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Nota di contenuto	Cover; Titles; Copyright; Contents; Foreword G.M. Mace; Preface; Acknowledgements; 1 Biodiversity and zoo conservation biology; 1.1 Introduction; 1.2 Species definitions; 1.3 What is biological diversity?; 1.4 How many species are there?; 1.5 Where is biological diversity found?; 1.6 Loss of biological diversity; 1.7 Vulnerability of species to extinction; 1.8 The meaning of rare species; 1.9 Extinctions in recent history; 1.10 Present-day extinction rates; 1.11 Why conserve biodiversity?; 1.12 The science of conservation; 1.13 Zoo conservation biology; Key concepts. 2 Protecting species and habitats2.1 Introduction; 2.2 Systematic conservation planning; 2.2.1 The science of selection; 2.2.2

Institutional approaches to global biodiversity conservation; 2.2.3 Selecting priority areas for species conservation; 2.3 Targeting endangered species; 2.3.1 Defining endangerment; 2.3.2 Threatened species according to the IUCN Red List; 2.4 Conserving species; 2.4.1 Definitions; 2.4.2 Area-based conservation; 2.4.3 Surrogate species approaches; 2.5 Costs and benefits of conservation efforts; Key concepts; 3 Zoos in focus - public exhibition or conservation. 3.1 Introduction 3.2 Exhibiting animals - changes through time; 3.2.1 Zoos as menageries; 3.2.2 Hagenbecks panoramic designs; 3.2.3 Heini Hedigers zoo biology; 3.2.4 Immersion exhibits; 3.3 Modern zoos; 3.3.1 General characteristics; 3.3.2 Composition of animal collections; 3.3.3 Rare species in captivity; 3.3.4 Specimens-per-species trends; 3.3.5 Visitor attendance; 3.4 Zoos and conservation; 3.4.1 Evolution of zoos; 3.4.2 Mission impossible?; Direct conservation; Research; Education and training; 3.4.3 Direct contribution to conservation; 3.5 Colliding paradigms in the zoo world. 3.6 Two remaining fundamental questions 3.6.1 Are zoos still consumers of wild animals?; 3.6.2 Can visitor enjoyment and conservation be reconciled?; Key concepts; 4 Keeping animals in captivity; 4.1 Introduction; 4.2 Consequences of keeping animals in captivity; 4.2.1 Variables under management control; 4.2.2 Selection and adaptation to captivity; Fitness in captivity versus in the wild after reintroduction; 4.2.3 Behavioural changes; 4.3 Well-being of zoo animals; 4.3.1 Mind and body; 4.3.2 Assessment of well-being; Behavioural responses; Physical responses; 4.3.3 Stereotypic behaviours. Severity of stereotypy 4.4 Animal rights, animal welfare and zoos; 4.5 Which features of zoos can cause poor welfare?; 4.6 Keeping the captive, wild!; 4.6.1 Environmental enrichment; 4.6.2 What are undesirable behaviours?; 4.6.3 Types of environmental enrichment; 4.6.4 Aims of enrichment; 4.6.5 Enrichment and food; 4.6.6 Evaluating environmental enrichment; Key concepts; 5 Viable captive populations - the numbers game; 5.1 Introduction; 5.2 From rule of thumb to golden standard; 5.2.1 The 'millennium ark'; 5.2.2 The modified rule of thumb; 5.3 Why are small populations vulnerable? 5.4 Genetic composition of small populations

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## Sommario/riassunto

In the face of ever-declining biodiversity, zoos have a major role to play in species conservation. Written by professionals involved in in situ conservation and restoration projects internationally, this is a critical assessment of the contribution of zoos to species conservation through evidence amassed from a wide range of sources. The first part outlines the biodiversity context within which zoos should operate, introducing the origins and global spread of zoos and exploring animal collection composition. The second part focuses on the basic elements of keeping viable captive animal populations. It considers the consequences of captivity on animals, the genetics of captive populations and the performance of zoos in captive breeding. The final part examines ways in which zoos can make a significant difference to conservation now and in the future. Bridging the gap between pure science and applied conservation, this is an ideal resource for both conservation biologists and zoo professionals.

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