

# Guidebook of applied fluvial geomorphology



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# Preface

## Purpose of the guidebook

The primary purpose of this guidebook is to collate and summarise the results of geomorphological research and development projects performed for the Environment Agency of England and Wales and its predecessor the National Rivers Authority, and supported by Defra (R&D Project FD1914), during the period 1990–2009. During that period the use of geomorphology in river engineering, management, conservation and restoration increased dramatically. In the UK, the application of geomorphological science and practice now forms a regular part of projects involving flood risk management, fisheries, conservation, recreation, environmental protection and river restoration. The responsibilities to be placed upon the UK Environment Agency and other organisations concerned with river management by the European Union Water Framework Directive to assess the status of, and pressures on, river morphology will ensure that the uptake of geomorphology continues and expands. In this context, this guidebook is therefore intended for use by individuals involved in any area of river engineering and management. The aims of the guidebook are to:

- foster a general interest in and understanding of geomorphology in the river environment
- develop a recognition of the significance of geomorphological processes in river management applications
- give an overview of the different methods of incorporating geomorphological science into river engineering and management.

This volume is a guidebook rather than a handbook. It does not contain detailed, step-by-step instructions on how to perform geomorphological analyses and investigations. In selecting material for inclusion in the guidebook, the authors not only sought advice from relevant individuals from within the water management sector but also drew on the results of information gathered as part of training courses in geomorphology run for end users.

In drawing together this material the authors have made reference to the requests for information raised by end users as part of the questionnaires returned from training courses and from the authors' collective experience of working with the end user community both in the UK and overseas.

*David Sear, Malcolm Newson, Colin Thorne*  
2009