Ecology of Threatened Semi-Arid Wetlands
Wetlands: Ecology, Conservation and Management

Volume 2

Series Editor:

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Aims & Scope:

The recognition that wetlands provide many values for people and are important foci for conservation worldwide has led to an increasing amount of research and management activity. This has resulted in an increased demand for high quality publications that outline both the value of wetlands and the many management steps necessary to ensure that they are maintained and even restored. Recent research and management activities in support of conservation and sustainable development provide a strong basis for the book series. The series presents current analyses of the many problems afflicting wetlands as well as assessments of their conservation status. Current research is described by leading academics and scientists from the biological and social sciences. Leading practitioners and managers provide analyses based on their vast experience.

The series provides an avenue for describing and explaining the functioning and processes that support the many wonderful and valuable wetland habitats, such as swamps, lagoons and marshes, and their species, such as waterbirds, plants and fish, as well as the most recent research directions. Proposals cover current research, conservation and management issues from around the world and provide the reader with new and relevant perspectives on wetland issues.

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Ecology of Threatened Semi-Arid Wetlands

Long-Term Research in Las Tablas de Daimiel
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, paleolimologists, 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
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## Contents

### Part I Introductory Chapter

1 The Wetland, Its Catchment Settings and Socioeconomic Relevance: An Overview ........................................... 3  
S. Sánchez-Carrillo, D.G. Angeler, S. Cirujano, and M. Álvarez-Cobelas

1.1 Introduction ........................................................................................ 3
1.2 The Wetland: Las Tablas de Daimiel National Park ......................... 6
1.3 The Upper Guadiana Basin and the UNESCO’s La Mancha Húmeda Biosphere Reserve ................................................. 8
1.4 Groundwater Overexploitation and the Wetland Complex .............. 12
1.5 Socioeconomic Aspects in the Upper Guadiana Basin .................... 14
1.6 A Chronological Summary of TDNP Impacts and Its Degradation ............................................................................ 16

References ................................................................................................... 18

### Part II Abiotic Environment and Historical Reconstructions

2 Paleoenvironmental Reconstruction of Las Tablas de Daimiel and Its Evolution During the Quaternary Period .......... 23  
B. Ruiz-Zapata, M.J. Gil-García, and I. de Bustamante

2.1 Introduction ........................................................................................ 23
2.2 Material and Methods ........................................................................ 25
2.3 Overview of Vegetation Composition in La Mancha Region During Quaternary Period: Palaeo-Sequences Description .......... 27
  2.3.1 Landscape Evolution from 325,000 to 21,000 Years BP: LT, TD, TASM-1 and FUENT-1 Profiles ........................................ 28
  2.3.2 Landscape Evolution from 11,000 to 4,000 Years BP: MO and CC-17 Sequences ..................................................... 29
  2.3.3 Landscape Evolution from 4,000 Years BP to the Present: CC-17 and Gigüela 4.2 Paleo-records ......................... 31
2.4 Summary of Climatic and Wetland Environmental Evolution During the Quaternary Period .................................................. 35
  2.4.1 Middle Pleistocene ................................................................. 36
  2.4.2 Upper Pleistocene ................................................................. 37
  2.4.3 Holocene ................................................................................ 37
References .......................................................................................... 38

3 Climate and Hydrologic Trends: Climate Change Versus Hydrologic Overexploitation as Determinants of the Fluctuating Wetland Hydrology .................................................... 45
S. Sánchez-Carrillo and M. Álvarez-Cobelas

3.1 Introduction ........................................................................................ 46
3.2 Material and Methods ........................................................................ 47
3.3 Long-Term Climate Trends ................................................................ 47
3.4 An Historical Analysis of Wetland Hydroperiod and Inundation Patterns: The Importance of Groundwater ............... 50
3.5 Long-Term Changes in the Wetland Water Budget: Hydrologic Degradation ................................................................. 53
3.6 Causes of Wetland Hydrologic Degradation: Climate Change Versus Hydrologic Overexploitation ....................................... 61
3.7 Evapotranspiration Controls of Wetland Hydrology: A Conceptual Model ........................................................................ 66
3.8 A Wetland Hydrological Model for Hydroperiod Restoration .......... 70
3.9 Future Scenarios of TDNP Hydrology .............................................. 78
References .......................................................................................... 79

