



NORTH EAST  
CATCHMENT  
MANAGEMENT  
AUTHORITY



Environment,  
Land, Water  
and Planning

**JACOBS**



**alluvium**



*Integrating Catchment Management for Australia*



# WISEwaterways

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

30 October - 3 November 2017

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

The Murray-Darling Freshwater Research Centre

Arthur Rylah Institute for Environmental Research

## Testimonial: Carl Binning

### Future Visions For the Murray Darling Basin

The Murray Darling Basin Plan is an unprecedented reform aimed at improving the environmental health of the environment of Australia's largest river system whilst continuing to improve the productivity of agricultural industries and support the communities that depend on water.

The presentation will reflect on three key challenges associated with implementing the reform:

1. How community confidence can be secured for decisions that balance social, environmental and economic values?
2. What does success look like – how do we define a clear vision for the modified landscapes of the Murray Darling?
3. How can we measure success – What are the indicators of success and what is the early evidence telling us?

#### Carl Binning

Carl Binning has been practitioner of sustainable development throughout his working life.

He has held leadership roles across government, industry, community sector, research and consulting organisations, working at the interface between communities and the environment for over 30 years. His experience spans biodiversity conservation, water management, agriculture, mining, urban development, indigenous affairs and community development.

Carl is the Executive Director of Environment at the Murray Darling Basin Authority. The Authority is responsible for working with State governments to deliver a Healthy Working Basin by regulating water use to balance social, economic and environmental outcomes. The Authority plays a key role in delivering long term water reforms that aim to both protect the health of river and key environmental assets and also support the productivity of agricultural industries that contribute more than \$19 billion to regional communities.

**Work Experience:** Prior to working at the Murray Darling Basin Authority Carl was Managing Director of Creating Communities a boutique consulting group providing community development services to government, mining companies, urban development industry, community organisations and aboriginal communities.

He worked within BHP Billiton's Iron Ore Business as Vice President Health, Safety, Environment and Communities.

Prior to joining BHP Billiton, Carl Binning was Chief Executive of Greening Australia, Australia's largest environment organisation. Carl has also played roles at CSIRO Sustainable Ecosystems, where he was a Principal Research Economist, and within the Commonwealth Departments of Environment and Prime Minister and Cabinet, advising on the design of economic policies and institutions for natural resource management.

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



**Carl Binning**

Executive Director  
Environmental Management  
Division  
Murray Darling Basin Authority

## 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 eighteen years that the Workshop has been running, over 836 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.

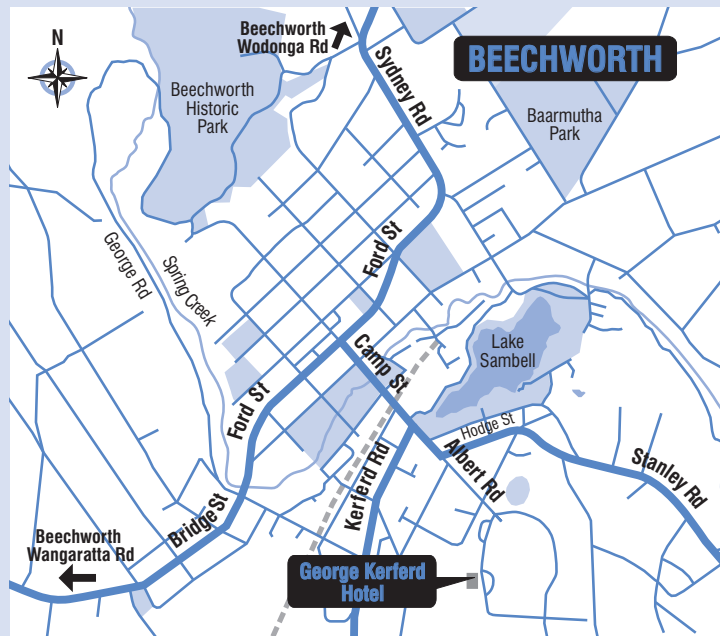
## Who Should Attend?

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 30/10</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>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</b> <i>Water Technology</i>
7.00pm	<b>Keynote Address and Dinner</b> Future Visions for the Murray Darling Basin	<b>Carl Binning</b> <i>Executive Director</i> <i>Environmental Management Division</i> <i>Murray Darling Basin Authority</i>
<b>Tuesday 31/10</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>11.20 – 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  La Trobe University  Albury Wodonga Campus</i>  <b>Dr Paul McInerney</b>  <i>The Murray-Darling Freshwater  Research Centre</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  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>• Field surveys (level and staff)</li> <li>• Macro-invertebrate sampling</li> <li>• Vegetation assessment</li> <li>• Physical condition assessment</li> <li>• Aboriginal Heritage Assessment</li> </ul>	<p><b>Jamie Kaye</b>  <b>Chris Dwyer</b>  <b>Rose Overberg</b>  <i>Jacobs</i>  <b>Luke Brock</b>  <i>North East Catchment  Management Authority</i>  <b>Dr Paul McInerney</b></p>
<p>7.00pm</p>	<p><b>Dinner and Entertainment</b></p>	
<p><b>Wednesday 1/11    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 – 11.40am	<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>
11.40 – 12.40pm	<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>
12.40 – 1.30pm	<b>Lunch</b>	
1.30 – 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 2/11</b>	<b>Day Four</b>	<b>Community Engagement and Rehabilitation Techniques</b>
8.30 – 10.00am	<b>Engaging the Community</b> <ul style="list-style-type: none"> <li>• Aboriginal involvement in water management</li> <li>• Community engagement principles and practices</li> </ul>	<b>Dr Jane Roots</b> <i>Department of Environment, Land, Water and Planning</i> <b>Neil Ward</b> <i>Murray Darling Basin Authority</i>
10.00 – 10.30am	<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 Roots</b>

# Program of Activities

10.30 – 11.00am	<b>Morning Tea</b>	
11.00 – 12.30pm	<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>
12.30 – 1.15pm	<b>Field Projects and Construction Works.</b> What works?	<b>Terry McCormack, Andrew Briggs</b> <i>North East Catchment Management Authority</i>
1.15pm	<b>Lunch</b>	
1.45 – 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 3/11</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, Terry McCormack, 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.

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# Registration Form

(Registration by 13 October 2017)

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



