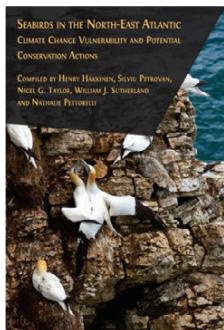


REVIEWS



Seabirds in the North-East Atlantic: Climate Change Vulnerability and Potential Conservation Actions

Compiled by Henry Hakkinen, Silviu Petrovan, Nigel G. Taylor, William J. Sutherland and Mathalie Pettorelli. Open Book Publishers, 2023. ISBN: 978-1-80511-012-5. 277 pages. Hardback, £37.95. Paperback, £26.95. PDF, free.

This comprehensive book was produced by the Zoological Society of London, the University of Cambridge and the five authors/compilers with two aims: to assess seabird vulnerability to climate change in the North-East Atlantic, and to identify potential conservation actions that could reduce this vulnerability. This review is based on a softback copy of the First Edition (version 1.2) of the book. The book begins with an Introduction (pages 9–17) followed by eight parts which deal with different groupings of seabirds from Auks (Alcidae) to Gulls (Laridae) and from Petrels and Shearwaters (Hydrobatidae and Procellariidae) to Terns (family Laridae). The additional four seabird groupings outline: Ducks and Phalaropes, Gannets and Cormorants, Loons/Divers and Grebes, and Skuas. The final section of Appendices includes the references of works used within the eight different bird groupings (Appendix 1, in the form of sub-sections divided by bird-groupings and species) and a final Appendix 2 of 'Sources and References for conservation action assessment'. As the reference data

would be so long for Appendix 2 in the printed copy, a freely downloadable resource (<https://doi.org/10.11647/OBP.0343>) details full methodology and reference list for the volume.

The body of the work comprises pages 18–196 i.e. the eight bird groupings each of which is written in two parts: (1) species accounts (there are 48 species); and (2) potential actions in response to climate change, written at times for the grouping as a whole rather than at species level. Under the species accounts vulnerability to climate change (in guises such as: stormy conditions, increasing sea temperature, air temperature / heat stress, changes caused to prey species and variations caused to mammalian predation) is discussed. Types of vulnerabilities are classed as having positive, negative or neutral impacts and are discussed along with predicted changes in each bird species and potentially prey species too.

Each species account incorporates a helpful map of the Northeast Atlantic range indicating, through use of colours, the risk and potential change to breeding population distribution by the time of the arrival of the period 2070–2100. Climate change impact outside of Europe is included, if applicable, in the species notes. Sensitivity is considered i.e. the degree to which a species is likely to be affected, also their ability to adapt for example through behavioural changes and physiology.

Part 2 of each of the bird groupings includes notes on approaches (actual and some un-trialled), generally on a local scale, to deal with climate change effects impacting the bird group. Such trialled approaches (or interventions) include: to artificially incubate or hand-rear chicks to support population, make new colonies more attractive to encourage birds to colonise, provide artificial nesting sites, provide supplementary food during the breeding season, rehabilitate sick or injured birds and reduce competition by removing competitor species. For some of the seabirds, such approaches may have been little tested or not at all (for example: provision of supplementary food during the non-breeding season, manual relocation of nests, reduction in exposure to pollutants or provision of additional resources to help seabirds thermo-regulate – such as artificial pools), but in this case are suggested as potential ways forward. The reference lists from the Appendices detail all published studies which include these different approaches and which have been found and considered.

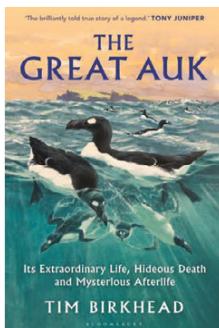
Appendix 1 presents the papers and additional source materials (including online databases) by species under each bird grouping and split by the various vulnerability headings such as climate impact type, changes in European range size, sensitivity and adaptive capacity. Appendix 1 is augmented with brief helpful overview and summary text alongside each reference.

