

Foreword by

Chris Packham

A LESS
GREEN
AND
PLEASANT
LAND

Our Threatened Wildlife

Norman Maclean



A LESS GREEN AND PLEASANT LAND

Our Threatened Wildlife

Disentangling the facts from the hype, this ‘Domesday book’ of the British and Irish countryside offers a definitive and up-to-date survey of the state of our wildlife today. Norman Maclean, editor of the best-selling *Silent Summer*, examines the latest findings of Britain and Ireland’s top wildlife experts and interprets them for a wider audience. Each chapter provides reliable estimates of animal populations, showing which species are thriving and which are in decline. The book also considers the effects of climate change on our wildlife and how human population growth is influencing its development. Beautifully illustrated with colour plates and wood engravings throughout, this accessible and timely study reveals just how rapidly our countryside and its wildlife are changing, why we should be concerned, and what we can do about it.

NORMAN MACLEAN is Emeritus Professor of Biology at the University of Southampton and a lifelong wildlife enthusiast. He has visited and studied wildlife in more than 50 countries around the world and has given numerous radio and TV interviews on the subject. He is the editor of *Silent Summer* (Cambridge, 2010).

A LESS GREEN AND PLEASANT LAND

Our Threatened Wildlife

Norman Maclean
University of Southampton



CAMBRIDGE
UNIVERSITY PRESS

CAMBRIDGE
UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org

Information on this title: www.cambridge.org/9781107673236

© Cambridge University Press 2015

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2015

Printed in the United Kingdom by Clays, St Ives plc

A catalogue record for this publication is available from the British Library

Library of Congress Cataloguing in Publication data

Maclean, Norman, 1932–

A less green and pleasant land: our threatened wildlife / Norman Maclean.

pages cm

ISBN 978-1-107-67323-6 (pbk.)

1. Endangered species – Great Britain. 2. Endangered species – Ireland. 3. Environmental degradation. I. Title.

QH77.G7M33 2013

333.95'22–dc23

2012050467

ISBN 978-1-107-67323-6 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication, and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.

The views expressed in this work are those of the author and do not represent those of Cambridge University Press.

*To Richard and Cherry Kearton,
whose book With Nature and a Camera, published in 1898,
helped inspire my early enthusiasm for wildlife.*

CONTENTS

<i>List of wood engraving illustrations</i>	<i>page ix</i>
<i>Foreword by Chris Packham</i>	<i>xi</i>
<i>Acknowledgements</i>	<i>xiii</i>
Introduction	I
1 Living with change	9
2 A short dose of Earth history	21
3 Climate change	33
4 Down on the farm and into the woods	49
5 Plant and animal introductions (and some recent arrivals)	70
6 Our overcrowded isles: human population and aspiration	86
7 Fresh water: quality and availability	99
8 Hunting, shooting and fishing: the enigma of field sports and wildlife	106
9 Wildlife conservation at home and overseas	125

So how is our wildlife faring? The details	143
10 Mammals	145
11 Birds	158
12 Amphibians and reptiles	189
13 Freshwater fish	198
14 Butterflies and moths	206
15 Other insects	231
16 Other invertebrates	264
17 Trees, shrubs, herbs and other plants	269
18 Fungi	295
19 Life in the open sea	299
20 Where sea meets land	313
21 Top wildlife sites in Britain and Ireland	323
22 What does the future hold?	332
<i>Glossary and abbreviations</i>	371
<i>Notes</i>	378
<i>Index</i>	391

Colour plates will be found between pages 370 and 371

ILLUSTRATIONS

Introduction	Coille Cealabost	<i>page</i> 1
Chapter 1	The green mount	9
Chapter 2	Giant's Causeway	21
Chapter 3	Cooling off, Dunvegan Loch	33
Chapter 4	Skye shepherd	49
Chapter 5	Mink raid	70
Chapter 6	Queen's Road	86
Chapter 7	Two otters	99
Chapter 8	The Sportsman's Inn	106
Chapter 9	Woodland spring	125
Chapter 10	Pyramid of seals	145
Chapter 11	Black-throated divers	158
Chapter 12	Common frog	189
Chapter 13	Salmon leap	198
Chapter 14	Mother Shipton moth	206
Chapter 15	Golden-ringed dragonfly	231

Chapter 16	Zebra spider	264
Chapter 17	The spring gardens	269
Chapter 18	Shaggy inkcap	295
Chapter 19	Shags under Waterstein Head	299
Chapter 20	Oystercatcher sunset	313
Chapter 21	Eagles ascending	323
Chapter 22	Coille Dalavil	332

All © Kathleen Lindsley, Raven Press Gallery, Dunvegan, Isle of Skye
IV55 8ZS. kathleen@ravenpressgallery.co.uk.

