Conservation Translocations

Conservation translocation – the movement of species for conservation benefit – includes reintroducing species into the wild, reinforcing dwindling populations, helping species shift ranges in the face of environmental change, and moving species to enhance ecosystem function. Conservation translocation can lead to clear conservation benefits and can excite and engage a broad spectrum of people. However, these projects are often complex and involve careful consideration and planning of biological and socio-economic issues. This volume draws on the latest research and experience of specialists from around the world to help provide guidance on best practice and to promote thinking on how conservation translocations can continue to be developed. The key concepts cover project planning, biological and social factors influencing the efficacy of translocations, and how to deal with complex decision-making. This book aims to inspire, inform and help practitioners maximise their chances of success and minimise the risks of failure.

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ECOLOGY, BIODIVERSITY AND CONSERVATION

The world's biological diversity faces unprecedented threats. The urgent challenge facing the concerned biologist is to understand ecological processes well enough to maintain their functioning in the face of the pressures resulting from human population growth. Those concerned with the conservation of biodiversity and with restoration also need to be acquainted with the political, social, historical, economic and legal frameworks within which ecological and conservation practice must be developed. The new Ecology, Biodiversity and Conservation series will present balanced, comprehensive, up-to-date and critical reviews of selected topics within the sciences of ecology and conservation biology, both botanical and zoological, and both 'pure' and 'applied'. It is aimed at advanced final-year undergraduates, graduate students, researchers and university teachers, as well as ecologists and conservationists in industry, government and the voluntary sectors. The series encompasses a wide range of approaches and scales (spatial, temporal and taxonomic), including quantitative, theoretical, population, community, ecosystem, landscape, historical, experimental, behavioural and evolutionary studies. The emphasis is on science related to the real world of plants and animals rather than on purely theoretical abstractions and mathematical models. Books in this series will, wherever possible, consider issues from a broad perspective. Some books will challenge existing paradigms and present new ecological concepts, empirical or theoretical models, and testable hypotheses. Other books will explore new approaches and present syntheses on topics of ecological importance.

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Conservation Translocations

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Dedicated to our children Poppy, Luca, Liam, Izzy, Lauren, Lance, Tatyana, and Kaden. We hope this book inspires people to help nature during your lifetimes, and enjoy the many benefits from doing so.

MG, JE, PH, and AM

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Foreword

We are at a critical point in time where humanity's relationship with nature is at a crossroads. Challenges such as the biodiversity and climate crises are immense, but nature-based solutions developed through innovation and actioned through collaboration can overcome many of the obstacles that lie before us. We must be bold. We must be courageous. And we must act now.

An inspiring approach to avert extinction and enable ecosystem recovery is that of conservation translocations. Returning species to the wild from programmes where they are under human care or where they are moved among wild populations can yield profound outcomes. I can tell you from personal experience that difficulties can be tackled if we combine sound science, planning, and action with unrelenting commitment and tenacity. I have been privileged to support the return of the Scimitar-horned oryx to Chad after the species was Extinct in the Wild for decades. Overcoming such immense challenges with collaborators on multiple continents showed the true power and possibility that conservation translocations can have.

Complex problems seldom have simple solutions. We need to ensure that conservation and sustainable development can go hand in hand – after all, the needs of nature and humanity are forever intertwined. Within the International Union for Conservation of Nature (IUCN) we aim to strive for a world where all people have a quality of life that gives them both dignity and opportunities. Through a diverse global membership and science-based approaches, the IUCN seeks to rise above the polarisation of ideas that often prevents progress. The IUCN Conservation Translocation Specialist Group within the Species Survival Commission evidences this approach by engaging with diverse stakeholders including practitioners, academics, Indigenous Peoples, local communities, conservation organisations, and governments around the world. Such inclusive engagement addresses a myriad of biological,

social, cultural, legal, and economic considerations to seek successful outcomes for nature and for society.

Tackling big problems requires a diversity of knowledge and perspectives. As such I am so pleased to present this first authoritative text on conservation translocations. Contributors from all around the world not only showcase lessons learned to date but also set the stage for future actions that will help species large and small, restore ecosystems from oceans to land, and yield benefits for humanity that transcend geography and culture.

Let us now translate such knowledge into action. Let us work together with courage and optimism to create the change that the world needs now.

Razan Al Mubarak, President,
International Union for Conservation of Nature

Preface

This is a book about people moving species to help conserve our planet. In some ways the very fact that we have to use such drastic measures is a sad reflection of how damaged our environment has become. Desperate times call for desperate measures. Natural habitats and ecosystems have become degraded or destroyed, and populations of many animals, plants, and other species have become fragmented, small, and unviable, and their ability to disperse to new areas reduced or not possible. In response, various types of conservation intervention have been used to try and mitigate the damage we have caused, including conservation translocation.

