

Course Timetable – June 2009

Day 1

Understanding River Restoration: processes and planning for design

9.00 Registration

Presenter: Dr Jenny Mant River Restoration Centre

9.30 Overview of course – rationale and how it all fits together - examples of what happens if you don't get it right.

Presenter: Dr Jenny Mant River Restoration Centre

9.45 Fluvial processes and hydrology and the importance within river restoration design. This session will cover aspects of hydraulics, fluvial geomorphology and integration with engineering. The importance and calculation of the following for example will also be covered.

- Return periods
- Roughness
- Peak Q and Q 95
- Use of long and cross-sections
- The importance of understanding fluvial geomorphology in design

Presentation >>

11.00 (approx) Coffee break

Fluvial processes session continues

13.30 Lunch

Facilitator; Dr Judy England, Environment Agency

14.15 Ecological aspects of river restoration and importance within design

Will provide understanding of biological communities and habitats in rivers and the processes that determine ecological status. The aspects will be covered

- How to quantify biodiversity
- Flow regimes requirements
- How to determine functional habitats

16.00 (approx) Tea break

Facilitator; Dr Andy Gill, Cranfield University

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 >>

18.00 Question and answer session on practical questions

18.30 Formal closure

20.00 Course Dinner

Day 2

Tools – what can you use and how and when is it appropriate

This will consist of a series of short examples to get participants thinking about what data is needed to establish restoration potential and how this can be interpreted. In each case key tools will be discussed appropriate for different scenarios and project sizes. This will be supported with technical examples of how this can help you to understand your watercourse and work towards appropriate restoration. Each session should be an interactive session with time for discussion.

8.45 Hydrology

Presenter: Karen Fisher

Presentation [>>](#)

Handout [>>](#)

Exercise outline [>>](#)

Exercise graphs [>>](#)

Exercise spreadsheet [>>](#)

10.30 Coffee

11.00 Ecology / Fluvial Geomorphology

Presenters: Dr Judy England / Dr Kevin Skinner

Presentation [>>](#)

12.30 Fisheries

Presenter: Andy Thomas, Wild Trout Trust

Presentation [>>](#)

Site report 1 + 2 [>>](#)

Site report 3 [>>](#)

13.20 Lunch

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

- What the data provided can give you
- What data is missing
- What are the necessary next steps
- Can the objectives be delivered or if unsure why

Exercise outline [>>](#)

Exercise map [>>](#)

Exercise photos [>>](#)

Exercise answers [>>](#)

15.30 Tea Break

15.45 Discussion of classroom exercise

16.20 Feedback and final questions

16.30 Departure

Facilitators:

Jenny Mant

Jenny has worked for the River Restoration Centre for over 6 years and has a background in fluvial geomorphology. She has a wealth of technical experience about how to plan and deliver river restoration projects. She currently teaches MSc students 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.

Andy Thomas

Andy is one of two Conservation Officers working for the Wild Trout Trust (WTT) delivering habitat management advice and river enhancement projects to a wide range of land owners, fishing clubs and conservation organisations. The WTT is a grass roots organisation dedicated to improving habitats for wild brown and sea trout in rivers and lakes across the UK. Prior to joining the Trust Andy enjoyed a long career with the various fisheries departments of the National Rivers Authority in Thames Region before joining the Environment Agency in Southern Region, his last position being the Senior Fisheries Technical Specialist for the Region. Andy has been involved in river restoration and habitat enhancement schemes for nearly thirty years and admits to making many mistakes and hopefully learning from each and every experience.

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

Dr 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 and 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.

Karen Fisher

Karen has over 15 years of experience working on the hydrology and hydraulic aspects of river restoration projects. She is a civil engineer by background and has worked on a wide range, and scale, of river restoration, river flood management and research projects whilst working for HR Wallingford, Birmingham University and her own consultancy company. She has been involved throughout her career in teaching courses and workshops on hydraulics and hydrology and in more general engineering management teaching with the Open University.

Andy Gill

Andy Gill started his career in 1989 as a NERC funded Research Assistant at Leicester University. Following his PhD, he worked for three years with a coral reef conservation organisation on field projects mapping reefs communities and providing scientific advice and support for the development of marine protected areas in Belize and the Philippines. On returning to the UK in 1996, Andrew took up a temporary lectureship in Fish and Fisheries Biology at Liverpool University and in 1999 set up a new postgraduate course in Restoration Ecology and was appointed Course Director. In late 2003, Andrew moved to Cranfield University to take up his current position as Lecturer in applied aspects of aquatic ecology. Andrew manages the Environmental Water Management option on the Water Management postgraduate programme at Cranfield.

Dan Alsop

Dan Alsop is a self employed river engineering consultant having previously worked for the Environment Agency. He currently sits on two management committees for the Parret Catchment Project. Previously he has been involved in the preparation of the water level management plan for North Somerset, development control work for North Somerset and Gordano Valley drainage boards, and various planning design, contract preparation and supervision of flood protection schemes for private schemes.