WILDLIFE CONSERVATION SERIES

CONSERVATION AND THE WORLD IN 2050

Tuesday, 13 October 2009
The Meeting Rooms, The Zoological Society of London, Regent's Park, London NW1 4RY

Chair: Professor Tim Blackburn, Director of the Institute of Zoology, ZSL

Conservation and the world in 2050

Jonathan Baillie, Director of Conservation Programmes, Zoological Society of London, Regent's Park, London, NW1 4RY

From 1960 to the present the world population has doubled to more than 6 billion people and the global economy has increased sixfold. During this timeframe humans have changed the world's landscapes and ecosystems more than at any previous time in human history. A quarter of all birds, mammals, amphibians and reptiles are now threatened and current extinction rates are 1000 times higher than background rates. We are now beginning to feel the impacts of climate change, consumption is rapidly increasing and by 2050 there will be an additional 3 billion people on the planet. To feed this growing population, we will need both agricultural intensification and expansion leading to the potential loss of natural areas equivalent to the size of Australia. This is in addition to the quarter of the world that is already under cultivation. Demands on water for irrigation are set to more than double leaving much of the world living in water-stressed environments by 2030. As climate change intensifies and we struggle to feed and provide for the growing population, we will observe the world's species and ecosystems experiencing the greatest assault in human history. This will have major social, political and economic implications. Despite the gravity of the situation, society has largely buried its head in the sand.

This presentation will take a 'business-as-usual' perspective and explore the implications for the world's species and ecosystems leading up to 2050. It will also present actions needed if society is to awaken to the challenge ahead and start actively identifying and implementing solutions.

The Oceans in 2050

Alex D. Rogers, Institute of Zoology, Zoological Society of London, Regent's Park, London NW1 4RY

The oceans in 2050 will be a very different place to today. Assuming that CO_2 emissions continue at their current rate the oceans will have warmed significantly. The results will be global, in the Arctic there will be no summer sea ice. Populations of polar animals will be extinct, under threat or in full-scale polewards retreat. This will be exacerbated by major changes in polar food webs driven by undersaturation of waters with calcium carbonate, making the oceans corrosive to the shells of many delicate planktonic organisms. Many areas of the world's oceans

will have become less productive because of increased thermal stratification. In coastal areas, dead zones will have expanded with increasing areas of intensive agriculture on land pouring more and more nutrients into the sea. Areas of the coast will be closed off during the summer because of the toxic red tides poisoning everything they touch and contaminating the air. There is concern at signs of the alteration of concentrations of important gases in the atmosphere including nitrous oxides and even oxygen. Coral reefs will have already been destroyed in many parts of the world and those that remain will be under stress and in decline as a result of annual bleaching events and an increasingly acid sea. Major ocean predators, such as some pelagic sharks and oceanic seabirds, will have become extinct as a result of fishing and habitat loss. Many of the fish that appear on our plates today will have disappeared or become so expensive that only the elites will be able to afford them. The rest of us will be eating jellyfish, processed krill and farmed shellfish.

It is in our power to completely alter this vision of the ocean in 2050 and leave the legacy of a healthy and productive ocean to our children. The path to a sustainable and life-supporting ocean will be outlined and thrown open to the audience for discussion.

Conservation and the world in 2050

Brett House, Principal Advisor, Executive Office of the Secretary-General of the United Nations, and Senior Macroeconomist, Earth Institute, Columbia University

The world finds itself caught in the midst of multiple crises: the deepest economic recession in seventy years; the greatest post-war upheaval in financial markets; volatile and rapid changes in climate; food shortages driven by inadequate supply, poor distribution systems and stubborn barriers to trade; extreme poverty that still afflicts over a billion of the world's citizens. Without urgent action, each of these crises is likely to widen in scope and deepen in impact.

The biodiversity consequences of inadequate efforts to address these five-fold human challenges could be alarming. The world is already on track to miss the target under the Millennium Development Goals and the Convention on Biodiversity to achieve by 2010 a significant reduction in biodiversity loss. Without concerted efforts to address our present crises, the prospects for the continued wellbeing of both flora and fauna could worsen substantially as we look forward to 2050, with profound implications for the current structure of human existence.

This presentation will outline the key drivers of the challenges we face, review evidence on recent successes in addressing these problems, and propose an affordable and practical agenda for action to ensure a sustainable future.

Recommended Reading:

The Millennium Development Goals Report 2009. New York, USA: United Nations. Available at: http://www.un.org/millenniumgoals/pdf/MDG_Report_2009_ENG.pdf.

The MDG Gap Task Force Report 2009. Available at: http://www.un.org/esa/policy/mdggap/index.html

World Development Report 2010: Development and Climate Change. Available at: http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTWDRS/EXTWDR2010/0,,menuPK:5287748~pagePK:64167702~piPK:64167676~theSitePK:5287741,00.html

Sachs, J. D. (2009). *Commonwealth: Economics for a Crowded Planet*. New York, USA: Penguin Press.

