



# Training for river management professionals: Domestic course offerings

Training in application and use of the River Styles Framework is delivered by developers of the Framework through a range of course offerings. These range from the five-day Professional River Styles Short Course (for accreditation in use of Stage 1 of the River Styles Framework) to one-day introductory and extension workshops.

The five-day Professional River Styles Short Course is hosted in Goulburn, NSW, Australia by Macquarie University. All other courses are offered via a flexible 'participant-hosted' model, allowing trainers to come to a location convenient to participants in a team or organisational unit. More information on hosting arrangements and pricing can be provided by emailing [riverstyles@mq.edu.au](mailto:riverstyles@mq.edu.au).

Included in this prospectus are details on the following:

- 5-day Professional River Styles Short Course (Stage 1 of River Styles Framework)
- 1-day Introduction to Fluvial Geomorphology workshop
- 1-day Introduction to the River Styles Framework workshop
- 3-day River Condition and Recovery Potential Short Course (Stages 2 and 3 of River Styles Framework)

## About the trainers

### Professor Gary Brierley

Gary is co-developer of the River Styles Framework and Professor in the School of the Environment, Auckland University, New Zealand. He has been teaching professional and academic courses in river science and management for more than 30 years. Gary's current research focuses on development of and application of coherent scientific guidance with which to promote river repair, recognising diversity and variability in river systems.

### Professor Kirstie Fryirs

Kirstie is co-developer of the River Styles Framework and Professor in the School of Natural Sciences, Macquarie University, Australia. She has more than 20 years of experience teaching fluvial geomorphology and river management to professional, postgraduate and undergraduate students. Kirstie's research focuses on fluvial geomorphology, in particular, river evolution, sediment budgets, landscape (dis)connectivity and human disturbance to rivers.



## 5-day Professional River Styles Short Course (Stage 1)

This five-day, intensive Short Course was specifically developed for river management professionals, in order to provide accreditation in Stage 1 of the River Styles Framework (baseline survey of river character and behaviour). The course provides detailed, hands-on and field-based instruction. Later in the course, insights into Stages 2 to 4 (assessment of river condition, assessment of recovery potential and the geomorphic basis for prioritisation of management activities) are provided.

An accreditation framework for River Styles has been developed to ensure quality control. By completing the 5-day Professional River Styles Short Course and passing the assessment, participants will be awarded provisional River Styler status. More information on the accreditation guidelines is available on the River Styles website.

### Goulburn-based (hosted by Macquarie University)

**Duration:** Five days, Monday to Friday 8.30 am to 5.00 pm

**Location:** Goulburn, NSW

**Prerequisites:** None

**Cost:** AU\$2995 per participant (inc. GST). Price **includes** tuition by developers of the Framework, field booklet, field costs and all materials, venue and bus hire for site visits, morning and afternoon teas. Price **excludes** travel to and from course location in Goulburn, accommodation in Goulburn, main meals. Each participant is required to bring their own copy of the textbook, 'Geomorphology and River Management: Applications of the River Styles Framework'.

**Course numbers:** Minimum 20 and maximum 22 participants required for course to run. Positions are filled on a first-come-first-served basis in the online booking system.

### Aims of course

- Outline background principles of fluvial geomorphology
- Demonstrate the use of geomorphology as a physical template for river management
- Develop a working knowledge of the River Styles Framework (Stage 1)
- Demonstrate how to identify and interpret the character and behaviour of River Styles
- Identify River Styles and undertake practical exercises in a local catchment
- Discuss controls on downstream patterns of River Styles
- Provide insight into the geomorphic condition and recovery potential of River Styles (Stages 2 and 3)
- Discuss how River Styles data can be used in river rehabilitation and waterways management (Stage 4)

The intent of this workshop is *not* to provide basic training in fluvial geomorphology. Rather, through lecture presentations, discussions, field and practical exercises, we cover a range of introductory principles and analyses of river systems and apply these as part of Stage 1 of the River Styles Framework. We focus on geomorphology (physical structure and behaviour of rivers), not hydrology, ecology or engineering.

### Structure of course

This five-day Short Course was specifically developed as a training course for river management professionals. Around 350 individuals have participated in the courses to date in both Australia and overseas. Participants in previous courses have included Scientific, Policy and Planning staff from

National, State and Local Governments, river consultants, Landcare/Rivercare officers, ecologists, postgraduate students and more.

