# Contents

Preface vii  
List of Contributors xi  

## Section I  Introduction: The Nature and Significance of Uncertainty in River Restoration

1 Uncertainty in River Restoration  
   J. Lemons and R. Victor 3  

2 Sources of Uncertainty in River Restoration Research  
   W. L. Graf 15  

3 The Scope of Uncertainties in River Restoration  
   J.M. Wheaton, S.E. Darby and D.A. Sear 21  

## Section II  Planning and Designing Restoration Projects

4 Planning River Restoration Projects: Social and Cultural Dimensions  
   G.M. Kondolf and C-N. Yang 43  

5 Conceptual and Mathematical Modelling in River Restoration: Do We Have Unreasonable Confidence?  
   M. Stewardson and I. Rutherford 61  

6 Uncertainty in Riparian and Floodplain Restoration  
   F.M.R. Hughes, T. Moss and K.S. Richards 79  

7 Hydrological and Hydraulic Aspects of Restoration Uncertainty for Ecological Purposes  
   N.J. Clifford, M.C. Acreman and D.J. Booker 105  

8 Uncertainty Surrounding the Ecological Targets and Response of River and Stream Restoration  

## Section III  The Construction and Post-Construction Phases

9 Constructing Restoration Schemes: Uncertainty, Challenges and Opportunities  
   J. Mant, R. Richardson and M. Janes 167
10 Measures of Success: Uncertainty and Defining the Outcomes of River Restoration Schemes  
K. Skinner, F.D. Shields, Jr and S. Harrison  
187

11 Methods for Evaluating the Geomorphological Performance of Naturalized Rivers: 
Examples from the Chicago Metropolitan Area  
B.L. Rhoads, M.H. Garcia, J. Rodriguez, F. Bombardelli, J. Abad and M. Daniels  
209

12 Uncertainty and the Management of Restoration Projects: The Construction and Early 
Post-Construction Phases  
A. Brookes and H. Dangerfield  
229

Section IV Uncertainty and Sustainability: Restoration in the Long Term

13 The Sustainability of Restored Rivers: Catchment-Scale Perspectives on Long Term Response  
K.J. Gregory and P.W. Downs  
253

14 Uncertainty and The Sustainable Management of Restored Rivers  
M.D. Newson and M.J. Clark  
287

Index  
303