

\*\*\* NEW \*\*\*

## TWO DAY RIVER RESTORATION COURSES

### Module 1

#### **Understanding River Restoration: Processes, ecology, planning and assessing potential**

**18<sup>th</sup> and 19<sup>th</sup> November 2008**

**Silsoe Conference Centre, Silsoe, Bedfordshire**

**Aim:** Two linked two day courses (Modules 1 & 2) will provide participants with an integrated view of all aspects required for successful ecological river restoration.

**Target Audience:** Anyone involved with managing/identifying options for river restoration from inception to completion and assessment.

**Module 1 Course Description:** A two day intense, applied and interactive course which is underpinned by science. As it is a residential course attendees will be expected to complete the two day module and work as a team with other participants and by doing so help to facilitate knowledge exchange between disciplines under the guidance of the course facilitators. This course is Module 1 of a two module set. A certificate of attendance will be given to those who complete the whole module.

**Facilitators:** RRC has brought together a group of experts who have a long professional track record not only in their area of expertise but, more specifically, a wealth of experience about how important it is to understand the complex nature of delivering successful river restoration projects (see below for short background descriptions).

**Course numbers:** This will be kept to a maximum number of 20 participants.

**Fee:** £450 plus VAT (RRC Members), £600 plus VAT (Non Members) for the two day course (module 1) which will include: Course booklet; course materials; a copy of the RRC's Manual of River Restoration Techniques; teas, coffees, lunches and the course dinner on the evening of the first day. *The fee does NOT cover the cost of accommodation* (approx £35-£45 per night).

**RRC Membership:** Annual membership starts from £60 plus VAT.

**Request a booking form:** To request a booking form or further information email [rrc@therrc.co.uk](mailto:rrc@therrc.co.uk). Places will be confirmed on receipt of the full fee and completed booking form.

**Progression:** *Module 2 will consist of a follow-on two day course, building on the content of this first course, concentrating on design approaches, site analysis, specification and construction issues and integrated monitoring. Attendance at module 2 is conditional upon successful completion of the module 1 course.*

# Course Outline

## **Day 1. Understanding River Restoration: processes and planning for design**

*Facilitator: Martin Janes and Dr Jenny Mant, River Restoration Centre*

### **9.30 Overview of course.**

Rationale, how it all fits together and introduction to facilitators

- Examples of what happens if you don't get it right – for discussion at end of course

*Facilitator: Dr Phil Soar, University of Portsmouth*

### **9.45 Fluvial processes within river restoration design.**

This session will cover aspects of fluvial geomorphology, sediment process and hydrology within this context. It will be backed up with exercises to demonstrate the need to understand associated parameters (e.g. slope, roughness, sediment type, cross-sectional type) and associated simple calculations. Components will include:

- The importance of understanding fluvial geomorphology in design
- Return periods and channel forming discharge
- Sediment continuity/connectivity
- Implications of differing bed and bank material

The session will incorporate practical elements based on the above.

### **10.45 (approx) Coffee break**

Session continues

### **13.30 Lunch**

*Facilitator: Dr Judy England, Environment Agency*

### **14.15 Ecological aspects of river restoration and importance within design.**

The aim is to provide an understanding of biological communities and habitats in rivers and the processes that determine ecological status. The aspects covered will include:

- How to assess ecology and biodiversity
- Flow regime requirements
- How to determine functional habitats
- Indicator species

The session will incorporate practical elements based on the above

### **16.00 (approx) Tea break**

*Facilitator: Vaughan Lewis, Windrush AEC*

### **16.30 Fisheries aspects of river restoration and importance within design.**

The aim is to provide an understanding of fish communities and habitats in rivers

- How to assess fisheries status
- Recognising limiting factors for fisheries
- Life stages and habitat requirements
- Indicator species and use of fisheries data
- links to morphology, ecology and hydrology to wrap up!!

