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Pond Littoral Ecosystems

Structure and Functioning

Methods and Results of Quantitative Ecosystem Research
in the Czechoslovakian IBP Wetland Project

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With 183 Figures

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Preface

The Czechoslovak IBP Wetlands project was focused on intense quantitative ecological investigations of shallow littoral ecosystems of typical Central European fishponds, i.e., small man-made water bodies managed century-long for fish production. It was initiated in 1965 as a part of the national contribution to the International Biological Programme (IBP) by a small group of Czech botanists inspired by the idea of voluntary international scientific cooperation in studies of "biological basis of productivity and human welfare." During the subsequent ten years of research work, new colleagues or groups of different specialists joined our team. The final result was a bulk of complex ecological studies from two geographically and ecologically differing regions. The research program followed the basic original scheme of quantitative assessment of biological productivity through an analysis of the structure and functioning of ecosystems, as it had been adopted by the ecologically (PT and PF) as well as the physiologically (PP) orientated sections of the IBP. Simultaneously, broad international cooperation has been evolved with colleagues and laboratories in numerous countries, especially in Poland, Romania, USSR, Austria, the Netherlands, Denmark, Sweden, the United Kingdom, Belgium, Norway, India, the USA and Venezuela.

This international collaboration, first initiated by the Czechoslovak and Polish scientists, eventually led to the establishment of the international IBP working group for wetlands at the 1972 symposium at Mikołajki, Poland. This group is now preparing an international IBP synthesis volume on wetlands.

The results of our national investigations summarized in this volume also reflect several general aspects of wetland ecology. The volume does not present a final synthesis in the form of overall ecosystem budgets and models, but the editors have attempted to give as much as possible of condensed quantitative data as is needed for syntheses and ecosystem modeling. With respect to the present state of knowledge on the ecology of freshwater wetlands, such a point of view is probably more profitable for the reader than any sophisticated and refined models supported by an insufficient amount of sound data.

The editors of this volume, originally coordinators of the two research teams, working, respectively, in the South Bohemian and South Moravian wetlands, are greatly indebted to a number of persons who have facilitated the long-lasting interdisciplinary ecological investigations, from their modest start to the more elaborate final research. First, our thanks belong to Ivan Málek, first president of the Czechoslovak national committee for the IBP, and convener of the IBP's

section on production processes, for his stimulating ideas and enthusiastic interest. On his initiative, the Czechoslovak Academy of Sciences secured both financial support and personel for the Czechoslovak participation in the IBP. This has also significantly enhanced the evolution of interdisciplinary ecological research in our country and initiated the transformation of ecology into a modern synthetic science, prepared to answer difficult questions of contemporary landscape management and conservation. We are equally indebted to Slavomil Hejný, corresponding member of the Czechoslovak Academy of Sciences and director of the Institute of Botany. He has been the initiator and leader of the basic research on plant ecology and primary productivity within our wetlands project, and has provided a wealth of background knowledge on the structure and management of biotic communities in fishponds. His deep interest and personal involvement in the field investigations, as well as his maximum support of all research activities have promoted the limited initial investigations to the level of intense research. All our colleagues who have prepared the individual contributions to this volume as a result of their participation in the research project deserve many thanks for their voluntary discipline and respect for the unifying concept of the book.

The coherence in the whole volume has required a great deal of technical skill and effort on behalf of the staff of the hydrobotany department of the Institute of Botany. The editors wish to express their gratitude to Mrs. Naďa Chmelařová, Mrs. Jaroslava Lukavská, and Miss Drahoslava Machová for their maximum patience in retyping the English text, drawing the figures and preparing the tables respectively.

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Třeboň, January 1978

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