



NORTH EAST  
CATCHMENT  
MANAGEMENT  
AUTHORITY



Department of  
Environment and  
Primary Industries



alluvium



# WISEwaterways

## A Workshop in Stream Management Principles and Practices

28 October - 1 November 2013

Venue: Quality Hotel Wangaratta Gateway, Wangaratta

Presented by

North East Catchment Management Authority  
Department of Environment and Primary Industries  
Sinclair Knight Merz  
La Trobe University  
River Basin Management Society  
Alluvium Consulting Pty Ltd  
Charles Sturt University  
Water Technology

## Testimonial: Dr Siwan Lovett

### Sharing water knowledge and empowering people to act

*In today's environment, hoarding knowledge ultimately erodes your power. If you know something very important, the way to get power is by actually sharing it - Joseph Badaracco*

In times of scarcity human beings have a tendency to hoard resources, build defences and look after 'number one'. When we are placed under pressure to do more with less, we become more inwardly focused, and spend less time integrating and building relationships with others who may be working in a similar area. These responses to scarcity also operate at institutional and jurisdictional scales, and I believe over the past few years in Australia, many organisations have become isolated in an attempt to conserve resources and protect their competitive advantage in an increasingly contested and limited funding environment. While these responses are understandable, they are short-sighted and produce sub-optimal outcomes. They also tend to place people under considerable stress and create environments that lack a strong sense of purpose and belief in the work being undertaken.

As the quote from Joseph Badaracco states, there is another way. By sharing our knowledge in many different ways, and by working together, we can empower ourselves and the communities we seek to work with, to do more. By adopting a broad definition of 'knowledge', we can include many more forms of understanding about how to understand, conserve and restore these systems so that they can support environmental, social and economic needs. By investing in networks and relationships we can support groups doing great work, and share the lessons they learn with others so that mistakes are not repeated and successes are built upon. By taking time to value ourselves and the work we do, we can reaffirm and share our sense of purpose to inspire and motivate others to protect and care for our waterways. This presentation will focus on the need to share knowledge and empower people to act and provide some of the philosophy and practical techniques that underpin this approach.



**Dr Siwan Lovett**

Director  
Australian River  
Restoration Centre

## Vision

To provide a forum for a comprehensive overview of Stream Rehabilitation and Management Principles and Practices.

## Aims

An integrated approach to Stream Management: Hydrology, Water Quality, Ecology, Riparian Vegetation, Geomorphology and Rehabilitation Techniques.

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

## Background

In the fourteen years that the Workshop has been running, some 740 participants 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 the water industry. The program features speakers who are leaders in their field. On completion of the Workshop participants will receive a subject credit towards either Charles Sturt University's Graduate Certificate in River Restoration or Master of Water Resource Management. For more information go to: <http://www.csu.edu.au/faculty/science/ses/courses> or contact Jonathon Howard E: [JHoward@csu.edu.au](mailto:JHoward@csu.edu.au) T: 02 6051 9685.

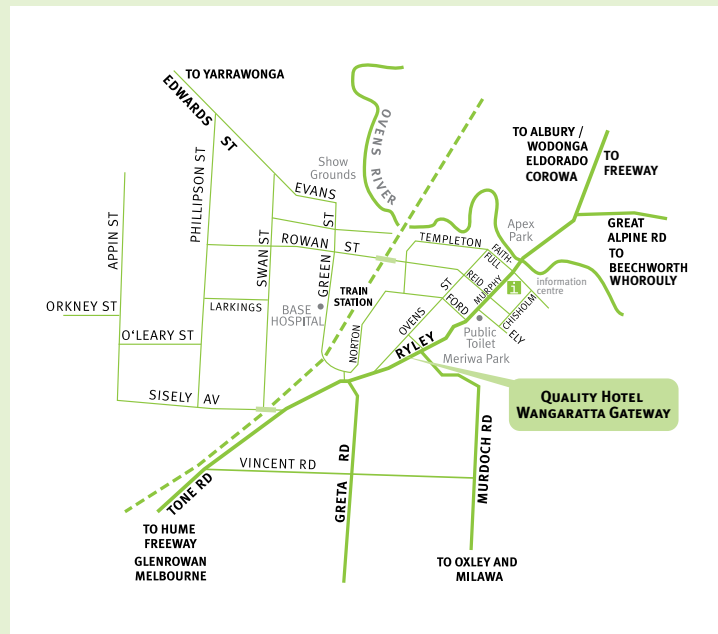
## Who Should Attend?

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

## The Region / Travel

Wangaratta is situated in North East Victoria. It is approximately 2½ hours drive from Melbourne. The nearest airport is Albury Airport (45 minutes drive). Hire cars are available from both airports. If you are travelling from Melbourne, an alternative is to catch a train from Melbourne's Southern Cross Station to Wangaratta (V-Line or Countrylink). 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 Quality Hotel Wangaratta Gateway, 29 Ryley Street, Wangaratta.

Special rates have been organised. They range from a single occupancy room - \$147.00 per room per night to apartments / townhouse sleeping 4 people at \$320.00 per night. There are also twin and triple rooms available. The rates include a fully cooked breakfast.

Please contact the secretariat via email: [nemeet@bigpond.com](mailto:nemeet@bigpond.com) to explore options before completing the registration form at the back of this brochure.