FOREWORD

In Britain and Ireland we live in an overcrowded and intensively managed landscape, in which not a single square metre has not been, or is not, influenced by the ‘hand of man’. We have cut it down, ploughed it, drained it, afforested it or concreted it over – in short, we have totally ruined much of it. And yet . . . like you, I still love it with all my heart. I can still find scraps of paradise, things of extraordinary beauty, and things both big and small which make me smile, sing, set my alarm clock to get up, go out and rejoice in. And that is why, like you, I care so much when it comes to conserving it.

But let me ask you a question. If conservation in these islands were a single-company business, all the effort, endeavour, all the strategies, money and employees were under one roof, and that company had shares to purchase on the stock exchange, would you invest in them? Based on results? I wouldn’t. Not because I think that the company isn’t sincere or isn’t trying hard enough, simply because its results are not only poor – they are disastrous.

Okay, there is a palette of notable successes on many levels. A guild of individual species have been managed and have prospered, certain habitats are now sufficiently understood to be better protected or even re-created, some species have recovered due to changes in legislation or have increased due to opportunities through others’ losses. It’s not all totally bad news, but perhaps the occasional ‘good’ is exaggerated to cover the majority of bad. Perhaps happy tales of more stone curlews, dormice or ciril buntings are used to mask the misery which is so easily revealed when you delve into the data:

that empirically the vast majority of our habitats are in serious decline, as are most of our notified sites of nature conservation, and indeed many of our nature reserves. And when it comes to biodiversity per se . . . let's be frank, in all of our major animal and plant groups the declines are catastrophic. Even some of our most cherished species, the cuckoo, the nightingale, most butterflies and moths, the salmon, our orchids and sadly so many more are cascading to extinction. In our business, in most departments, targets are not being met, and in many we're going bust.

That's why this book is important, because it is both essential and critical that we summon the courage to stop sheltering in the deceit of our successes and face our very serious failings head-on. Only then do we stand any chance of making a difference. A difference which I sincerely believe we can make. Because, whilst all these declines and damages have been unfurling we have simultaneously been developing an impressive arsenal of techniques and technologies which could make those differences. We have learned how to captive-breed and release, we can transform wrecked agricultural wastelands into rich, varied and wonderful environments, but we also need to be far more energetic when it comes to influencing and enforcing change on altogether broader fronts. We have to value our strengths as a movement and exercise them with both honesty and vigour. Ultimately, we must not shy from the bigger issues which are crushing and killing our green and pleasant land.

Like the author, I don't feel like a traitor, I don't feel the need to conceal my criticisms – because they are motivated benevolently and voiced to prompt thought, debate and creative change. And across the pages of this book you will sense, indeed feel, sympathetic parallels and echoes of this manifesto. Throughout its pages there are thinly disguised pleas for real and prompt progress – and they have been penned because we care. I hope that you will read, consider, mull over and mould all its ideas in your minds and then feel empowered and motivated to help move wildlife conservation in Britain and Ireland into a new era – before it is too late.

Chris Packham
New Forest

ACKNOWLEDGEMENTS

There are many people without whose help this book would not have been possible. The original contributing authors from *Silent Summer* generously allowed me to use information from their chapters; many of them also gave a critical read to my chapters in this book. Chief amongst these were John Baxter, Cyril Bennett, Phil Boon, Richard Chadd, Andy Clements, Brian Eversham, Richard Fox, Robert Fuller, Colin Galbraith, Kevin Gaston, Chris Glead-Owen, Dave Goulson, Tim Halliday, Steve Hawkins, Karen Haysom, Michael Hughes, Gareth Jones, Ian Killeen, Andrew Lack, Max Landsberg, Christopher Lever, Peter Maitland, Judith Marshall, Peter Mill, David Moore, Ken Norris, Chris Packham, Mike Pienkowski, Oliver Rackham, Robert Robinson, Robin Sharp, Peter Slater, Tim Sparks, Alan Stewart, Alan Stubbs, Jeremy Thomas, Peter Thomas, Charles Tyler, Martin Warren and Derek Yalden.