The course will start at 9 am on Monday morning, and conclude at 5 pm on Friday afternoon. Emphasis will be placed on identification and interpretation of River Styles. The course will provide detailed analysis of Stage 1 of the River Styles framework (Baseline Survey of River Character and Behaviour), with insights into Stages 2-4 (Assessment of River Condition, Assessment of Recovery Potential and the Biophysical Basis for Prioritisation of Management Programs).

Through lecture presentations, field visits to a range of different River Styles, and practical remote sensing interpretation and field analyses, linkages between river forms and processes are explained for various geomorphic units. Procedures used to amalgamate these geomorphic units into River Styles are demonstrated. The Friday is spent exploring applications of River Styles in river and water management practice.

**Day 1:**

- Introduction to the River Styles procedure and fluvial geomorphology
- Field trip demonstrating a range of River Styles close to Goulburn

**Day 2:**

- Field assessment of a range of River Styles between Goulburn and Nowra, NSW

**Day 3:**

- Hands-on interpretation of aerial imagery to identify River Styles and their boundaries

**Day 4:**

- Field-based investigation of sites interpreted using aerial imagery on previous day
- Interpretation of downstream patterns of River Styles

**Day 5:**

- Geomorphic assessment of river evolution and condition (assessment task)
- Use and application of the River Styles Framework in river management practice

## **Disclaimer**

Macquarie University and the organisers of the course accept no responsibility for personal injury incurred during any training course, or travel/accommodation losses in the event of a training course being cancelled. Participants are advised to ensure that personal insurance and WH&S requirements are met by the individual and/or their employer.



## 1-day Introduction to Fluvial Geomorphology

This workshop is intended for anyone who is interested in geomorphology or uses geomorphology in their work.

**Duration:** One day, 8.30 am to 5.00 pm

**Location:** Office- or hall-based in any location (**hosted by participants' organisation**)

**Prerequisites:** None

**Cost to host:** The host is responsible for the organisation of the workshop venue, participant registrations and presenters' costs. This includes the following requirements:

- Presenters' fee
- Purchase of textbook 'Geomorphic Analysis of Rivers' and workshop materials
- All catering (lunch, morning and afternoon teas), course booklets, resources and venue
- Presenters' travel, food and accommodation expenses for duration of the workshop.

Please contact [riverstyles@mq.edu.au](mailto:riverstyles@mq.edu.au) for more information.

**Course numbers:** Minimum 20 and maximum 50 participants required for course to run.

### Aims of course

- Develop a working knowledge of key principles in fluvial geomorphology
- Provide insight into the character and behaviour of rivers across the spectrum of diversity
- Demonstrate how fluvial geomorphology can be used in river management practice

The intent of this workshop is *not* to provide training in fluvial geomorphology. Rather, through lecture presentations, discussions and practical exercises, we cover a range of introductory principles and analyses of river systems. We focus on geomorphology (physical structure and behaviour of rivers), not hydrology, ecology or engineering.

### Structure of course

#### Session 1:

- Introduction: What is fluvial geomorphology? Geomorphology as a physical template; An approach to 'Reading the Landscape'
- Presentation: Catchment-scale perspectives in fluvial geomorphology
- Practical exercise: Catchment-scale morphometrics and their effects on hydrology and geomorphology

#### Session 2:

- Presentation: Channel geometry (bed and bank processes) and instream geomorphic units
- Presentation: Floodplain forms and processes (including comment on floodplain reworking; flood risk)
- Presentation: The diversity of rivers in Australia and overseas
- Practical exercise: The character and behaviour of different river types



## **Session 3:**

- Presentation: River evolution (change): patterns, connectivity and geomorphic responses to human disturbance
- Discussion: River evolution and human disturbance: predicting likely future adjustments in your local catchments
- Presentation: Sediment flux relationships in river systems

## **Session 4:**

- Presentation: River management and prioritisation: River Futures
- Discussion: River management in your local catchments
- Closing remarks

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## 1-day Introduction to the River Styles Framework

This workshop is intended for anyone who is interested in familiarising themselves with the River Styles Framework and how it is used for river management both in Australia and overseas.

**Duration:** One day, 8.30 am to 5.00 pm

**Location:** Office- or hall-based in any location (**hosted by participants' organisation**). This course can be extended to a second day on request, with local field visits.

