Ecology of Industrial Pollution

Written for researchers and practitioners in environmental pollution, management and ecology, this interdisciplinary account explores the ecological issues associated with industrial pollution to provide a complete picture of this important environmental problem from cause to effect to solution.

Bringing together diverse viewpoints from academia and environmental agencies and regulators, the contributors cover such topics as biological resources of mining areas, biomonitoring of freshwater and marine ecosystems and risk assessment of contaminated land in order to explore important questions such as: What are the effects of pollutants on functional ecology and ecosystems? Do current monitoring techniques accurately signal the extent of industrial pollution? Does existing policy provide a coherent and practicable approach? Case studies from throughout the world illustrate major themes and provide valuable insights into the positive and negative effects of industrial pollution, the provision of appropriate monitoring schemes and the design of remediation and restoration strategies.

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Ecology of Industrial Pollution

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Preface

This volume reflects the content of the Symposium on the Ecology of Industrial Pollution which was held in Birmingham, UK, from 7 to 8 April 2008. The principal aim of this symposium and the associated volume was to provide an interdisciplinary analysis of a particular environmental problem that has historically affected many parts of the world and continues to do so. One of the key approaches was to obtain inputs from academics, enforcers and practitioners in order to provide a balanced view of the issue and to identify any potential areas of disagreement! Second, we recognised that, although many of the individual components of pollutants are dealt with in meetings and publications, there is little interaction between researchers who deal with the ‘pure science’ issues and those who deal with more technological aspects, nor between microbiologists, botanists and zoologists. By bringing these normally disparate areas together, we hoped to provide new research areas and more importantly exchange of existing knowledge and experiences.

In our introduction we try to provide an overview of the key subject areas covered within the volume and identify what we consider to be the principal questions that were generated from discussions at the meeting. The remainder of the book is not subdivided but instead the chapters are arranged into what we hope to be a logical progression from the main ecological impacts through monitoring techniques and finishing with ecological remediation technologies and system recovery. The final chapter picks up on the developments in recent years of the idea of ecosystem services and applies this to industrial pollution to provide a new possibility for management of such systems. One area that we must recognise was not covered in this volume is that of climate change (undoubtedly a consequence of industrial activity). We felt that this was outside the scope of this meeting and necessitates a volume to itself.

We hope that the readers find the material as stimulating and exciting as did the attendees of the meeting.
Acknowledgements

We would like the opportunity to thank the British Ecological Society for their support in the meeting and preparation of the volume, key members of staff being Hazel Norman, Lindsay Haddon, Richard English and Hefin Jones. We also recognise the input of Dr Adam Jarvis in the early stage of the symposium and volume preparation. We would also like to thank the symposium speakers who provided their chapters for this book. Without their commitment to the project, we would never have made it past the first hurdle!