

APPENDIX 1

Contributors

EDITORS

Professor Richard J. Delahay

Professor Richard Delahay is a wildlife biologist with expertise in the epidemiology and management of disease in wildlife populations. Following completion of a PhD at Aberdeen University on the epidemiology of threadworm infections in red grouse, he has worked as a post-doctoral researcher for the Institute of Terrestrial Ecology, Oxford University and the Forestry Authority before holding scientific posts in a succession of Government research agencies, and currently holds an Honorary Visiting Chair at Exeter University. He is an author on over 120 peer-reviewed scientific papers and the principal editor of a book on managing disease in wild mammals.

Professor Chris J. Spray

Professor Chris J Spray MBE, FRSA, MA (Cantab), PhD, MCIEEM holds the Chair of Water Science & Policy at the UNESCO Centre for Water Law, Policy & Science at the University of Dundee. Before joining the university in 2009, he had over 25 years of practical experience of integrated water resource management from a number of distinct perspectives. These included working in regulation and policy as Director of Environmental Science for the Scottish Environment Protection Agency; in water supply and services as Director of Environment for Northumbrian Water Group; in river basin management planning as chair of Tweed River Area Advisory Group; and with a wide range of environmental NGOs (past trustee of Tweed Forum, FBA, RSPB, WWT, BTO). His current research focuses on wetland ecosystem services (co-author of UKNEA chapter on water and wetlands); on the use of the Ecosystem Approach for delivery of the Scottish Land Use Strategy; and on water science and catchment restoration. His PhD at Aberdeen was on territorial behaviour of carrion crows, after

which he studied the population dynamics of mute swans, including publishing papers on lead poisoning. His interest in the linkages between science and policy are currently also being pursued as a part-time Senior Research Fellow for NERC working with the Welsh Government.

CHAIRS AND CONVENORS

Lord John Krebs

The Lord Krebs Kt, MA, DPhil, FRS, FMedSci, Hon DSc completed his undergraduate degree in Zoology (1966) and DPhil (1970) at Pembroke College, the University of Oxford. After a year as a Departmental Demonstrator in Ornithology at Oxford he moved to the University of British Columbia as an Assistant Professor of Ecology (1970-73). John then spent a period at the University College of North Wales in Bangor as lecturer in Zoology (1973-75) before returning to Oxford as University Lecturer in Zoology in the Edward Grey Institute of Field Ornithology. John was a Fellow of Wolfson College until 1981, when he became EP Abraham Fellow of Pembroke College. Between 1988 and 2005 he was a Royal Society Research Professor at Oxford. From 1994 to 1999, John was Chief Executive of the Natural Environment Research Council and was Chairman of the UK Food Standards Agency between 2000 and 2005. John was appointed as an independent cross-bench peer in 2007.

He was the Chairman of the House of Lords Science and Technology Select Committee between 2010 and 2014, and was the Chairman of the UK Science and Technology Honours Committee from 2008 to 2014. He serves on the UK Climate Change Committee (and chairs its Adaptation Sub-Committee), and is a Trustee of the Nuffield Foundation. From 2007 until 2015 John was the Principal of Jesus College, the University of Oxford.

Professor Colin Galbraith

Professor Colin Galbraith is Director of his environmental consultancy, dealing with a range of environmental issues in Scotland and at the global level. He was until recently the Director of Policy and Advice in Scottish Natural Heritage. In this capacity he was the principal adviser on policy, scientific and technical matters for the organisation for over twelve years. Colin has been involved with the United Nations for a number of years and has made contributions through the Convention on Migratory Species (CMS) and to the Millennium Ecosystem Assessment in particular. This work area involves him in high profile nature conservation issues including the conservation of the African Elephant and developing new international agreements to assist the conservation of Albatross, and in reviewing the impact of climate change on the ecology of threatened species.

He is currently the Vice Chairman of the Scientific Council of the CMS. He has been an Honorary Professor in Conservation Science at the University of Stirling since 2002.

Professor Ian Newton

Professor Ian Newton OBE, FRS, FRSE is an ornithologist with a particular interest in the things that limit bird numbers, with research at different times on seed-eating birds, waterfowl and birds-of-prey. Throughout his working life, he was employed by the Natural Environment Research Council, and for many years he was head of a unit at Monks Wood Research Station which studied the effects of pesticides and pollutants on birds. He has authored eight books on different aspects of avian biology, and published more than 300 papers in the scientific literature. He has also served as President of the British Ecological Society and the British Ornithologists' Union, and as Chairman of the Royal Society for Protection of Birds and the British Trust for Ornithology.