# Program of Activities

Sessions		Presenter
<b>Monday 28/10</b>	<b>Day One</b>	<b>Introduction to Stream Management</b>
12.30 – 12.45pm	<b>Program and Assessment</b>	<b>Dr Andrew Boulton</b> <i>Adjunct Professor, UNE</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 Ian Rutherford</b> <i>Associate Professor, University of Melbourne</i>
2.30 – 3.00pm	<b>Afternoon Tea</b>	
3.00 – 5.45pm	<b>Riparian Vegetation Field Demonstration</b>	<b>Paul Wilson</b> <i>Office of Water DEPI</i> <b>Jamie Kaye</b> <i>Water Technology</i>
7.00pm	<b>Keynote Address by Dr Siwan Lovett</b> <ul style="list-style-type: none"> <li>• Sharing Water Knowledge and Empowering People to Act</li> </ul>	<b>Dr Siwan Lovett</b> <i>Director</i> <i>Australian River Restoration Centre</i>
<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>Office of Water DEPI</i>
9.00 – 12.30pm	<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> <li>• Role of macro-invertebrates</li> <li>• Water quality</li> </ul>	<b>Paul Wilson</b> <b>Dr Darren Baldwin</b> <i>MDFRC</i> <b>Dr Phil Suter</b>

# Program of Activities

12.30 – 1.30pm	<b>Lunch</b>	
1.30 – 5.30pm	<b>Demonstration of Field Data Collection</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>Paul Wilson</b> <b>Chris Dwyer</b> <i>SKM</i> <b>Phil Suter</b>
6.45pm	<b>Assessment Requirements</b>	<b>Dr Andrew Boulton</b>
7.00pm	<b>Dinner and Entertainment by Pete Denahy</b>	
<b>Wednesday 30/10</b>	<b>Day Three Processes</b>	
8.30 – 9.10am	<b>Stream Ecology</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>Chair in Marine Biology</i> <i>Deakin University</i> <i>Warrnambool Campus</i>
9.10 – 9.50am	<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 DEPI</i>
9.50 – 10.50am	<b>Morning Tea at Kaluna Park</b> <ul style="list-style-type: none"> <li>• What makes a successful restoration program</li> </ul>	<b>Andrew Snowdon</b> <i>Rural City of Wangaratta</i>
10.50 – 12.20pm	<b>Managing Channel / River Change in Geomorphic Context</b> <ul style="list-style-type: none"> <li>• Open channel hydraulics</li> <li>• Stream geomorphology</li> </ul>	<b>Dr Peter Sandercock</b> <i>SKM</i> <b>Dr Tony Ladson</b> <i>Moroka Consulting</i>

# Program of Activities

12.20 – 1.00pm	<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>Dr Geoff Vietz</b> <i>Department of Environmental Engineering  The University of Melbourne</i>
1.00 – 1.15pm	<b>Briefing on Field Work</b>	<b>Dr Andrew Boulton</b>
1.15 – 2.00pm	<b>Lunch</b>	
2.00 – 5.30pm	<b>Project Data Collection and Write-up / Field Work</b>	
	<b>Free Evening</b>	
<b>Thursday 31/10</b>	<b>Day Four</b>	<b>Rehabilitation Techniques</b>
8.30 – 9.10am	<b>Riparian Vegetation</b> <ul style="list-style-type: none"> <li>• The role of filter strips, organic carbon, shading, biodiversity and revegetation</li> <li>• Components and importance of riparian vegetation</li> <li>• Vegetation management and revegetation techniques</li> <li>• Ecological vegetation communities</li> </ul>	<b>Jane Roots</b> <i>School of Environmental Sciences  Charles Sturt University</i>
9.10 – 9.55am	<b>Willows/Exotic Trees</b> <ul style="list-style-type: none"> <li>• Identification and reproduction</li> <li>• Ecology, dispersal and management issues</li> <li>• Control techniques</li> <li>• Rehabilitation</li> </ul>	<b>Andrew Briggs</b> <i>North East Catchment Management Authority</i>
9.55 – 10.25am	<b>Morning tea</b>	
10.25 – 12.00pm	<b>Stream Channel 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>
12.00 – 12.45pm	<b>Lunch</b>	

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12.45 – 1.30pm	<b>Field Projects and Construction Works</b> Works. What works?	<b>Terry McCormack, Andrew Briggs</b> <i>North East Catchment Management Authority</i>
1.30 – 5.30pm	<b>Preparation of project reports</b>	
6.30 – 7.30pm	<b>Dinner</b>	
8.00 – 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> </ul>	<b>Chris Dwyer, Terry McCormack, Andrew Briggs</b>
12.30pm	Lunch on the Run	

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

# Registration Form (Return by 11 October 2013)

## 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 (no tick will be taken as yes)  Yes  No

**To register for the workshop please complete the registration on the following page and forward / scan it to:**

Wise Water Ways  
PO Box 645, Wangaratta VIC 3676  
Email: [nemeet@bigpond.com](mailto:nemeet@bigpond.com)  
[www.wisewaterways.org.au](http://www.wisewaterways.org.au)

Contact Virginia Eckels  
Tel: 0408 109 707



