Ecological Restoration of Aquatic and Semi-Aquatic Ecosystems in the Netherlands (NW Europe)

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Ecological Restoration of Aquatic and Semi-Aquatic Ecosystems in the Netherlands (NW Europe)

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Preface

'The Netherlands Water Land' is no commonplace cliché. This small, low-lying delta country, mainly a sedimentary deposit by a number of large European rivers, and situated on the North Sea, contains a large diversity of water bodies. These include both stagnant water and running water; waters in the climax stage of growing solid by peat formation, and shallow, exposed open water bodies; wide, slowly running, turbid rivers and narrow, overshadowed, clear rivulets. In 1989 a symposium was held, under the title 'Netherlands-Wetlands', aiming at presenting an overview of our present knowledge of the structure and functioning of the typical wetlands in the country. The proceedings were published in *Hydrobiologia* **265** (1993), as well as in *Developments in Hydrobiology* **88**. Major threats to the Dutch wetlands were analysed, and among them the annihilation of original ecosystems, the fragmentation of landscapes, and the acidification and eutrophication of waters and sediments. Emerging perspectives of recovery and restoration, together with a plea for a better insight into the governing ecological processes, were postulated in 1989.

The present multi-author volume, with its twelve main chapters, can be seen as a self-evident successor to the results of the 'Netherlands-Wetlands' symposium. The focus is now fully on the achievements and failures of ecological rehabilitation measures over the past 25 years. Many of these are, indeed, rather impressive. Restoration ecology appears to be a matter of trial and error: in general, progressive restoration endeavours are greatly benefiting from experiences in the past. Many of the completed studies now exemplify an integration of hydrological, geomorphological and ecological knowledge. Brian Moss, a well-known aquatic restoration ecologist stated in *Environmental Conservation* **27** (2000): "The unit of a freshwater system is not defined by the wetted perimeter of the lake or river but by the limits of the catchment area from which the water is drawn. Conservation of functional values is thus not possible without control of the way the catchment is managed". This general awareness is more and more becoming the dominant way of thinking among the Dutch water policymakers. The stakeholders' attitude is changing towards retreating and abandoning economic activities from vulnerable catchment areas. The trend is now to strive after economic 'win-win' situations, and to reduce human-induced flood hazards in favour of the rehabilitation of more 'natural' wetlands. Sustainable management of aquatic ecosystems means that user functions of the catchments (e.g. navigation, agriculture, urbanisation, recreation) should be accommodated to the dynamics of the natural wetland system, and not the other way around.

The contributions to this book are from invited Dutch experts, all having long standing experience in their respective fields. The authors are affiliated to the state and university research institutions in the Netherlands where restoration ecology and ecological restoration are important disciplines of research, the University of Nijmegen, the State University of Groningen, the University of Utrecht, the Netherlands Institute of Ecology, Alterra and the Netherlands Institute for Fisheries Research. The manuscripts were peer-reviewed by anonymous experts, following the procedures set out for *Hydrobiologia*.

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