Professor Chris Perrins

Prof. Chris Perrins LVO, FRS joined the Edward Grey Institute of Field Ornithology at the University of Oxford as a student in 1957. Chris retired in 2002 but remains at the University as a Professor Emeritus. His main studies have been on population biology: Great Tits (in Wytham Woods), seabirds, especially Manx Shearwaters (on the Pembrokeshire islands of Skokholm and

Skomer) and Mute Swans (especially on the River Thames and at Abbotsbury, Dorset).

In the 1970s, Chris was asked to study the reason for the decline in Mute Swans in the UK. Intensive studies showed that the greatest single cause of mortality of the birds was lead poisoning – almost entirely from the ingestion of lead angling weights. Not only did the lead cause the deaths of many swans, but many of the living birds were carrying high lead burdens. The importation and sale of lead angling weights from 0.06 and 28.35 grams (No.6 shot to 1oz) was prohibited in 1987 and their use banned by most regional water authorities shortly afterwards. Nationally, the Mute Swan population doubled in the ten years to 1997, with the largest increases being observed on the lowland, heavily fished, rivers.

PRESENTERS/FIRST AUTHORS

Dr. Ruth Cromie

Dr. Ruth Cromie gained a PhD for vaccine development in wildfowl from University College, London, in 1991. Since then she has worked on various aspects of wildlife health from diagnostic technologies to environmental management in both wild and captive animals in the UK and overseas including the Durrell Institute of Conservation and Ecology, Smithsonian Institution and Hong Kong University.

As WWT's Head of Ecosystem Health, Ruth is responsible for organisational health and welfare standards, plus WWT's Ecosystem Health programme which includes surveillance, research, advocacy, contingency planning, capacity building and policy work. Ruth regularly teaches and examines wildlife health and conservation biology on a number of post-graduate programmes.

Ruth is an active member of the UN-Convention on Migratory Species (CMS)/Food and Agriculture Organization (FAO) Co-convened Scientific Task Forces on both Avian Influenza and Wild Birds, and Wildlife and Ecosystem Health. Ruth has worked on resolutions for both the CMS and the Ramsar Convention on Wetlands promoting integrated approaches to dealing with health, in particular of domestic and wild animals, as well as recent production of the Ramsar Wetland Disease Manual which is a substantive practical resource written specifically for land/wetland managers.

Professor Rhys E. Green

Professor Rhys Green gained a BA in Zoology and a PhD in Applied Biology from the University of Cambridge where he has been Professor of Conservation Science in the Zoology Department since 2006. After completing his PhD he worked for the Game Conservancy for four years on the ecology of grey and red-legged partridges, subsequently joining the RSPB as a research biologist in 1982. He became RSPB's Principal Research Biologist in 1993, a role that he retains to date.

Rhys has worked on a wide variety of research topics, from the effects of climate change on geographical range and population processes, to the development of techniques for practical habitat management and the manipulation of demographic rates of threatened birds. More recently his research has included the effects of veterinary pharmaceuticals on population processes in birds and the effects of contamination from spent lead ammunition on wildlife and human health.

Rhys sits on the Game & Wildlife Conservation Trust (GWCT) Scientific Advisory Group. He has been awarded the Marsh Award for Conservation Biology (1997), the Tucker Medal by the British Trust for Ornithology for outstanding services to its scientific work (2000) and the Godman-Salvin Medal by the British Ornithologists Union as a signal honour for distinguished ornithological work (2009). He is currently on the editorial boards of five peer-reviewed journals and has more than 200 scientific publications, of which 18 recent peer-reviewed publications cover environmental contaminants, including lead.

Carl Gremse

Carl Gremse gained a Master's degree in Forestry Sciences in 2004 from the "Georg – August – University Goettingen", Germany, Faculty of Forest Sciences and Forest Ecology. Since 2005 he has been working as a researcher at the University of Applied Sciences Eberswalde, Faculty of Wildlife Biology, Management and Hunting Practice. Since 2006, he has been the leading researcher in the German projects into the suitability of lead-free projectiles for use in hunting practice. His main research focus includes methods to assess suitability of a projectile under avoidance of field trials and the possible deduction of threshold values for performance standards to be introduced into German hunting and animal safety legislation. Carl is currently in the process of completing his PhD at the Faculty

of Biology, Chemistry and Pharmacy at Freie Universität Berlin. He has published part of his work in the scientific journal PLOS ONE, contributed to the book "Trends in game meat hygiene" (Wageningen Academic Publishers) and is working on further publications together with scientists from the Federal German Institute for Risk Assessment (BfR), the University Hospital at RWTH Aachen, the Swedish University of Agricultural Sciences (SLU) and the Leibniz – Institute for Zoo- and Wildlife Research (IZW), Berlin.