**Prerequisites:** 1-day Introduction to Fluvial Geomorphology workshop

**Cost to host:** The host is responsible for the organisation of the workshop venue, participant registrations and presenters' costs. This includes the following requirements:

- Presenters' fee
- Purchase of textbook 'Geomorphology and River Management' and workshop materials
- All catering (lunch, morning and afternoon teas), course booklets, resources and venue
- Presenters' travel, food and accommodation expenses for duration of the workshop.

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**Course numbers:** Minimum 20 and maximum 40 participants required for course to run.

### Aims of course

- Develop a working knowledge of the River Styles Framework
- Discuss how to use the Framework in river rehabilitation and waterways management in Australia and overseas
- Provide an introductory pathway to the 5-day Professional River Styles Course (accreditation)

The intent of this workshop is *not* to provide training in how to undertake River Styles assessments. Rather, participants will develop an introductory understanding of the underpinnings of the River Styles Framework, its structure and its use in river management. From this, practitioners will be able to determine the usefulness of the framework for their work.

### Structure of course

#### Session 1:

- Introduction: Underlying principles of the River Styles Framework
- Presentation: Stage 1 of the River Styles Framework: River character, patterns and controls
- Practical exercise: River Styles Quiz
- Presentation: Stage 1 of the River Styles framework: Interpreting river behaviour

#### Session 2:

- Practical exercise: Mapping River Styles of local rivers using Google Earth and interpreting river behaviour

**Session 3:**

- Presentation: Stage 2 of the River Styles Framework: Catchment-framed assessment of geomorphic condition
- Practical exercise: Selecting appropriate geo-indicators of river condition for different River Styles
- Presentation: Stage 3 of the River Styles Framework: Assessing the evolutionary trajectory and geomorphic recovery potential of rivers

**Session 4:**

- Presentation: Stage 4 of the River Styles Framework: Implications for river management (setting geomorphic visions, identifying target conditions for river management, prioritisation based on geomorphic river condition and recovery potential, monitoring and auditing improvements in condition)
- Practical exercise: Identifying target conditions for river rehabilitation and level of intervention required
- Discussion: River Futures and applications of the River Styles Framework
- Closing remarks

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## 3-day River Condition and Recovery Potential Short Course (Stages 2 and 3)

This course is intended for anyone who wants to undertake assessments of geomorphic river condition and recovery potential, or who uses this information in the workplace for prioritisation in river management.

**Duration:** Three days, 8.30 am to 5.00 pm

**Location:** Field and office-based, including field visits in Hunter Valley, NSW

**Prerequisites:** Completion of 5-day Professional River Styles Short Course (Stage 1) and 'Provisional' River Styler status. Must bring own copy of the textbook 'Geomorphology and River Management' from the Stage 1 course.

**Cost to host:** The host is responsible for the organisation of the workshop venue, participant registrations and presenters' costs. This includes the following requirements:

- Presenters' fee
- All catering (morning and afternoon teas), course booklets, resources and venue
- Presenters' travel, food and accommodation expenses for duration of the workshop.

Please contact [riverstyles@mq.edu.au](mailto:riverstyles@mq.edu.au) for more information.

**Course numbers:** Minimum 16 and maximum 25 participants required for course to run.

### Aims of course

- Demonstration and application of Stages 2 and 3 of the River Styles Framework

### Structure of course

#### Day 1:

- Introduction and refresher of Stage 1 of the River Styles Framework
- Procedures for assessing geomorphic river condition and recovery potential
- Field visits in Wollombi (4 sites) to a range of river as different stages of geomorphic condition; learning how to undertake river condition assessment using the River Styles Framework
- Discussion/overview session at venue

#### Day 2:

- Developing desirability criteria for assessment of geomorphic river condition
- Testing and undertaking geomorphic river condition assessment in the Williams River catchment (4 field sites)
- Discussion/overview session at venue and completion of condition assessment for marking and feedback





## Day 3:

- Using geomorphic condition and recovery assessments to prioritise and develop river management strategies
- Undertaking analysis of river evolution
- Workshop: Analysis of river recovery potential and construction of river recovery diagrams for the Williams River
- Group presentations on results of analysis
- Discussion: Comparison and priorities for Wollombi and Williams Rivers and use of this information in river management practice

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