



NORTH EAST  
CATCHMENT  
MANAGEMENT  
AUTHORITY



Australian Government



Integrating Catchment Management for Australia



# WISEwaterways

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

28 October - 1 November 2019  
Venue: George Kerferd Hotel, Beechworth

Presented by

North East Catchment Management Authority  
Department of Environment, Land, Water & Planning  
Murray Darling Basin Authority  
Jacobs  
Centre for Freshwater Ecosystems – La Trobe University  
River Basin Management Society  
Alluvium Consulting  
Streamology  
Charles Sturt University  
Water Technology

## KEYNOTE ADDRESS

**Testimonial:** Dr Sarina Loo

### Do you speak water-ish? The need for clear communication.

Research commissioned by the Victorian Environmental Water Holder (VEWH) has found strong evidence that the language and complexity of water management is excluding communities from understanding what environmental flows are and their benefits. A statewide market research project undertaken by ORIMA Research has confirmed startling levels of misunderstanding that stem from impenetrable water language.

To help increase public acceptance of water for the environment, it will be essential to first increase levels of water literacy. Knowledge of water management and personal use of waterways can also increase support for water for the environment and waterway management in general. Environmental Water Holders are working together to meet public needs by providing clearer, more accessible information about the rationale and benefits of environmental watering.

To be successful, the water industry needs to break down potential verbal and intellectual barriers, simplify its management concepts and speak to people in language they understand.

#### **Dr Sarina Loo**

Dr Sarina Loo is the Co-Executive Officer of the Victorian Environmental Water Holder. Previously, she was a senior public servant at the Department of Environment, Land, Water and Planning in Victoria for over 10 years. Her areas of expertise include environmental water management, policy and strategy development, investment, monitoring, evaluation, reporting and governance in the areas of waterway health and catchment management. Sarina has a PhD in freshwater ecology with her research focusing on invasive species distribution modelling. She has been lecturer of sustainability at Swinburne University of Technology and an independent consultant to government and private business. Sarina is an inaugural Fellow and past Board member of the Peter Cullen Trust and established the Women in Water Leadership Program.



**Dr Sarina Loo**

Co-Executive Officer  
Victorian Environmental  
Water Holder

## 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 twenty years that the Workshop has been running, over 900 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.

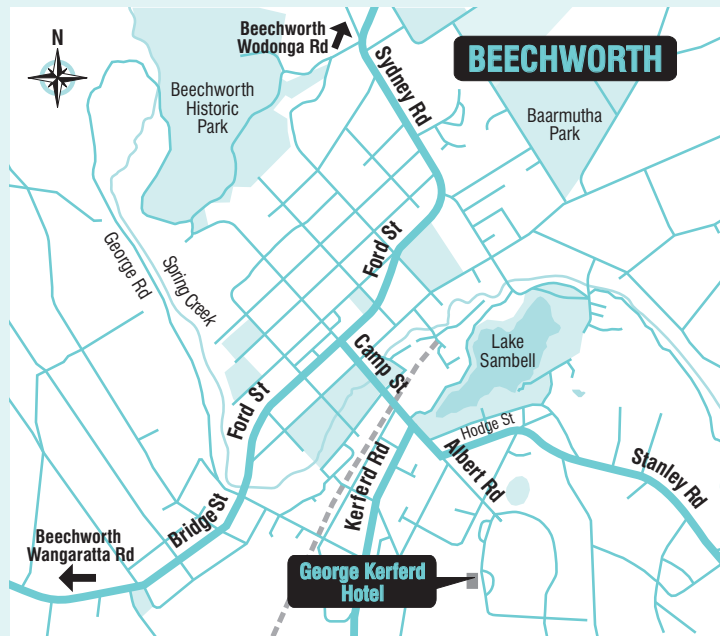
## Who Should Attend?