As an Open Book publication, the book is available to download freely on the publisher's website. Printed and digital editions, together with supplementary digital material can be found at <http://www.openbookpublishers.com>. As the volume is freely available to download it should be the case that any errors and new findings, further considered

thoughts and research may be incorporated quite readily into digital files along with further seabird species as time allows. Some of the seabird sections lacked species which may have been expected (for example Common Tern *Sterna hirundo*, Black-headed Gull *Chroicocephalus ridibundus*, Common Gull *Larus canus* and Mediterranean Gull *Ichthyaetus melanocephalus*) and therefore it is considered there is scope for growth in future editions. The usage of common English names based on the BirdLife standard taxonomic checklist was a little confusing.

This is a very useful publication which summarises the various vulnerabilities caused by climate change identified in a great range of seabirds of the North-East Atlantic, suggestions for conservation actions and where to find the individual detailed reference literature concerning the many different studies and accumulated data used in the compilation of this work. If the book and its maps and explanations are anything to go by, then we should be greatly concerned for our seabirds of this region, very many of which are shown to be at risk of major decline in range by the end of the twenty-first century. For conservationists this is another important wake-up call to the seriousness of human-generated climate change and a prompt to try and help by taking remedial actions.

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The Great Auk By Tim Birkhead. Bloomsbury Publishing, 2025. ISBN: 978-1-39941-574-3. 296 pages, plates with colour and b/w photos and illustrations. Hardback, £20.00.

Tim Birkhead's *The Great Auk* offers a thorough and engaging account of the life, extinction, and legacy of the Great Auk. This book is a blend of historical narrative and scientific investigation, making it a compelling read for those interested in natural history and conservation, and Birkhead also leaves room for self-reflection in relation to the role that the demand which was created by the scientists of the day as the Great Auk neared its extinction.

Birkhead begins by detailing the Great Auk's existence before its demise, describing its life as a flightless seabird superbly adapted for underwater flight. The book vividly recounts the bird's breeding habits and its eventual retreat to inaccessible breeding sites due to human predation.

The book has a very distinct change of pace between the naturalist description and monograph about the Great Auk, and then what becomes a deep-diving biography and family history of Vivian Hewitt, which for a second made me wonder if I was still reading the same book. Although I personally struggle to keep track of more than two characters at a time in a book or Netflix series, I found this latter half of the book to be both interesting and worthwhile, even if a little challenging. I am very glad that Birkhead included this part of the book as it gives a better history of science perspective, as part two of the book is both fascinating and links the precious zoological artefacts of Great Auks to contemporary conservation issues. Birkhead explores the market for Great Auk remains, highlighting how the bird's extinction only increased its value to collectors and museums.

A particular feature of Birkhead's narrative style which I also appreciate, is that he is not shy of placing humans with all our issues and shortcomings, into the story. Both deep friendships and the opposite are described with real pathos which makes reading much more real and enjoyable. Sometimes he places himself, and sometimes others, in the story but he uses it to give the reader a view behind the curtains of the scientific process which I think is a rare and important quality. At least it is refreshing to hear how Birkhead, who is a very well-established seabird researcher also relies on and trusts the expertise of others. I think many early-career scientists will find this a very comforting realisation.

When it comes to the last stages of the Great Auk existence, in my opinion, Birkhead can be a bit blunt or unfair towards the naturalists, hungry sailors, and local traders who were eager to earn extra money through the demand for Great Auk artifacts. For instance, he states, "...the Great Auk's extinction was the result of nothing more than human need and greed." While he sets up a narrative of enlightened conservationists versus those who would mindlessly do anything for money, it's clear that Birkhead is more nuanced in his thinking, but this only becomes obvious later in the book. This tension is in my view one of the more interesting aspects of the book. It raises important contemporary questions about conservation issues and life in rural and small islands; about whether the successes of conservationists have perhaps inadvertently deepened the divide between nature and society, alienating us further from nature and making people more nature illiterate. But I think that neither islanders, sailors nor the traders who paid increasing amounts for Great Auk eggshells or skins fully realised the implications of their very local actions – the catastrophic

global extinction of the Great Auk. Shortsighted and epically tragic yes, but human greed? I don't agree.