R. Sánchez-Andrés, M.O. Viedma, and S. Sánchez-Carrillo

4.1 Introduction ........................................................................................ 86
4.2 Material and Methods ........................................................................ 87
4.3 Wetland Cover and Extent of Hydrodynamic Types in the Early 1970s .............................................................................. 91
4.4 Land Use–Land Cover Changes and Socioeconomic Indicators During 1978–2000 ............................................................ 92
4.5 Wetland Losses from 1970 to 2000 .................................................... 95
4.6 Wetland Habitat Quality Evolution During the Period 1978–2000 ......................................................................................... 98
4.7 Patterns on Wetland Loss and Habitat Quality Deterioration: the Influence of the Main Anthropogenic Stressors at Local and Regional Scales .................................................. 99
References .......................................................................................... 105
5 A Story of the Wetland Water Quality Deterioration: Salinization, Pollution, Eutrophication and Siltation............................ 109
M. Álvarez-Cobelas, S. Sánchez-Carrillo, S. Cirujano,
and D.G. Angeler

5.1 Introduction........................................................................................ 109
5.2 Materials and Methods....................................................................... 111
5.3 Salinization and Major Ionic Composition ........................................ 111
5.4 Water Pollution .................................................................................. 113
5.5 Nutrient Dynamics and Eutrophication ............................................. 116
5.6 Spatial Heterogeneity of Nutrient Controls ....................................... 124
5.7 Wetland Sedimentation and Siltation............................................... 128
References................................................................................................... 131

Part III Ecological Communities

6 Plankton Ecology and Diversity............................................................... 137
C. Rojo and M.A. Rodrigo

6.1 Introduction...................................................................................... 138
6.2 Materials and Methods..................................................................... 139
6.2.1 Field Sampling and Counting Techniques........................... 139
6.2.2 Indexes and Statistical Methods .......................................... 140
6.3 Diversity of Heterotrophic and Autotrophic Picoplankton .............. 141
6.4 Bacteria and Autotrophic Picoplankton Dynamics......................... 141
6.5 Species Composition and Diversity of Phytoplankton ................. 144
6.6 Phytoplankton Abundance Dynamics.............................................. 151
6.7 Species Composition and Diversity of Zooplankton..................... 155
6.8 Zooplankton Abundance Dynamics............................................... 160
6.9 Bacterioplankton and APP Relationship with Abiotic
   and Biotic Factors............................................................................ 163
6.10 Environmental Factors Related to Phytoplankton....................... 168
6.11 Environmental Factors Related to Zooplankton
   and the Food Web ............................................................................ 169
References................................................................................................... 170

7 Macrophyte Ecology and Its Long-term Dynamics............................... 175
S. Cirujano, M. Álvarez-Cobelas, and R. Sánchez-Andrés

7.1 Introduction........................................................................................ 175
7.2 Materials and Methods....................................................................... 176
7.2.1 Surveys and Reconstructions............................................... 176
7.2.2 Estimation of Growth and Decay............................................ 177
7.2.3 Biomass and Primary Production Estimations ....................... 177
7.2.4 Spatial Distribution of Helophytes ....................................... 178
7.3 Aquatic Flora ..................................................................................... 179
7.4 Helophyte Cover and Growth ......................................................... 184
7.5 Plant Biomass, Production and Decomposition ............................... 189
7.6 Spatial Heterogeneity of Helophytes .............................................. 191
References .......................................................................................... 192

8 Fish and Avian Communities:  
A Testimony of Wetland Degradation ............................................... 197
M. Álvarez-Cobelas

8.1 Introduction .................................................................................. 197
8.2 Fish Communities ......................................................................... 198
   8.2.1 Material and Methods ............................................................. 198
   8.2.2 Results and Discussion .......................................................... 198
8.3 Avian Communities ..................................................................... 200
   8.3.1 Material and Methods ............................................................. 202
   8.3.2 Results and Discussion .......................................................... 202
References .......................................................................................... 211

Part IV Applied Issues

9 Biomanipulation: A Useful Tool for Wetland Rehabilitation ................. 215
D.G. Angeler

9.1 Introduction ................................................................................. 215
9.2 Biomanipulation: Theory and Rationale ......................................... 217
9.3 Biomanipulation in Wetlands: Applying a Lake Restoration Tool ...... 218
9.4 Biomanipulation in Wetlands: Extending the Paradigm ................. 222
9.5 Biomanipulation: A Model for Las Tablas de Daimiel ................. 224
9.6 Conclusions and Perspectives ....................................................... 226
References .......................................................................................... 226

10 Analysis of Applied Environmental Management Strategies for Wetland Conservation During the Last 30 Years: A Local History .......................................................... 229
S. Cirujano, M. Álvarez-Cobelas, and C. Ruíz de la Hermosa

10.1 Introduction ............................................................................... 229
10.2 Wetland Conservation in Spain Until 1970 .................................... 230
10.3 Wetland Restoration, Conservation and Management 
     Since 1970: Common Problems Across Spain .............................. 230
10.4 Las Tablas de Daimiel: A Case Study ........................................ 233
References .......................................................................................... 237
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