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 interesting geomorphology 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 28/10</b>	<b>Day One</b>	<b>Introduction to Stream Management</b>
12.15 – 12.45pm	<b>Welcome to Country</b>  <b>Welcome, Program and Assessment</b>	<b>Jida Gulpilil</b> <i>North East Catchment Management Authority</i> <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>Associate Professor Ian Rutherford</b> <i>University of Melbourne</i>
2.30 – 3.00pm	<b>Afternoon Tea</b>	
3.00 – 5.45pm	<b>Riparian Vegetation Field Demonstration</b>	<b>Jamie Kaye / Jo Slijkerman</b> <i>Water Technology</i>
6.30pm	<b>Dinner and Entertainment</b>	
<b>Tuesday 29/10</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

9.00 – 9.50am	<b>Stream Assessment Techniques</b> <ul style="list-style-type: none"> <li>• Introduction and overview</li> <li>• Assessment of hydrology, vegetation and physical condition</li> </ul>	<b>Paul Wilson</b> <b>Dr Ewen Silvester</b> <i>Associate Professor</i> <i>La Trobe University</i>
9.50 – 10.20am	<b>Morning Tea</b> <ul style="list-style-type: none"> <li>• Water quality</li> <li>• eDNA</li> <li>• Role of macro-invertebrates</li> </ul>	<b>Dr Michael Shackleton</b> <b>Dr Paul McInerney</b> <i>Centre for Freshwater Ecosystems</i> <i>La Trobe University</i>
10.20 – 12.00pm		
12.00 – 12.45pm	<b>Fish Habitat</b> <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>	<b>Dr Jarod Lyon</b> <i>Arthur Rylah Institute for</i> <i>Environmental Research</i>
12.45 – 1.30pm	<b>Lunch on Country - Aboriginal Heritage Identification</b>	<b>Donna Mitsch</b> <i>Department of Environment, Land,</i> <i>Water and Planning</i>
1.30 – 5.30pm	<b>Field Demonstrations</b> <ul style="list-style-type: none"> <li>• Field surveys (Level and Staff)</li> <li>• Macro-invertebrate sampling</li> <li>• Vegetation assessment</li> <li>• Physical condition assessment</li> </ul>	<b>Chris Dwyer Jacobs</b> <b>Dr Paul McInerney</b> <b>Jo Slijkerman</b> <b>Dr James Grove</b> <i>Streamology</i>
6.30pm	<b>Free night / Pub Meal with a Side-Serve of Science - Optional</b>	<b>Professors Gerry Quinn and</b> <b>Andrew Boulton</b>
<b>Wednesday 30/10 Day Three Processes</b>		
8.30 – 9.10am	<b>Rural and Urban Hydrology</b> <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>	<b>Ben Tate</b> <i>Water Technology</i>
9.10 – 10.00am	<b>Stream Hydraulics and Sediment Movement</b> <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>	<b>Ben Tate</b> <b>Dr Geoff Vietz</b> <i>Streamology</i>

# 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>Dr 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>	
7.00pm	<b>21st Anniversary Dinner and Celebrations</b> <b>The History of Waterway Management in Victoria</b> <b>Keynote Address</b> <ul style="list-style-type: none"> <li>• Do you Speak Water-ish? The Need for Clear Communication</li> </ul>	<b>Assoc Prof Ian Rutherford MC</b> <b>Ross Hardie</b> <i>Alluvium</i> <b>Dr Sarina Loo</b> <i>Co-Executive Officer</i> <i>Victorian Environmental Water Holder</i>
<b>Thursday 31/10</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>Murray Radcliffe</b> <i>Director Engagement</i> <i>Murray Darling Basin Authority</i> <b>Ray Ahmat</b> <i>NSW Department of Industry -</i> <i>Land and Water</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>Professor Andrew Boulton</b>

# Program of Activities

10.45 – 11.00am	<b>Morning Tea</b>	
11.00 – 12.15pm	<b>Waterway 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</i>
12.15 – 1.00pm	<b>Field Projects and Construction Works</b> <ul style="list-style-type: none"> <li>• Works. What works?</li> </ul>	<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 1/11</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, may be subject to change.

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

# Registration Form

(Registration by 11 October 2019)

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 11 October 2019)

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

**\$1100**  
(GST Inclusive)

I would like more information about the RBMS?

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

**\$1052**  
(GST Inclusive)

## C. ACCOMMODATION

(includes 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  
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AUTHORITY



Australian Government



**WISEwaterways**

**A Stream Rehabilitation Workshop**

**For further information contact:**

Virginia Eckels, Wise Water Ways Secretariat

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

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