**Presentation >>**

**17.45 Question and answer session**

**18.30 Formal close**

**19.30 Course Dinner** - An opportunity to talk to the course facilitators

## **Day 2. Approaches– what can you use and how and when is it appropriate**

*This day will consist of a series of short sessions aimed at encouraging participants to think about what data is needed to establish restoration potential and how this can be interpreted. In each case key tools will be discussed that are appropriate for different scenarios and project sizes. This will be supported by technical examples of how this can help you to understand your watercourse and work towards appropriate restoration. Each session will be interactive with time for discussion.*

**Facilitators: Mark Smith, Environment Agency**

**9.00 Hydrology**

**Presentation [>>](#)**

**Facilitator: Dr Kevin Skinner, Jacobs**

**10.0 Fluvial geomorphology**

**11.00 – 11.20 Coffee**

**Facilitator: Dr Judy England, Environment Agency**

**11.20 Ecology**

**Facilitator: Vaughan Lewis, Windrush AEC**

**12.20 Fisheries**

**Presentation 1 [>>](#)**

**Presentation 2 [>>](#)**

**13.20 Lunch**

**14.05 – 15.30 Classroom exercises**

An example will be given with data, specific questions and project objectives – The groups will need to work together to establish points such as:

- What the data provided can tell you?
- What data is missing?
- What are the necessary next steps?
- Can the objectives be delivered or if not why?

[Exercises will be conducted in small groups with facilitators to provide guidance]

**15.30 Coffee/tea – bring back to session**

**15.45 Summary presentations from each group 10 mins each**

**16. 20 Feedback and final questions**

**16.30 Departure**

## **Facilitators:**

### ***Martin Janes, River Restoration Centre Manager***

Martin has over 14 years river restoration experience which includes scoping, planning, coordinating, delivering and assessing projects throughout the UK. These projects range from small stream enhancements to large >£1m river restoration schemes. Annual teaching commitments include delivery of river restoration modules to MSc students and undergraduates, as well as over 20 workshops and training courses for practitioners, regulators and scientists.

### ***Jenny Mant***

Jenny has worked for the River Restoration Centre for over 6 years and has a research background in fluvial geomorphology. She has a wealth of technical experience about how to plan and deliver river restoration projects. She currently teaches and has academic status at Cranfield University and supervises MSc students who are interested in river processes, management and restoration and has also been involved in delivering a range of workshops and training courses to a wide range of participants.

### ***Vaughan Lewis***

Prior to establishing his own environmental consultancy, Windrush AEC Ltd in 1995, Vaughan worked for 15 years in the Fisheries and Conservation Department of the National Rivers Authority and its predecessor, Thames Water Authority. His areas of specialisation include the management of freshwater fisheries and the development of aquatic habitats.

### ***Kevin Skinner***

Kevin Skinner has 12 years of experience in undertaking geomorphological assessments both on a national and international basis. Advice has been provided on bridge piers, bridge alignments, channel alignments, management, enhancements, weir removal, bank erosion and protection methods and the development of geomorphologically led restoration designs. He is currently Technical Director in Geomorphology at Jacobs, an RRC board member and an Industrial Fellow of the University of Nottingham.

### ***Judy England***

Judy England is an aquatic ecologist with over 20 years experience. Judy completed her doctorate on the Ecological Appraisal of River Restoration Schemes and has been involved in the design and monitoring of numerous projects with the Environment Agency. She is currently the Environment Agency's adviser to the RRC for Ecology, Conservation and Fisheries.

### ***Phil Soar***

Philip is a Senior Lecturer in Physical Geography at the University of Portsmouth. He was previously a Technical Director at Jeremy Benn Associates. He has a PhD in Channel Restoration Design and over 10 years experience in applied research and consultancy in the fields of fluvial geomorphology, flood risk management and eco-hydraulics. Working with the US Army Corps of Engineers, Philip has prepared a number of reports to assist practitioners of river restoration. He has held workshops in fluvial geomorphology and river restoration at several international conferences and delivered training courses for the Environment Agency, Scottish Environment Protection Agency and consultants. Currently, Philip is the course leader for the undergraduate modules on fluvial geomorphology at the University of Portsmouth and delivers guest lectures to undergraduates at the University of Nottingham on river management and restoration.

### ***Mark Smith***

Mark is a Chartered Engineer and Environmentalist with over 10 years experience in river engineering and habitat management. He led the design and construction of the Shopham Loop Restoration Project and has designed and implemented various small scale river restoration schemes for the Environment Agency. He is currently a project manager running some of the Environment Agency's most complex river and coastal engineering projects in the South East.