The Ecology of Transportation: Managing Mobility for the Environment
ENVIRONMENTAL POLLUTION

VOLUME 10

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The Ecology of Transportation:
Managing Mobility for the Environment

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PREFACE

Human transport by land, sea and air has increased exponentially through time in intensity, paralleling rises in population, prosperity and rates of technological change. Transport has considerable ecological effects, many of them detrimental to environmental sustainability. The aim of this volume was to bring together experts from a variety of disciplines to review the ecological effects and their causes in terms of road, rail, ship and aircraft transport. It was also intended that the contributors should have different attitudes and agendas. Some are ecologists, some planners, others social scientists. Focus ranges from identification of threats, through to concentration on amelioration of damaging effects or design of transport systems to minimize environmental degradation. Some chapters consider restricted areas of the globe; others the globe itself. Views encompass deep pessimism and cautious optimism. Uniquely, the volume considers transport effects in all environments. Normally scientists who are involved in studying, managing or planning land transport systems have little contact with coastal or oceanic scientists and engineers. Ecotoxicologists often talk little with environmental managers. This is the first book that attempts to discuss the relationship between human transport and all ecosystems. Chapters operate at all scales. They consider impacts of ballast water on global biodiversity, and the contribution of motorway underpasses to sustaining mammal biodiversity in The Netherlands. Information on the spread of human disease by aircraft is balanced by accounts of the impact of snowmobiles on national parks.

This book has its origins in international workshops organised at University College Cork in Ireland in 2004 and 2005. These were funded by a grant to the editors from the Higher Education Authority of Ireland as a result of the 2001-2006 National Development Plan. Participants in the workshops decided upon the framework of the book and adopted the sobriquet of TRANSECOS for their group. TRANSECOS recruited additional authors to improve international and discipline coverage. The aim throughout was to write for a general audience of professionals interested in transport and the environment, whether these be scientists, engineers, planners, civil servants or politicians. Parts or the whole of the book should be useful to postgraduate students in a wide variety of disciplines.

Almost all scientists, and the bulk of the world’s media and political establishment, have finally accepted global climate change due to human activities as reality. Urbanisation has proceeded to the extent that about half the world’s population lives in cities, entirely dependent on complex travel arrangements, and embedded in specialised urban ecosystems. The concept of ‘peak oil’ and the prospect of continually declining fossil fuel resources over coming decades is now gaining increased acceptance amongst economists. However, there is presently a lack of logical thinking. Politicians express binding commitments to reeling in damaging human activities within the next few decades. However, industries and governments continue to drive forward agendas of enhanced airline activity, increased production of cars and trucks in more and more countries, more road building, extension of tourism and increasingly globalised trade. All of these agendas are incompatible with ecological (as opposed to economic) sustainability, since they inevitably place greater demands on the environment than can be offset by timely technological innovation. Hopefully this volume will help to provide information and ideas to aid in the creation of the necessary integrated thought.

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