

*Grazing in Temperate Ecosystems:
Large Herbivores and the Ecology of the
New Forest*

GRAZING IN
TEMPERATE ECOSYSTEMS
LARGE HERBIVORES
AND THE ECOLOGY
OF THE NEW FOREST

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Contents

Preface	vii
Chapter 1 Introduction	1
Chapter 2 The History of the Forest	15
Chapter 3 The Grazers: Ecology and Behaviour of the Common Stock	27
Chapter 4 Food and Feeding Behaviour of Domestic Stock	60
Chapter 5 Ecology and Behaviour of the Forest Deer	88
Chapter 6 Food and Feeding Behaviour of the Forest Deer	116
Chapter 7 The Pressure of Grazing and its Impact Upon the Vegetation	134
Chapter 8 The Effects of Grazing on the Forest's Other Animals	165
Chapter 9 The New Forest — Present, Past and Future	178
References	200
Index	207

Preface

The New Forest in southern England is an area of mixed vegetation set aside as a Royal Hunting Forest in the eleventh century and since that time subjected to heavy grazing pressure from large herbivores. The entire structure of the Forest and its various communities has been developed under this continued history of heavy grazing, with the establishment of a series of vegetational systems unique within the whole of Europe. The effects of large herbivores in the structuring of this ecosystem in the past, and the pressure of grazing continuing to this day, have in turn a profound influence, indeed the dominating influence, on the whole ecological functioning of the Forest system. Because of its assemblage of unique vegetation types, the area is clearly of tremendous ecological interest in its own right. In addition, its long history of heavy grazing and the continued intense herbivore pressure make the New Forest an ideal study-site for evaluation of both short-term and long-term effects of grazing upon temperate ecosystems.

The New Forest (some 37,500 ha in total area) currently supports a population of approximately 2,500 wild deer (red, roe, sika and fallow); in addition 3,500 ponies and 2,000 domestic cattle are pastured on the Forest under Common Rights. From 1977, I have, together with a number of associates, undertaken a series of research studies on the ecology and behaviour of the large herbivores within the Forest, examining the various ways in which the different species use their Forest environment and considering their combined influence and impact upon the Forest vegetation. Slowly we are beginning to piece together some understanding of the complex functioning of this multi-species system, and to appreciate the influence of the heavy grazing pressure by the Forest herbivores on vegetational processes. Nor are the effects of grazing restricted to vegetational change: it is clear that, through its dominating effect upon the vegetation, the intense grazing pressure imposed by the larger herbivores has repercussions *throughout*

the system — ‘knock-on’ effects upon other organisms reliant on this shared vegetational environment — until it affects in practice the whole ecological shape and functioning of the New Forest system.

In this book I have attempted to draw together the results of this work to present some kind of synthesis. It may be read as a series of separate studies within the New Forest of the ecology and behaviour of a number of different species of large ungulate: presenting a current review of our knowledge to date of the autecology of these species. I hope that it may also be read as a whole: as an investigation of the effects of heavy grazing on the dynamics and functioning of a temperate ecosystem.

A synthesis of this sort necessarily draws upon the work of many besides myself. It is a pleasure to acknowledge the debt I owe to all those whose work is quoted here, and to whom belongs the full credit for the tremendous contribution each has made to our understanding of the New Forest and its ecology. Particularly I would honour my research assistants Bob Pratt and Rue Ekins, who undertook most of the monumental amount of fieldwork that went into our studies of the Forest ponies and cattle, my various research colleagues and research students: Andy Parfitt (working on fallow deer), Chris Mann (sika deer), Steve Hill and Graham Hirons (whose work unravelled the complex effects of grazing upon the Forest rodent populations and their dependent predators) and Elaine Gill. I owe in addition an immense debt to my long-standing friend and colleague Peter Edwards, who has advised and assisted with supervision of the more botanical elements of our work throughout. Thanks are also due to various others who have worked within the Forest and have generously allowed me to quote their work: Norman Rand, John Jackson and Stephanie Tyler.

While I owe a tremendous debt to all these scientists, my thanks must also go to the Nature Conservancy Council, the Forestry Commission, the Verderers and all the New Forest Commoners who individually or collectively have supported our studies. Colin Tubbs of the Nature Conservancy Council first focused our attention on the New Forest system and persuaded the NCC to finance our initial studies of the cattle and ponies. His local knowledge of the Forest and its ecology is unrivalled and it has been a pleasure to have had his close interest and support in our work ever since. We owe a debt also to the various officers and staff of the New Forest Forestry Commission, who have over the years most patiently tolerated our tireless but frequently tiresome interest in the Forest. Far from merely putting up with us, they too have been active in support of our studies; we have made many friends in the

District Office and among the keepers and foresters. To all of these go my grateful thanks: I hope that this book, as the culmination of all those years of study, will contain something of use to them in the future management of the Forest.

Finally, I would thank Dawn Trenchard for coping so nobly with the horrendous task of creating an ordered typescript out of my scrawled chaos, Barry Lockyer and Raymond Cornick for help with the diagrams and other colleagues known and unknown who have commented on various bits of the manuscript itself.