

restoration has increased public awareness of this recreational area in Vienna.

In view of lake science, Alte Donau exemplified that an in-lake restoration strategy which primarily uses a bottom up control is possible if it is going hand in hand with external measures of an integrated lake management plan. With the drastic reduction of lake-internal phosphorus, accomplished by short-term chemical precipitation treatments, the growth of underwater plants was triggered at the expense of algal growth. Different from other lake restoration strategies which attempt to strengthen the top down-control by fish removal and completely new fish stocking afterwards, for Alte Donau no fish were removed other than by recreational fishing. A gradual transition away from overwhelming cyprinids-dominated conditions was accomplished by modified fish stocking in recent years. Thus, the sustained success of restoration in Alte Donau relies mainly on the alternate nutrient allocation from planktonic algal community to the re-established underwater plants which guaranteed primarily sustained mesotrophic conditions. The success of restoration was mirrored by high water transparency. This shift from a nutrient rich algal turbid water-body to a nutrient-poor clear-water macrophyte state (fig. 2) was linked to alterations in the planktonic food web and thus provides a further signature of sustained successful rehabilitation of Alte Donau.

The book provides practical guide for restoration measures as e.g. the phosphate flocculation in the water body, the planting of underwater vegetation and the subsequent water-plant management by mowing, the re-establishment of the reed belt and fish-stocking biomanipulation experiments in addition to the manifold other mainly scientific aspects of this successful lake restoration.

The Alte Donau book journey along the four main management periods is illustrated by historical maps, scientific tables and graphics, photographs or photo tables showing representative micro-organisms, plants and animals in this urban seepage lake. The many facets of management measures, their impact on biotic assemblages shaping habitats from sediment, water body and riparian zone of this urban lake one the hand and the implementation of landscape architecture for creating an attractive recreational area and generating a new public awareness on the other hand, highlight the diverse perspectives of such an urban lake restoration project.

The Alte Donau: Successful Restoration and Sustainable Management - An Ecosystem Case Study of a Shallow Urban Lake. Dokulil MT, Donabaum K, Teubner K (eds) 2018, Springer.  
<https://www.springer.com/us/book/9783319932682>

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## Guide to invasive alien species of European Union concern



A 'Guide to invasive alien species of European Union concern' has been prepared within the frame of the East and South European Network for Invasive Alien Species (ESENIAS) and the Danube Region Invasive Alien Species Network (DIAS) and published by ESENIAS and the Institute of Biodiversity and Eco-

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The Guide aims to provide relevant information about the invasive alien species (IAS) of European Union (EU) concern in order to raise awareness and to facilitate the implementation of the Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction

and spread of invasive alien species in Bulgaria and in the Danube Region.

It contains information and original data from Bulgaria for 37 species included in the first list of IAS of EU concern, adopted in 2016. The list contains 14 plants, 7 invertebrate and 16 vertebrate animals. Of them, 4 plant and 9 animal species have already been recorded in the Danube Region. The information for each species is presented in 6 sections: 1) General characteristics and biology (with data on taxonomy, morphology, diagnostic features and biological traits); 2) Origin and general distribution; 3) Distribution in Bulgaria; 4) Habitats; 5) Pathways of introduction and spread; and 6) Impact. The articles are illustrated with photos of each species.

The Guide is designed for a wide range of readers, including scientists, teachers, decision-makers (ministries, agencies, national and nature parks, state forest and hunting farms, etc.), managers, students, and the general public. The book is also available online.

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