Dr. Niels Kanstrup

Dr. Niels Kanstrup is a Danish biologist and hunter and has worked in wildlife management and hunting since 1985. Niels was an employee for the Danish Hunters Association between 1985 and 2007 and has worked as a private consultant for the Danish Academy of Hunting since 2007. He is heavily involved in international nature and wildlife management issues through active participation in a number of organisations including the Federation of Associations for *Hunting* and Conservation of the European Union (board member), the International Council for Game and Wildlife Conservation (president of Migratory Birds Commission), the African-Eurasian Migratory Waterbirds Agreement (member of Technical Committee) and others.

Niels has expertise in sustainability models and co-management, and, in particular, issues relating to non-toxic ammunition where he has been involved in studies, meetings and clinics globally, concerning its use and efficacy.

Dr. Helle K. Knutsen

Dr. Helle Knutsen is a toxicologist and senior scientist at the Norwegian Institute of Public Health (NIPH). She is a member of the panel on contaminants (CONTAM) of the European Food Safety Authority (EFSA) and of the Norwegian Scientific Committee for Food Safety (VKM). She graduated with a PhD in molecular biology from the University of Oslo in 1995, and started at the NIPH in 1999. She has authored several papers on associations between dietary contaminant exposure and biomarkers in humans, and in 2012 chaired a working group on risk assessment of lead in cervid game meat for the VKM.

Dr. Debbie J. Pain

Dr. Debbie Pain has a first class degree in Environmental Chemistry from London University and a DPhil from the University of Oxford. She has worked on lead poisoning for 27 years. She started working on the biochemistry of lead poisoning in birds in 1983, carrying out her DPhil research in both the UK and with the US Fish and Wildlife Service in the USA. She subsequently worked for four years as a research scientist at an independent Biological Research Station in the Camargue, France. During this period she led the IWRB (International Waterfowl and Wetlands Research Bureau) task force on Poisoning of Waterfowl by Toxic Lead Shot for the Hunting Impact Research Group, organised the scientific programme for an IWRB lead poisoning workshop (Brussels, 1991) and edited the workshop proceedings (IWRB Spec. Pub. 16). She subsequently spent 16 years at RSPB where she ran the International Research Unit.

During her career she has worked on a wide range of topics in the UK and overseas including the impacts of a range of environmental contaminants, farming systems and birds, identifying causes of poor conservation status in threatened birds and developing practical conservation solutions. She has more than 100 scientific publications and has co-written/edited three books. Thirty six of her peer-reviewed publications are on contaminants, 26 of these on lead. For the last three years she has been Director of Conservation at the Wildfowl & Wetlands Trust (WWT).

David A. Stroud MBE

David Stroud MBE is Senior Ornithologist with the UK's Joint Nature Conservation Committee and is currently Chair of the Technical Committee of the African-Eurasian Migratory Waterbirds Agreement (AEWA). As well as AEWA, he has worked with a number of other multi-lateral environment organisations especially those related to birds and wetlands, and including Ramsar's Scientific and Technical Review Panel, the EU Birds Directive's Ornithology Committee (and its Scientific Working Group), several avian Working Groups established by the Convention on Migratory Species (CMS), and the CMS MoU on raptor conservation. He has also worked closely with several international non-government organisations including Wetlands International, IUCN and the International Wader Study Group.

Professor Vernon G. Thomas

Prof. Vernon G. Thomas completed his BA degree in Physiology, Psychology, and Philosophy at the University of Oxford in 1966. He gained a PhD degree in Ecology in 1975 at the University of Guelph, and was then hired as a professor to be part of the Wildlife Management Program. Vernon's teaching and research specialities at the graduate and undergraduate levels included Wildlife Management, Natural Resources Policy, Ornithology, Mammalogy, Ecology, and Developmental Biology. Vernon retired in 2010, but remains at the University as a Professor Emeritus.

His main research focus in later years has been the transfer of science to environmental policy and law, especially in protected areas creation, invasive species control, reducing environmental contamination from lead, and promoting use of managed pollinators in agriculture and biodiversity conservation. Vernon has worked, and continues to work, internationally in all these areas. One of his specialities is the presentation of briefs to parliamentary committees in Canada, Europe, and the USA. His research has influenced, directly, the amendment of Canadian federal law, as in the case of The Parks Act being revised to require lead-free fishing weights in all National Parks, and the introduction of mandatory ballast water exchange regulations for shipping under the National Transportation Act. Vernon's recent research was influential in California's passing legislation in 2013 that will end the use of all lead-based ammunition for hunting in that state in 2019, or sooner.

RAPPORTEUR

Tim Jones

Tim Jones has a technical background in the conservation of wetland ecosystems and waterbirds, having worked for Wetlands International and as European Regional Coordinator for the Secretariat of the Ramsar Convention on Wetlands. He has a worldwide network of contacts in both governmental and non-governmental sectors and has built up a strong reputation for leading insightful project and programme evaluations and providing expert report-writing services for major environmental conferences such as those of the Convention on Migratory Species (CMS) and the Ramsar Convention on Wetlands.