The chapter I particularly like in this book is chapter 10, where Birkhead treads very treacherous and political waters. As a Faroese student and researcher in the UK, I was quite surprised to learn how entrenched and deep-seated animosity is between egg collectors and conservationists. The ban on egg collecting in 1954 is a particular milestone and as Birkhead writes, "As one of my ornithological colleagues said to me, many of the men who collected eggs – and they included doctors, lawyers and businessmen – went to bed one evening as respectable members of society and woke up the next morning as criminals." Here I stand in full agreement with Birkhead on one of the more controversial points he makes in the book regarding the UK ban on egg collecting in 1954. While this may have stopped some acute conservation issues of birds of prey, which should not be diminished, I think that most curators and egg researchers feel that it is unfortunate that it drove the science of eggs and nests nearly to a complete stop, breaking private and later museum collection timeseries. As a dedicated egg researcher, I sometimes felt like there exists a kind of scientific taboo around this aspect of bird breeding biology. By criminalising egg collecting, society also inadvertently criminalised the whole culture and fieldcraft around nest location and decoding bird behaviour etc which have always and continue to be foundational for wildlife research. More generally, I think this has led to a greater disconnect between people and nature, and an ideological struggle between 'protectionists' and hunters/egg collectors, which persists to this day in most of continental Europe and UK and is particularly obvious to a Faroe islander in Scotland.

I wish Birkhead had spent more time speculating on the ecology of the Great Auk. There are likely unexplored avenues in using biochemical tools to determine the types of fish they consumed, as well as crude estimations of their foraging ranges, migration patterns, and wintering distributions. This would have added another layer of depth to the book and provided a more comprehensive understanding of the Great Auk's ecological role, and should allow us to more seriously consider what if we were able to bring back the Great Auk? – even if as only an ecological thought experiment. I am confident that with the ongoing development of analytical techniques, we are far from finished learning important things about the Great Auk's ecology.

Finally, I find myself in strong agreement with Birkhead's reflection on Vivian Hewitt's collections. Birkhead writes, "His (Vivian Hewitt's) antipathy towards museums was unfortunate, for I suspect that had they been the recipients of his collections, the contents might have been better preserved and valued. As it was, the dismemberment and dispersal of Hewitt's collections was, in hindsight, shameful. Hindsight, of course, is a wonderful thing, and I have tried to put this into an appropriate context: there was simply too much material, too little time, too few resources and too much ideology. But there was also too little vision. To learn from history means learning from our mistakes. I'd like to think that such an event would not happen today, but I realise – again with the benefit of hindsight – that it could do so all too easily. I suppose, in a way, that I am saddened by the loss of data and the fact that all those eggs died in vain."

On a personal level, reading this book was immensely enjoyable. It ticked many of my boxes as a bibliophile with a

tendency to hoard anything that smells like natural history. Having spent much time in museum collections, I have had the pleasure of meeting many of the curators mentioned in this book, and I could hear echoing conversations we've had throughout this book. Most mind-blowing to me is the historic weight surrounding the eight Great Auk eggs in a secret private collection in Scotland around the same time I was an oblivious undergraduate student at the University of Aberdeen! I greatly appreciate that these stories, many of which are completely inaccessible to most people, were documented and published here!

Overall, *The Great Auk* is a significant contribution to marine ornithology and natural history and a sobering reminder of the impact humans can have on the natural world. It is a must-read for anyone interested in the history of extinction and the importance of conservation and I think this book also provides a new and unique angle on the debates around hunting, egg collecting and conservation, and an overdue reminder of the importance of natural history museums and passionate curators. In Birkhead's own poignant words: "The Great Auk's demise may seem like a mere curiosity to some, but it is a lesson we ignore at our own peril."

Sjúrður Hammer