I am also extremely grateful to Johnny Birks, David Bothwell, Bryan Brown, Malcolm Crabtree, Henry Edmunds, Mark Kaiser, Michael McCarthy, Moira Maclean, Oliver Rackham, Callum Roberts, Graham Roberts, Peter Slater, Freda Stevenson, my wife Jean, my daughter Lorna and her husband Rupert Thompson for their many improvements to particular chapters.

To my sister Margaret Ferguson and my friend Arthur Wild, I also owe a very great debt. They checked the entire book and made numerous suggested improvements, most of which I have implemented. Kathleen Lindsley of the

Raven Press has provided the delightful wood engravings which adorn the start of each chapter.

My method of writing remains incredibly antiquated, namely long-hand, and my friend Enid Scappaticci has brought her meticulous skills to typing up all the chapters and innumerable revisions. I cannot thank her enough.

Chris Packham has done much to publicise the book by writing an excellent foreword. I want to say a particular thank you to Dominic Lewis of Cambridge University Press who recommended a number of modifications and additions to the text, which have gone a long way to improving the book. Lynette Talbot, Jonathan Ratcliffe, Ilaria Tassistro and Judith Shaw (freelance) of Cambridge University Press have helped steer the book through to its completion. I am particularly indebted to Hugh Brazier, who gave the whole book a professional editorial read and suggested many corrections and improvements which have certainly enhanced the text.

I should emphasise that despite all of this help, some mistakes will undoubtedly persist, and for these I must take responsibility. Let's hope they are few.



INTRODUCTION

In 2010 I edited a multi-author book entitled *Silent Summer*, which set out to provide an in-depth audit of wildlife in Britain and Ireland over the last 50 years, with predictions of what the future may hold. That previous book was well received, but was a somewhat weighty reference volume with 36 chapters

and over 60 authors. This present book aims to carry the same message but to present the information more concisely and in a more accessible format.

HOW *SILENT SUMMER* CAME TO BE WRITTEN

At the outset I should like to explain how the original book came to be written. Over the last 60 years, I have lived to see dramatic reductions in the numbers of many common insects and birds within the UK. As a schoolboy in Edinburgh in the 1940s I roamed the countryside on the outskirts of the city, and remember fields and waste ground with a huge abundance of butterflies such as small tortoiseshell and meadow brown, innumerable bumblebees and large populations of now scarce birds such as corn buntings and grey partridge. When I acquired a car in the 1950s, it was fitted, as were almost all other cars, with a must-have accessory, a small plastic device attached to the front of the bonnet to help deflect insects from splattering the windscreen. When one stopped at a petrol station to refuel, staff regularly provided a windscreen washing service to remove the dead insects that had clouded the glass, despite the efficacy of the deflector. These gadgets have disappeared because the need for them has gone, a stark indicator of the dramatic decline of so many common insects.

As a postgraduate student at Edinburgh University, I experienced an interesting juxtaposition of images shared by most biologists at the time. Neil Armstrong and Buzz Aldrin's successful landing on the Moon's surface in July 1969 on board Apollo 11 did much more than score a first Moon landing. The spaceship cameras also sent back amazing images of Planet Earth viewed from space, images we all shared and which altered our mindset of the planet on which we live. We saw for the first time how intensely green and blue our planet is, green from its living plants and blue from its abundant ocean (Plate 1). It remains uncertain to this day whether any other object in the universe has evolved a similar biodiversity. We may be unique.

But another image of Planet Earth had been provided by the earlier publication in 1962 of Rachel Carson's prophetic book *Silent Spring*,¹ which carried a warning of the possible widespread damage to world ecosystems resulting from the extensive use of human-engineered pesticides. Rachel Carson was born in 1907 on a small farm in Pennsylvania, USA, and became a marine biologist with the US Bureau of Fisheries as well as a writer on nature and ecology.² Although not all her forecasts were correct (she erroneously predicted that DDT would prove to be carcinogenic), she was much more right than wrong, and was posthumously honoured in 1980 with the award of the Presidential Medal of Freedom.

