagement principles and practices</li> <li>• Indigenous Engagement</li> </ul>	<b>Greg Bain</b> <i>Melbourne Water</i> <b>Neil Ward</b> <i>Murray Darling Basin Authority</i>
10.00 – 10.45am	<b>Tying it All Together - Waterway Ecosystems in Human Modified Landscapes</b> <ul style="list-style-type: none"> <li>• Why is ecology important?</li> <li>• Streams as ecological systems</li> <li>• Indicators of stream health</li> </ul>	<b>Professor Gerry Quinn</b> <i>Deakin University</i> <i>Warrnambool Campus</i> <b>Andrew Boulton</b>

# Program of Activities

10.45 – 11.00am	<b>Morning Tea</b>	
11.00 – 12.15pm	<b>Water Way Management</b> <ul style="list-style-type: none"> <li>• Replicating natural systems</li> <li>• Working with stream processes</li> <li>• Grade control structures</li> <li>• Sediment stabilisation</li> </ul>	<b>Ross Hardie</b> <i>Alluvium Consulting Pty Ltd</i>
12.15 – 1.00pm	<b>Field Projects and Construction Works.</b> What works?	<b>Andrew Briggs</b> <i>North East Catchment Management Authority</i>
1.00pm	<b>Lunch</b>	
1.30 – 5.30pm	<b>Preparation of Project Reports</b>	
6.30 – 7.30pm	<b>Dinner</b>	
7.30 – 10.00pm	<b>Presentations of Group Projects</b>	
<b>Friday 2/11</b>	<b>Day Five</b>	<b>Field Visit</b>
8.45 – 12.30pm	<b>Field Visit to Ovens Catchment</b> <ul style="list-style-type: none"> <li>• View structural works</li> <li>• Revegetation and willow management</li> <li>• Drone technology demonstration</li> </ul>	<b>Chris Dwyer, Andrew Briggs, James Rennie</b> <i>Australian UAV</i>
12.30pm	<b>Lunch on the Run</b>	

Details are correct at time of program production, although may be subject to change.

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

# Registration Form

(Registration by 12 October 2018)

To register for the workshop online please go to [www.wisewaterways.org.au](http://www.wisewaterways.org.au) or complete the registration on the following page and forward / scan it to:

Wise Water Ways  
PO Box 645, Wangaratta VIC 3676  
Email: [info@wisewaterways.org.au](mailto:info@wisewaterways.org.au)  
Contact: Virginia Eckels Tel: 0408 109 707

## A. PARTICIPANT

Title: Dr  Mr  Mrs  Ms

Name: .....

Position: .....

Organisation:.....

Address: .....

..... Postcode .....

Phone(B): ..... Mobile: .....

Email: .....

Special Dietary Requirements: .....

.....

Privacy - I give permission for my details to be disclosed

Yes  No



## B. REGISTRATION FEES (by 12 October 2018)

**Full Workshop Fee** includes morning teas, lunches, dinners (excluding Wed), annual subscription to RBMS

**\$990**  
(GST Inclusive)

I would like more information about the RBMS?

**For Members of the River Basin Management Society (RBMS)**

**\$952**  
(GST Inclusive)

## C. ACCOMMODATION

(includes fully cooked breakfast)

### Hotel Double Room

Double Bed - \$140.00 per room per night (GST inclusive)

### Hotel King Room

King Bed - \$150.00 per room per night (GST inclusive)

### Linaker (art deco inspired suites)

Queen Bed - \$155.00 per room per night (GST inclusive)

### Linaker - single / twin share (art deco inspired suites)

2 single beds in separate rooms with shared bathroom - \$90 per person per night (GST inclusive)

**Sharing with:** .....

Check in date ..... / ..... / .....

**TOTAL**

Check out date ..... / ..... / .....

GST Inclusive

No. of nights	Total

## Method of payment

An invoice will be sent to you on receipt of the registration form. Please provide us with the following details:

Purchase Order No: .....

Billing Address: .....

.....

.....

.....

**Cancellation Policy:** Full refund less 20% if advised 5 days prior to the Workshop

**Forward registration form to:**

Wise Water Ways Secretariat, PO Box 645, WANGARATTA VIC 3676.

Email: [info@wisewaterways.org.au](mailto:info@wisewaterways.org.au)

[www.wisewaterways.org.au](http://www.wisewaterways.org.au) Tel: 0408 109 707

We would like to thank the following partners:



NORTH EAST  
CATCHMENT  
MANAGEMENT  
AUTHORITY



Environment,  
Land, Water  
and Planning



**WISEwaterways**

**A Stream Rehabilitation Workshop**

**For further information contact:**

Virginia Eckels, Wise Water Ways Secretary

Tel: 0408 109 707 or Email: [info@wisewaterways.org.au](mailto:info@wisewaterways.org.au)

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