

***HOLOCENE
HUMAN ECOLOGY
in Northeastern
North America***

INTERDISCIPLINARY CONTRIBUTIONS TO ARCHAEOLOGY

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ECOLOGY AND HUMAN ORGANIZATION ON THE GREAT PLAINS

Douglas B. Bamforth

**HOLOCENE HUMAN ECOLOGY IN NORTHEASTERN
NORTH AMERICA**

Edited by George P. Nicholas

THE PLEISTOCENE OLD WORLD

Regional Perspectives

Edited by Olga Soffer

***HOLOCENE
HUMAN ECOLOGY
in Northeastern
North America***

Edited by

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**To Glynn Issac,
whose work on early human ecology
set clear standards for the many disciplines involved**

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Preface

Students of human behavior have always been interested in the relationship between human populations and their environment. Decades of research not only have illuminated the backdrop against which culture is viewed, but have identified many of the conditions that influence or promote technological development, social transformation, and economic reorganization. It has become increasingly evident, however, that if we are to explore more forcefully the linkages between culture and environment, a processual orientation is required. This is found in human ecology—the study of the relationship between people and the ecosystem of which they are a part.

This book is a collection of papers about the recent and distant past by scientists and humanists involved in the study of human ecology in northeastern North America. The authors critically examine the systemic interface between people and their environment first by identifying the indicators of that relationship (e.g., historical documentation, archaeological site patterning, faunal remains), then by defining the processes by which change in one part of the ecosystem affects other parts (e.g., by considering *how* an ecotonal gradient affects biotic communities over time), and finally by explicating the behavioral implications thereof.

Although the subjects of study in this collection may vary among settlement patterns, sea-level curves, land snails, and pollen records, the emphasis remains on integrative research designs that explore new ways of looking at behavioral diversity and environmental variability within an ecological context. In some cases, this involves modifying the scale at which we view elements of the human ecosystem; in others, it requires the development of analytical methods that allow us to differentiate more clearly between adaptive responses to sociocultural factors and adaptive responses to environmental factors. A number of studies examine archaeological sites in their settings, others the environmental records that

document landscape development affecting prehistoric land-use behaviors; several evaluate frequently used theoretical concepts and methods to reveal and correct biases that affect our interpretations of past human lifeways. The result of this diversity is a perspective that emphasizes local adaptive responses to environmental change at a variety of temporal scales. Local perspectives are, in fact, stressed throughout not because this is the level at which most archaeology and ecology is done, but because this is where human responses to change occur.

Despite an emphasis on prehistory, this book is about Holocene human ecology and not environmental archaeology. Any differences between prehistoric and historic approaches to human ecology are more apparent than real. However, if we hope to discriminate better among the many potential sources or causes of change in cultural systems and to identify the processes of that change, prehistorians must become aware of the behavioral diversity represented in the historical record, and historians of the long-term patterns of human behaviors that occur across time and space.

The collection is organized into three parts that correspond to important aspects of human ecology. Part I, the Context of Human Adaptation, presents four very different approaches to the study of human environments, which range from the reconstruction of environmental settings using land snails (Barber), to the human perception of historic climatic change (Baron), to the nature of anadromous fish resources (Carlson), to the local and regional effects of global sea-level rise (Kellogg). Part II, People on the Landscape, offers three studies that humanize the natural history of the landscape by investigating the aboriginal use of fire as a resource management strategy (Patterson and Sassaman), the impact of horticulture on prehistoric settlement (Mulholland), and resource orientation and settlement within a small coastal estuary (Thorbahn and Cox). Part III, Long-Term Perspectives, focuses on historical developments in the human ecosystem over time, and includes a revised regional environmental reconstruction (Joyce) and studies on the processes of forest ecotone development (Gaudreau) and the importance of ecological contrasts in early prehistoric land use (Nicholas). In those cases where the authors report on long-term research projects still in progress, the real value of their contribution may not be on the data themselves, but rather on the ideas presented.

The predominance of contributions by prehistoric archaeologists in this volume is fortuitous. This collection originated in a symposium, "Modeling Cultural Responses to Environmental Change," presented at the Northeastern Anthropological Association Meetings held at Princeton University in 1982. The transformation of that original set of papers and of the ideas and data presented therein into the present volume has been long and turbulent due not only to several aborted publication attempts, but, more importantly, to the maturation of the ideas expressed by the authors. This volume includes radically revised and updated versions of the papers presented at Princeton by Carlson, Kellogg,

Mulholland, and Nicholas. The papers presented in the symposium by Dean Snow (“The Mathematical Modeling of Cultural Responses to Environmental Change”) and Barbara McMillan (“Early Postglacial Adaptation in the Upper Connecticut River Valley”) were unfortunately not available for incorporation here.

The breadth of this volume was increased significantly by the incorporation of six additional papers. In fact, invitations to submit material to the volume were sent out to over 50 American and Canadian scientists involved at the interface between human populations and their environments in the Northeast. These included not only prehistoric and historic archaeologists, but also dendrochronologists, palynologists, paleolimnologists, soil scientists, surficial geologists, entomologists, biological anthropologists, climatologists, and many others, including even a folklorist. Many of these individuals were unable to contribute due to other commitments. Several did submit abstracts or preliminary papers that were later withdrawn as a result of personal or publication scheduling conflicts. One of these, “A Commentary on the Relationship between Vegetation History and Cultural Change in Labrador,” by William Fitzhugh and Henry Lamb, has been published in *Arctic and Alpine Research* 17:357–370 (1985), and the reader is directed to it.

Acknowledgments

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