Marine Ecosystems

Human Impacts on Biodiversity, Functioning and Services

Ecosystem services are emerging as a key driver of conservation policy and environmental management. Delivery of ecosystem services depends on the efficient functioning of ecosystems, which in turn depends on biodiversity and environmental conditions. Many marine ecosystems are extremely productive and highly valued, but they are increasingly threatened by human activities.

In this volume, leading researchers integrate current understanding of the effects on biodiversity, ecosystem functioning and ecosystem services caused by the range of human activities and pressures at play in coastal marine ecosystems, including fisheries, aquaculture, physical structures, nutrients, chemical contaminants, marine debris and invasive species. These reviews, combined with critical syntheses of the latest evidence and conceptual developments, make this a unique resource both for environmental managers and policy makers, and for researchers and students in marine ecology and environmental management.

TASMAN P. CROWE is Associate Dean of Science and a member of the Earth Institute and the School of Biology and Environmental Science at University College Dublin. He has undertaken research in Australia, Indonesia, Vanuatu, Ireland, the UK and continental Europe, studying individual and combined impacts of a range of stressors on marine biodiversity and ecosystem functioning, and making recommendations for management.

CHRISTOPHER L. J. FRID is Professor of Marine Biology and Head of the Griffith School of Environment at Griffith University in Queensland, Australia. His research has sought to understand how marine ecosystems function and how human impacts alter the dynamics of these systems. He has worked in the UK and throughout Europe, as well as in Ghana, Indonesia, Thailand and Australia and with many government agencies in support of marine ecosystem-based management.

ECOLOGY, BIODIVERSITY AND CONSERVATION

The world's biological diversity faces unprecedented threats. The urgent challenge facing the concerned biologist is to understand ecological processes well enough to maintain their functioning in the face of the pressures resulting from human population growth. Those concerned with the conservation of biodiversity and with restoration also need to be acquainted with the political, social, historical, economic and legal frameworks within which ecological and conservation practice must be developed. The new Ecology, Biodiversity, and Conservation series will present balanced, comprehensive, up-to-date and critical reviews of selected topics within the sciences of ecology and conservation biology, both botanical and zoological, and both 'pure' and 'applied'. It is aimed at advanced final-year undergraduates, graduate students, researchers and university teachers, as well as ecologists and conservationists in industry, government and the voluntary sectors. The series encompasses a wide range of approaches and scales (spatial, temporal and taxonomic), including quantitative, theoretical, population, community, ecosystem, landscape, historical, experimental, behavioural and evolutionary studies. The emphasis is on science related to the real world of plants and animals rather than on purely theoretical abstractions and mathematical models. Books in this series will, wherever possible, consider issues from a broad perspective. Some books will challenge existing paradigms and present new ecological concepts, empirical or theoretical models, and testable hypotheses. Other books will explore new approaches and present syntheses on topics of ecological importance.

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Edited by

TASMAN P. CROWE

University College Dublin, Ireland

CHRISTOPHER L. J. FRID

Griffith University, Queensland, Australia

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Contents

Contributors

MELANIE AUSTEN
Plymouth Marine Laboratory, Plymouth, UK

LISANDRO BENEDETTI-CECCHI
Dipartimento di Biologi, University of Pisa, Pisa, Italy

ERIK BONSDORFF
Department of Biosciences, Åbo Akademi University, Finland

TOBIAS BÖRGER
Plymouth Marine Laboratory, Plymouth, UK

FABIO BULLERI
Dipartimento di Biologi, University of Pisa, Pisa, Italy

M. GEE CHAPMAN
School of Biological Sciences, University of Sydney, Australia

TASMAN CROWE
School of Biology and Environmental Science, University College Dublin, Belfield, Dublin, Ireland

CHRISTOPHER FRID
Griffith School of the Environment, Griffith University, Queensland, Australia

SAMANTHA GARRARD
Plymouth Marine Laboratory, Plymouth, UK

CAROLINE HATTAM
Plymouth Marine Laboratory, Plymouth, UK

EMMA L. JOHNSTON
Evolution and Ecology Research Centre, School of Biological, Earth and Environmental Sciences, University of New South Wales, Sydney, Australia

SAMULI KORPINEN
Finnish Environment Institute, Marine Research Centre, Helsinki, Finland

DEVIN LYONS
School of Biology and Environmental Science, University College Dublin, Belfield, Dublin, Ireland

MARIANA MAYER-PINTO
Evolution and Ecology Research Centre, School of Biological, Earth and Environmental Sciences, University of New South Wales, Sydney, Australia

ODETTE PARAMOR
The University of Nottingham Ningbo China, Department of Geographical Sciences, Ningbo, Zhejiang, P.R. China

DAVE RAFFAELLI
Environment Department, University of York, York, UK

DAVID SCHIEL
Marine Ecology Research Group, School of Biological Sciences, University of Canterbury, Christchurch, New Zealand

MADS SOLGAARD THOMSEN
Marine Ecology Research Group, School of Biological Sciences, University of Canterbury, Christchurch, New Zealand

ROLF VINEBROOKE
Department of Biological Sciences, University of Alberta, Edmonton, Alberta, Canada

THOMAS WERNBERG
UWA Oceans Institute and School of Plant Biology, The University of Western Australia, Crawley, Australia