Conservation translocation is no longer just a tool of last resort, but is increasingly being used in more proactive and creative ways, not only to save species but to restore habitats and ecosystems. Such projects also, when done in the right way, can have strong public appeal and help to engage people with nature. They can give people hope by showing that positive action can make a real, visible difference and contribute small but important and cumulative solutions to the global biodiversity crisis. But when they are done in the wrong way, and in particular when local communities, stakeholders, and Indigenous Peoples are not involved, then damage can be done, important support can be lost, and the chances of long-term success can be reduced.

We started work on this book in 2018, and yet in the short time between then and now we have seen significant new and ongoing challenges for our own species, and related developments in societal attitudes and concerns. We had no idea back then that most of the main writing of the book would be done during a global pandemic, which of course affected all our authors in different and sometimes very difficult ways, as it did for so many others. The 'anthropause' resulting from decreased human activity meant some people had an opportunity to reflect more on our complex relationship with nature. During this same period, we also had the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) report that demonstrated

powerfully the increasingly desperate state of the biodiversity crisis, and other numerous high level reports emphasising the severity of predicted climatic change. This has been accompanied by rising frustration from people, especially the young, that there is still insufficient action to address these fundamental threats to our future existence. This was reflected by the high levels of public expectation on our political representatives to deliver environmental solutions at the 2021 COP26 conference on climate change in Glasgow, and the planned 2022 COP15 conference on biodiversity in Montréal.

So where does conservation translocation fit in all this? It is, of course, just one specific type of conservation intervention and arguably one we should try and avoid using by first ensuring large areas of habitats and ecosystems are protected and maintained. But, since the latter has often not happened or is insufficient, conservation translocation can have a vital role. Our aim in this book is therefore to provide our readers with some of the latest science and experiences in this field, which will help to maximise the chances of project success and reduce the risks of failure. We have set out the book to introduce some of the concepts and ideas behind conservation translocation, how projects should be planned, the specific issues that need to be considered when considering or running a project, and how to deal with complex decision-making. Issues such as legislation, animal welfare, plant and animal disease, genomics, and engaging with people are covered. So too are the more novel and challenging types of conservation translocation – not just reintroductions and reinforcements, but assisted colonisation, ecological replacement and associated multi-species translocations, ecological restoration, and rewilding. We also look to the future to consider how conservation translocation may develop over time. You will see that the first part of the book covers these main topics, but the last ten, shorter chapters provide case studies from around the world covering a range of animal and plant taxa, places, topics, and challenges. These demonstrate a key aspect of conservation translocations, which is that every one is different! But there is a standard, and best-practice approach (based on the IUCN Guidelines for Reintroductions and Other Conservation Translocations) that can be applied to all.

We are very conscious that conservation translocations, and other types of intervention, have not always been done well and it is therefore important that the conservation community recognises this and finds ways to improve. This especially applies to how people have been involved, or not involved, in some projects. Historically many projects

have been run by ecological and biological specialists, meaning that the requirements of the species concerned are often well accommodated, but the lack of specialists in socio-economic fields has meant that the views, concerns, and aspirations of local/Indigenous Peoples most affected have not. And yet for conservation to work into the longer term, in this human-dominated world, we need to bring people with us and widen the 'ownership' of projects, as ultimately it is the local champions and land users who remain to follow through the necessary action on the ground, long after the professional conservationists have moved on. A project that builds trust and ownership not only improves the chances of its own success, but also increases the likelihood of other conservation interventions being successfully run in the same communities.

This book has also tried to demonstrate the diversity of projects involved in conservation translocation, although inevitably there is a bias towards those parts of the world best known by the editors. The book has strong Scottish origins that are reflected in much of the content, but there are also major contributions from editors and authors from Aotearoa New Zealand, Argentina, Australia, Brazil, Canada, China, England, Finland, Mauritius, Netherlands, South Africa, Spain, Sweden, Switzerland, UAE, USA, and Wales. Some of our 61 contributors are academics working in biological, social science, or legal fields, others work for non-governmental organisations, zoos, botanical gardens, consultancies, and public bodies. This reflects the range of skills and expertise often required in conservation translocation projects. We have also tried to demonstrate that the use of conservation translocation can apply to a range of taxa and environments, and were particularly keen to ensure that plant translocations and marine translocations were included as well as the usual terrestrial, animal (especially vertebrate) examples.

It is now widely accepted that ecological restoration and conservation are needed at transformational scales if we are to address our interconnected biodiversity and climate crises. Conservation translocation will be an increasingly significant part of that work, and our aim here is to inform the necessary positive action. We hope you find this volume a useful and inspiring source of information, whether you are a professional or voluntary conservationist, academic, student, land or water manager, or someone simply wanting to know more about this exciting area of work.

Martin J. Gaywood, John G. Ewen,
Peter M. Hollingsworth, and Axel Moehrenschlager

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