BIOGRAPHIES OF OUR PANELLISTS

James Arbib, Tellus Mater Foundation

James Arbib was educated at Trinity College Cambridge. He is a qualified Chartered Accountant and has worked as an Investment Analyst in London. He currently invests in 'Resource Efficient' technologies, including Elstat Electronics. He has also started the Tellus Mater Foundation which aims to support leaders with game-changing ideas to create a low carbon economy.

Tobias Feakin, Royal United Services Institute for Defence and Security Studies

Tobias Feakin is Director of the National Security and Resilience Department at the Royal United Services Institute for Defence and Security Studies. Within this role he is responsible for the growth of a research team examining issues pertaining to radicalisation, terrorism, counter-terrorist policy and technologies, resilience, critical national infrastructure, and the security impacts of climate change.

He holds a PhD in International Politics and Security and has been examining the linkages between climate change and security for the past five years.

Ron Kopas, Director, Sterecycle Ltd

Sterecycle is a waste management business focused on recycling and green energy. Since June 2008 Sterecycle has been operating the world's first full-scale commercial autoclave plant to treat household waste and is processing 'black-bag' waste (i.e. un-separated) from local councils and businesses—recycling and recovering up to 80% of the typical household waste stream. Ron Kopas, with the founders, was instrumental in getting financial support from large institutional investors such as Goldman Sachs, overcoming the extremely difficult hurdle of introducing new commercial-scale technologies to market. He is a serial entrepreneur who has also previously worked as a food trader in Asia and as an investment banker with UBS Warburg in London. Ron has a BA from Dalhousie University and an MBA from INSEAD.

Tim Lang, Professor of Food Policy, Centre for Food Policy, City University, London

Tim Lang has been Professor of Food Policy at City University's Centre for Food Policy in London since 2002. After gaining a PhD in Psychology at Leeds University, Tim was a hill farmer in the 1970s. For the last 30 years he has engaged in public and academic debate about food policy. In 1985 he was a founder member of the NGO alliance Sustain, and its Chair between 1999 and 2006. He was a regular advisor/consultant to the World Health Organisation at global and European levels between 1996 and 2007. In 2006 he was appointed Natural Resources and Land Use Commissioner on the UK Government's Sustainable Development Commission where he led the 2008 Green, Healthy and Fair report on government's relations with supermarkets. In 2008 he was appointed a member

of the Council of Food Policy Advisors to the Secretary of State for Environment, Food & Rural Affairs. He has been a special advisor to four House of Commons Select Committee inquiries. In 2005–2006 he chaired the Scottish NHS Executive's Scottish Diet Action Plan Review. In 2005–2008 he was a member of the Royal Institute of International Affairs (Chatham House) Food Supply in the 21st Century programme. He was an advisor to the Cabinet Office review of Food and Food Policy published in July 2008. He is a Vice President of the Chartered Institute of Environmental Health, a Fellow of the Faculty of Public Health and President of Garden Organic. He is co-author of *Food Wars* (with Michael Heasman, Earthscan 2004), *The Atlas of Food* (with Erik Millstone, Earthscan 2003/2008) and *The Unmanageable Consumer* (with Yiannis Gabriel, Sage 1996/2007). His latest book, written with City colleagues David Barling and Martin Caraher is *Food Policy: Integrating Health, Environment & Society* (Oxford University Press, 2009).

Hugh Montgomery, Professor of Intensive Care Medicine, University College London

Hugh Montgomery is Professor of Intensive Care Medicine at UCL, where he also directs the Institute for Human Health and Performance. He has published over 200 articles and papers (two in *Nature*). He has increasing involvement in matters of the environment, with an emphasis on climate change. He was a founder member of the UK Climate and Health Council; a co-author of the UCL/Lancet Commission Report on climate change and health; leads on sustainability for the Royal College of Physicians; holds the post of London Leader for Sustainability in the Greater London Authority and was a founder member of the UK Natural Capital Initiative.

Martin Palmer, The Alliance of Religions and Conservation

Martin Palmer is the Secretary General of the Alliance of Religions and Conservation (ARC) and was instrumental in the creation of ARC in 1995 by HRH the Prince Philip. ARC specialises in projects related to religious, environmental and education issues and works with a variety of international organisations such as WWF, the World Bank, UNESCO, UNDP, the World Council of Churches, the China Daoist Association, the Islamic Foundation for Environment and Environmental Sciences. In 1997 he founded the Sacred Land Project which has expanded all around the world, preserving sacred sites from Mongolia to Mexico. In 2009 he is helping some 40 traditions within nine faiths launch long-term ("Seven Year") plans to protect the planet for generations to come.

He is the author of many books including *Travels through Sacred China, Sacred Britain, Christianity and Ecology*, *The Jesus Sutras*, *The Times World Religions*, *The Sacred History of Britain* and *The Atlas of Religion*. His translation of the *Chuang Tsu* was recently published as a Penguin Classics edition. He is a regular contributor to *In Our Time* on BBC Radio 4, and to *Nightwaves* on BBC Radio 3, as well as presenting a series on local history for Anglia TV. Martin studied Theology at Cambridge, with a special emphasis on Chinese. He founded the Centre for the Study of Religion and Education in inner city Manchester in 1979 and has been a pioneer in the areas of interfaith environmental education ever since.