Preface

Wetlands are productive and diverse ecosystems which play a critical role in influencing climate change and mitigating its impacts. However, wetlands are one of the world’s most threatened ecosystems as over-exploitation of natural resources and conversion to agricultural lands have already resulted in large-scale wetlands loss and degradation. Sound management and conservation schemes require a long-term understanding of the ecology of wetlands. Yet until now, long-term and interdisciplinary wetland research is limited to a few examples from tropical or temperate climates (such as the Florida Everglades, Middle Paraná River, and Czech Biosphere Reserve). Monographic information on wetlands in semi-arid and arid environments is scant. This new book contributes to fill this gap; it provides a unique reference in basic and applied Mediterranean wetland ecology, based on long-term research at the RAMSAR and UNESCO Biosphere site, Las Tablas de Daimiel (Central Spain).

Las Tablas de Daimiel serves as a case study that demonstrates the adverse impacts of human activities on wetlands ecological integrity in Mediterranean Europe where water is fundamentally limiting. This book is based on the collaborative and interdisciplinary research efforts of geologists, hydrologists, ecologists, botanists, planktologists, paleolimnologists, and geographers who have intensively studied this wetland during the last 30 years. Much information has been gathered on the structure and function of this unique wetland and how its ecosystem compartments changed in response to cumulative anthropogenic stressors (land use changes, disruption of the natural hydrological cycle, point- and diffuse pollution, exotic species invasions) during the twentieth century. However, in spite of the vast amount of ecological and biogeochemical information shown in this book, further scientific research is required to fill remaining knowledge gaps.

The book scope is clearly scientific although a few of chapters have been written for a broader, non-scientific audience. The complexity of the interacting abiotic and biotic components across different spatial and temporal scales and across various levels of biological hierarchy should be useful for researchers, postgraduate students and wetland resource managers in the Mediterranean and elsewhere. The take-home message of this book is that scientific progress will not be enough for
the survival of this unique wetland. An integration of scientific, cultural and historical knowledge in the interaction cycles between ecological, social, political and economic systems should be the ultimate goal. Without this integral approach to understanding ecosystems and their management, sustainable development will not be possible.

Madrid and Uppsala
January 2010

S. Sánchez-Carrillo
D.G. Angeler
Ecology of Threatened Semi-Arid Wetlands
Long-Term Research in Las Tablas de Daimiel
Sánchez-Carrillo, S.; Angeler, D. (Eds.)
2010, XVI, 292 p., Hardcover