WCMC Biodiversity Series No.11



First circumpolar assessment of climate change impact on Arctic breeding water birds





MN 20104

WCMC Biodiversity Series No. 11

Water Birds on the Edge

First circumpolar assessment of climate change impact on Arctic breeding water birds

World Conservation Monitoring Centre prepared by Christoph Zöckler and Igor Lysenko







WCMC - World Conservation Press

The World Conservation Monitoring Centre, based in Cambridge, UK, is a joint venture between three partners in the World Conservation Strategy and its successor Caring for the Earth: IUCN – The World Conservation Union, UNEP – United Nations Environment Programme, and WWF – World Wide Fund for Nature. The Centre provides information services on the conservation and sustainable use of species and ecosystems and supports others in the development of their own information systems.







Published by:

WCMC - World Conservation Press, Cambridge, UK.

ISBN:

1 899628 16 9

Copyright:

© 2000. World Conservation Monitoring Centre, Cambridge

Reproduction of this publication for educational or other non-commercial purposes is authorised without prior permission from the copyright holders, provided the source is acknowledged.

Reproduction for resale or other commercial purposes is prohibited without the prior written permission of the copyright holders.

The views expressed in this book do not necessarily reflect those of WCMC or its collaborators.

The designations of geographical entities in this publication and the presentation of the material do not imply the expression of any opinion whatsoever on the part of WCMC, IUCN, or other participating organisations concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

World Conservation Monitoring Centre. 2000. Water Birds on the Edge: first circumpolar assessment of climate change impact on Arctic

breeding water birds. World Conservation Press, Cambridge, UK.
Michael Edwards

Unwin Brothers Press (MPG)

UNEP World Conservation Monitoring Centre

219 Huntingdon Road, Cambridge CB3 0DL, UK Tel: +44 1223 277314, Fax: +44 1223 277136

Email: info@unep-wcmc.org

Web: http://www.unep-wcmc.org

Citation:

Cover design by:

Available from:

Printed by:

CONTENTS

Acknowledgements	i
Executive summary	iii
1. Introduction	1
2. Methodologies	2
3. Results	3
4. Discussion	9
Weather	9
Habitat loss	10
Ability to adapt	12
Mitigation	13
The relevance of the impact on the birds wintering in the U.K	
5. Conclusion	
References	17

Annex 1 Abbreviations and Acronyms

Annex 2 Figures

- Fig. 2A: Past correlation of mean June temperature and breeding success
- Fig. 2B: Future scenario of breeding conditions considering mean June temperature

Vegetation scenarios: based on HadCM2GSa1 and UKMO climate change models

- Fig. 5: White-fronted Goose (Anser albifrons)
- Fig. 10: Emperor Goose (Anser canagicus)
- Fig. 13: Red-breasted Goose (Branta ruficollis)
- Fig. 15: Knot (Calidris canutus)
- Fig. 17: Sanderling (Calidris alba)
- Fig. 20: Curlew Sandpiper (Calidris ferruginea)
- Fig. 21: Dunlin (Calidris alpina)
- Fig. 22: Spoon-billed Sandpiper (Eurynorhynchus pygmaeus)
- Fig. 27: Pectoral Sandpiper (Calidris melanotos)
- Fig. 28: Sharp-tailed Sandpiper (Calidris acuminata)

Digitized by the Internet Archive in 2010 with funding from UNEP-WCMC, Cambridge

ACKNOWLEDGEMENTS

The authors are grateful for very valuable support and ideas from Richard Luxmoore (WCMC), David Viner (CRI/UEA Norwich), Andrew White (Edinburgh), Ray Drapek and Ron Neilson (both U.S. Dep. of Agriculture). The HadCM2GSa1 data has been supplied by the Climate Impacts LINK project (DETR Contract EPG 1/1/68) on behalf of the Hadley Centre and the UK Meteorological Office. Many thanks to Phil Atkinson (BTO) for providing unpublished data of juvenile percentage of the Knot, Simon Blyth, Stephen Grady and Jonathan Rhind from WCMC who kindly assisted in computing analyses and Mark Spalding (WCMC) and Stephen Grady for reviewing the text. Thanks also to Ute Collier of the WWF-UK climate change programme. Together with the Arctic Programme, this study was generously supported by WWF under Project No. 98046 and is one of the projects sponsored by BP for the Biodiversity and Climate Change Programme, WCMC. The Conservation of Arctic Flora and Fauna Programme (CAFF) and WWF contributed financial support towards the printing costs.

预览已结束,完整报告链接和二维码如下:

https://www.yunbaogao.cn/report/index/report?reportId=5_12403