Those of us who were young biologists in the 1960s tended to superimpose the world of Rachel Carson onto the world of Armstrong and Aldrin. We

were thrilled to see Planet Earth from space, and we eagerly accepted responsibility for the future management of its wildlife communities and ecosystems, but we also saw it as a somewhat sick planet with serious ecological problems. Viewed from space, all looked well, but viewed in close-up with binoculars or microscopes as we students were taught to do, we knew that the space vision was to an extent a false image of world health and prosperity.

This book is therefore an attempt to look at our own wildlife 50 years on from Rachel Carson, to take an audit of what has happened since, what is likely to happen in the immediate future and what we should be doing about it. The large volume of *Silent Summer* was referred to by one reviewer as a 'Domesday Book of Wildlife' – and that is indeed what it set out to be. This present volume is a shorter single-author version of the original.

CONSEQUENCES OF INSECT DECLINE

It is clear, even to a relatively uninformed observer, that many insect populations have declined in Britain and Ireland, but our concern should not stop here. Since insects are fundamental to the food chains of many higher animals, especially of birds such as flycatchers, swallows and swifts, and also many mammals such as bats, shrews and hedgehogs, it is obvious that reductions in populations of prey species such as insects are likely to have longer-term impacts on the other species which prey on them. In our own ecosystems this may indeed be beginning, with marked declines in common bird species such as house sparrows and starlings which, although omnivorous as adults, feed their young primarily on insects (although declines of both species probably result from an interplay of several factors).

Of course, changes in wildlife composition are nothing new. After all, the dinosaurs have long since gone, their demise now thought to be chiefly the result of a huge meteorite crashing into our planet in the vicinity of the Mexican Yucatan Peninsula and bringing substantial world climate change as a result.³ Yes, there have been previous great extinctions, and that at the end of the Permian period some 250 million years ago was even more catastrophic than the extinction of the dinosaurs 65 million years ago.⁴ But what is unique about the present wildlife declines here and in the rest of the world is that they are mainly the result of human activity, especially the effects of the Industrial Revolution from 1800 onwards. There are seven billion of us humans competing for space and resources on Planet Earth, probably rising to about nine billion by 2050, and our appetite for energy, water and food is having huge impacts on the planet. This is both bad and good. It is bad in that it is hard to stop, good in that it is not impossible to stop, and even now there are optimistic signs of wildlife recovery as a result of positive conservation

measures. So this book attempts to say what the present state of play is and what are the grounds for hope in the future.

Attempting an audit of British and Irish wildlife is more important than simply providing an accurate picture to satisfy our intellectual curiosity. After all, although we live in a very small area of land in world terms, we are an advanced country with a great heritage of interest in wildlife provided by figures such as John Ray (born 1627), Gilbert White (born 1720), Richard Jefferies (born 1848) and more recently David Attenborough. If we, the citizens of Britain and Ireland, cannot make wildlife conservation work here, what hope is there for other less-favoured countries and ecosystems? But if in this small island crucible of Britain and Ireland we can achieve success in halting wildlife decline, we will then be in a good position to help counter more widespread declines elsewhere. Of course, Britain and Ireland are now largely managed environments, whereas in areas of Australia, Africa and elsewhere there are wide swathes of country in which humans have still only a small impact on wildlife (although even here native Africans and Australian aboriginals hunt game, gather firewood and destroy some forest).

STRUCTURE OF THE BOOK

Let me now briefly outline the structure of this book. In [Chapter 1](#) I discuss how the world's wildlife has coped with change over the billions of years of Earth history, and then go on to discuss present change and how wildlife can be expected to cope with it. I then consider the factors that drive the change, especially climate change, agricultural intensification, the effects of intentional and accidental introductions of new wildlife species, human population increase and all that goes with it, water pollution, and interactions between field sports and wildlife conservation. Then there is a chapter on wildlife conservation, how it is managed and the role of Britain and Ireland in wildlife conservation at home and overseas. Most of the remaining chapters are devoted to a careful consideration of changes in wildlife populations, which species are declining and which are prospering. To help balance the negative message in much of the book, I include a chapter on top wildlife sites. There is a concluding chapter on where we are now, what can be done to ensure that the worst declines are halted and what may be the best hopes for the future. It may well be that some readers of this book will want to skip the early chapters on Earth history, biological evolution and the drivers of wildlife changes, and go straight to the chapters which provide details of our present wildlife and its likely future. In this way, the book could easily be read back to front, beginning with the wildlife details, and then later considering the factors which have led to the existence of life on Earth and are leading to present changes in the ecology of these organisms. After all, that's how most of us